HANDS OFF OUR HILLS

OBJECTION DOCUMENT

PROPOSED GLENVERNOCH WIND FARM | ENERGIEKONTOR LTD. | ECU00004892

WRITTEN AND PREPARED BY HANDS OFF OUR HILLS

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HANDS OFF OUR HILLS

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ES1.0.1: Foreword

This objection document is submitted by **Hands Off Our Hills (HOOH)** in response to **EnergieKontor UK Ltd.'s** planning application for the proposed **Glenvernoch Wind Farm** near Newton Stewart, Dumfries and Galloway **(ECU00004892)**. The application seeks to construct 13 industrial-scale turbines, each reaching a maximum height of 200 metres.

HOOH was established on 14 September 2023, in direct response to this proposal, and has rapidly grown into a highly respected grassroots organisation. With a membership of approximately 2,000 individuals, HOOH unites a diverse coalition of concerned residents, environmental advocates, and professionals. Our online presence includes over 1,600 active members on Facebook, alongside significant engagement through Instagram, our website, and offline networks. Many more members contribute locally through in-person events, research, and campaigning, showcasing HOOH as a formidable and highly active opposition group.

This strong and united membership reflects widespread community resistance to the Glenvernoch Wind Farm proposal, underscoring HOOH's influence as a trusted voice for the people of Dumfries and Galloway.

ES1.0.2: Overview of the Proposed Development

The proposed site spans 780 hectares, encompassing a landscape of undulating grassland and modified bog rising from the Cree Valley. It is bordered by residential properties, farms, churches, and the A714 highway adjacent to the River Cree. Some homes lie less than one kilometre from the turbines, with the hamlet of Bargrennan and the village of Glentrool located approximately 2.8 km north, and the town of Newton Stewart 7 km southeast. This area also forms part of the Southern Uplands Way, a route of significant cultural and recreational importance.

ES1.0.3: Summary of Key Objections

1. **Cumulative Impacts with Other Developments**:
    - The Glenvernoch proposal cannot be considered in isolation. It substantially adds to wind farm developments, compounding visual, ecological, and Socioeconomic pressures.
2. **Unjustified Need for the Development**:
    - Scotland has already exceeded its renewable energy targets, making the Glenvernoch Wind Farm unnecessary. Its additional capacity does not justify the significant environmental, social, and economic harm it would cause.
3. **Non-Compliance with Planning Policies**:
    - The proposal contravenes key national and local frameworks, including the **National Planning Framework 4 (NPF4)**, and the **Dumfries and Galloway Local Development Plan (LDP2)**, by failing to protect sensitive landscapes, biodiversity, and communities.
4. **Environmental and Ecological Harm**:
    - The site contains **Class 1 and Class 2 peatlands**, critical carbon sinks and habitats, which would face irreversible disturbance. Additionally, protected species such as hen harriers, otters, and bats are at risk from habitat destruction and turbine operation.
5. **Deficient Environmental Impact Assessment (EIA)**:
    - EnergieKontor's EIA lacks robust assessments of cumulative impacts, peatland disturbance, and hydrological risks. These deficiencies render it non-compliant with statutory requirements.

6. **Community and Economic Consequences**:
    - The development would harm the tourism-dependent economy of Dumfries and Galloway, degrade quality of life for local residents, and result in property value declines.
7. **Failure to Explore Alternatives**:
    - Alternatives such as offshore wind, decentralised solar, and community-driven renewable projects were not adequately considered, despite offering more sustainable and less intrusive solutions.
8. **Public Safety and Infrastructure Risks**:
    - The inclusion of **Battery Energy Storage Systems (BESS)** introduces fire hazards and toxic emissions, with inadequate emergency response measures in place. Increased construction traffic and road strain would further burden local infrastructure.
9. **Non-Compliance with the Electricity Act 1989, Schedule 9 (3,1A)**:
    - The proposal contravenes statutory obligations to preserve natural beauty and minimise harm to flora, fauna, and local communities.

ES1.0.5: Conclusion

The Glenvernoch Wind Farm represents an unacceptable threat to Dumfries and Galloway's unique landscapes, biodiversity, and communities. Its approval would undermine Scotland's commitments to sustainable development, environmental preservation, and community well-being. Hands Off Our Hills (HOOH) urges the **Energy Consents Unit (ECU)** and **Dumfries and Galloway Council** to reject this application in favour of renewable energy solutions that respect Scotland's natural heritage and the voices of its people.

IN1: INTRODUCTION AND SUMMARY OF KEY OBJECTIONS

IN1.0.1: Foreword

This comprehensive objection document has been prepared by **Hands Off Our Hills (HOOH)** in response to EnergieKontor's planning application for the proposed Glenvernoch Wind Farm. The project, consisting of 13 industrial-scale turbines with a maximum blade tip height of 200 metres, is located near Newton Stewart, Dumfries and Galloway—a region renowned for its exceptional natural beauty, ecological importance, and cultural heritage.

Established in 2023, **HOOH** represents a coalition of approximately **2,000 members**, including local residents, environmental experts, and community leaders. Our campaign unites diverse expertise and shared dedication to safeguarding Dumfries and Galloway from inappropriate industrial developments. This objection consolidates months of research, expert reviews, and community engagement to present a robust case against the Glenvernoch Wind Farm proposal.

The proposed development poses severe risks to the area's environmental integrity, community well-being, and economic stability. It would industrialise an unspoiled landscape, disrupt critical ecosystems, and impose lasting harm on tourism-dependent communities. Moreover, the cumulative impact of this wind farm, when combined with other nearby developments, represents a fundamental threat to the sustainability of the region.

This document outlines the following objections, which are addressed in detail in the subsequent sections:

Section 1: Cumulative Impacts with Other Developments

- The Glenvernoch proposal cannot be considered in isolation, as it forms part of a cluster of wind farm developments. Its cumulative visual, ecological, and Socioeconomic impacts, when combined with other nearby projects, would significantly degrade the region's environment and quality of life.

Section 2: Unjustified Need for the Development

- With Scotland already exceeding its renewable energy targets, the necessity of this wind farm is unfounded. The additional capacity it offers does not justify the extensive environmental, social, and economic damage it will cause.

Section 3: Non-Compliance with Planning Policies

- The proposal contravenes key national and local planning frameworks, including the **National Planning Framework 4 (NPF4)**, and the **Dumfries and Galloway Local Development Plan (LDP2)**, which mandate protection of sensitive landscapes and communities from overdevelopment.

Section 4: Environmental and Ecological Harm

- The site selection process disregards environmental sensitivity, impacting Class 1 and Class 2 peatlands, hydrological systems, and habitats for protected species. These disruptions will result in irreversible biodiversity losses and significant carbon emissions.

Section 5: Deficient Environmental Impact Assessment (EIA)

- The EIA submitted by EnergieKontor lacks adequate cumulative impact analysis and fails to assess risks to peatlands, biodiversity, and hydrology. Its deficiencies render it non-compliant with statutory requirements.

Section 6: Community and Economic Consequences

- The development threatens the region's tourism-dependent economy and the quality of life for local residents. Construction and operation would introduce noise, traffic, and shadow flicker, while property values in affected areas are expected to decline.

Section 7: Failure to Explore Alternatives

- The absence of thorough consideration for alternative renewable energy solutions, such as offshore wind or smaller-scale projects, contravenes planning policy and best practices.

Section 8: Public Safety and Infrastructure Risks

- The inclusion of Battery Energy Storage Systems (BESS) introduces unacceptable risks, including fire hazards and toxic emissions, without adequate mitigation measures. The limitations of local emergency services exacerbate these concerns.

Section 9: Non-Compliance with the Electricity Act 1989, Schedule 9 (3,1,a)

- The inclusion of Battery Energy Storage Systems (BESS) introduces unacceptable risks, including fire hazards and toxic emissions, without adequate mitigation measures. The limitations of local emergency services exacerbate these concerns.

IN1.0.2: Conclusion

The Glenvernoch Wind Farm proposal represents an unacceptable threat to Dumfries and Galloway's unique landscapes, biodiversity, and communities. It contravenes key planning policies, ignores the necessity for cumulative impact assessments, and fails to justify its need in light of existing renewable energy achievements. This document presents a detailed, evidence-based objection and urges the **Energy Consents Unit (ECU)** and **Dumfries and Galloway Council** to reject this application in favour of sustainable energy solutions that respect Scotland's natural heritage and the voices of its people.

Hands Off Our Hills – Cree Valley Campaign Group

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SECTION 1: CUMULATIVE IMPACTS WITH OTHER DEVELOPMENTS

1.1 Introduction

The Glenvernoch Wind Farm proposal must not be evaluated in isolation. Its approval would exacerbate the cumulative effects of wind energy developments in Dumfries and Galloway, significantly impacting the region's landscape, ecosystems, communities, and infrastructure. The area is already saturated with operational and planned wind farms, creating a profound and escalating burden on the environment and local quality of life.

This section evaluates the cumulative visual, ecological, and Socioeconomic impacts of Glenvernoch, with nearby projects, and its contravention of regulatory requirements concerning cumulative assessments.

1.2 Cumulative Visual Impacts

1.2.1 **Visual Overlap with Existing and Proposed Wind Farms**:

- Glenvernoch lies in proximity to multiple wind farms, including **Artfield Fell, Glenchamber, Aires** and **Kilgallioch**, whilst in close proximity to several proposed development such as **Blair Hill** and **Shennanton**, all of which contribute to an industrialised visual horizon. The turbines, at 200m in height, would dominate views from key landmarks and scenic routes, further degrading the natural aesthetic of the Galloway Hills.

1.2.2 **Regional Scenic Area (RSA) Degradation**:

- The turbines will intrude on views from the **Galloway Hills RSA**, diminishing its value as a protected landscape. Visitors to **Loch Trool**, **Bruce's Stone**, and the **Southern Uplands Way** will encounter a skyline increasingly dominated by industrial infrastructure.

1.2.3 **Skyline Saturation**:

- The cumulative effect of Glenvernoch alongside Blair Hill and Balunton would lead to "skyline saturation," where the continuous presence of turbines disrupts the visual character of an otherwise tranquil and rural landscape.

1.3 Ecological Cumulative Impacts

1.3.1 **Habitat Fragmentation**:

- Multiple wind farms operating in the Cree Valley area contribute to the fragmentation of habitats vital for species such as hen harriers, red kites, and bats. The Glenvernoch site itself overlaps with critical ecological corridors, further compounding these issues.

1.3.2 **Peatland Degradation Across Developments**:

- Glenvernoch will disturb **Class 1 and Class 2 peatlands**, already impacted by neighbouring projects. The cumulative destruction of these vital carbon sinks undermines Scotland's net-zero goals and global climate commitments.

1.3.3 **Hydrological Risks**:

- The hydrological systems feeding into the **River Cree** and **River Bladnoch** are already under pressure from construction and operation of nearby wind farms. Glenvernoch's development will exacerbate sedimentation, flooding risks, and water quality degradation.

1.4 Socioeconomic Cumulative Impacts

1.4.1 **Tourism Decline**:

- Dumfries and Galloway's tourism industry relies on its reputation as a haven for unspoiled landscapes and tranquillity. The cumulative visual and noise impacts of Glenvernoch and neighbouring wind farms risk deterring visitors, directly impacting local businesses and the wider regional economy.

1.4.2 **Erosion of Community Identity**:

- The increasing industrialisation of the landscape threatens the identity of local communities, which are historically and culturally tied to the Galloway Hills. Residents are reporting feelings of alienation and a diminished connection to their surroundings due to the encroachment of industrial infrastructure.

1.4.3 **Property Value Reduction**:

- The presence of multiple wind farms has already negatively affected property values in the region. Glenvernoch's turbines would further depress prices, creating long-term financial losses for local homeowners.

1.5 Regulatory and Policy Failures in Cumulative Assessment

1.5.1 **Inadequate Cumulative Impact Analysis**:

- EnergieKontor's Environmental Impact Assessment (EIA) fails to adequately address cumulative impacts, despite clear guidance under the **Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017**. This omission undermines the integrity of the planning process.

1.5.2 **Non-Compliance with National Planning Framework 4 (NPF4)**:

- NPF4 mandates a holistic approach to renewable energy development, requiring cumulative effects to be considered across visual, ecological, and Socioeconomic dimensions. The lack of such an analysis in Glenvernoch's proposal contravenes this policy.

1.5.3 **Conflict with Dumfries and Galloway Local Development Plan (LDP2)**:

- LDP2 highlights the importance of protecting scenic areas and community well-being from overdevelopment. Glenvernoch, when considered cumulatively, fails to meet these requirements, further straining the region's infrastructure and resources.

1.6 Community and Infrastructure Burden

1.6.1 **Construction-Phase Impacts Across Multiple Projects**:

- Concurrent construction of Glenvernoch and nearby wind farms would overwhelm local infrastructure, leading to increased traffic, noise, and road wear. Communities along the A714 and surrounding routes would face significant disruption.

1.6.2 **Long-Term Operational Impacts**:

- Noise from turbine operation, shadow flicker, and microplastic shedding will impose long-term health and safety risks. The cumulative effect of these issues across multiple wind farms amplifies their negative impact on residents.

1.6.3 **Strain on Emergency Services**:

- The inclusion of Battery Energy Storage Systems (BESS) in some developments, including Glenvernoch, introduces fire and toxic emission risks. Local emergency services are ill-equipped to handle such incidents, increasing community vulnerability.

1.7 Conclusion

The Glenvernoch Wind Farm proposal cannot be justified without addressing the profound cumulative impacts of wind farm developments in Dumfries and Galloway. These impacts encompass visual degradation, ecological harm, Socioeconomic decline,

and infrastructure strain, creating an unsustainable burden on the region. EnergieKontor's failure to provide a comprehensive cumulative impact assessment renders the application non-compliant with regulatory and policy frameworks.

Rejecting Glenvernoch is essential to preserving the environmental, cultural, and economic integrity of Dumfries and Galloway.

SECTION 2: UNJUSTIFIED NEED FOR THE DEVELOPMENT

2.1 Introduction

The Glenvernoch Wind Farm proposal fails to establish a justified need for the development, especially within Scotland's current renewable energy landscape. With national targets already exceeded and an over-concentration of renewable projects in Dumfries and Galloway, this project offers negligible additional benefits while causing disproportionate harm to the environment, communities, and regional infrastructure. This section evaluates the lack of necessity for this development by addressing specific policy, environmental, social, and economic considerations.

2.2 National Renewable Energy Targets Achieved

2.2.1 **Scotland's Renewable Energy Success**:

- Scotland achieved its target of generating 100% of gross electricity consumption from renewable sources in 2020, with continued growth beyond this milestone. The country now exports surplus renewable energy, demonstrating that domestic energy demand is met.

2.2.2 **Excessive Capacity in the Pipeline**:

- Scotland has over 47.8 GW of renewable energy capacity installed, under construction, or approved, exceeding the demand forecast for 2030. Onshore wind farms alone already provide sufficient capacity to meet national and international commitments.

Category	Capacity (GW)	Status
Installed Capacity	25.6	Operational
Under Construction	10.5	Expected completion by 2026
Approved (Not Yet Constructed)	11.7	Awaiting development
Total Capacity	**47.8**	Surpassing 2030 forecast
2030 Demand Forecast	**37.0**	Source: National Grid ESO

TABLE 2.2.1: RENEWABLE ENERGY CAPACITY IN SCOTLAND – SOURCE: NATIONAL GRID ESO (AS OF 2024)

2.3 Regional Burden on Dumfries and Galloway

2.3.1 **Disproportionate Concentration of Wind Farms**:

- Dumfries and Galloway hosts over 30 operational wind farms, with an additional 1,747 MW awaiting construction and 3,228 MW proposed. This regional saturation places undue strain on communities, infrastructure, and the local environment.

2.3.2 **Cree Valley Saturation**:

- The Cree Valley area is surrounded by multiple wind farm developments, including Artfield Fell, Kilgallioch, Aires, and Shennanton and Blairhill in scoping. Glenvernoch would exacerbate cumulative visual, ecological, and social impacts, transforming the region into an industrial landscape.

2.4 No Strategic Justification for Glenvernoch

2.4.1 **Contradiction with National Energy Strategy**:

- The British Energy Security Strategy prioritises offshore wind, solar, and nuclear energy, recognising their lower environmental impact compared to onshore developments in sensitive areas.

2.4.2 **Violation of Policy Principles**:

- The National Planning Framework 4 (NPF4) calls for sustainable renewable developments that respect natural assets and local communities. Glenvernoch fails to balance these principles, encroaching on sensitive landscapes and protected habitats.

2.5 Environmental and Infrastructure Impacts

2.5.1 **Peatland Destruction**:

- The site overlaps with Class 1 and Class 2 peatlands, essential carbon sinks and biodiversity hotspots. Disturbing these peatlands would release stored carbon, negating the wind farm's renewable energy benefits.

2.5.2 **Hydrological Disruption**:

- Construction risks disrupting hydrological systems that feed into the River Cree, increasing sedimentation and degrading water quality, with downstream impacts on sensitive ecosystems.

2.5.3 **Grid Instability**:

- Dumfries and Galloway's energy grid is already under strain from existing and approved wind farms. Adding Glenvernoch risks operational inefficiencies, making energy distribution less reliable.

2.6 Failure to Explore Alternatives

2.6.1 **Offshore Wind as a Preferred Alternative**:

- Scotland's coastline offers vast potential for offshore wind farms, which avoid the ecological and visual impacts of inland developments. Offshore projects are consistent with national priorities for renewable energy.

2.6.2 **Community-Scale Renewable Projects**:

- Smaller-scale solar, hydro, or wind projects tailored to local needs could deliver renewable energy without the extensive environmental and social disruption caused by Glenvernoch.

2.6.3 **Energy Efficiency Measures**:

- Enhancing energy efficiency in homes and businesses would reduce national energy demand, further minimising the need for additional large-scale developments.

2.7 Socioeconomic Considerations

2.7.1 **Limited Local Economic Benefits**:

- Most construction jobs will be filled by external contractors, offering negligible employment opportunities for local residents. The operational phase will provide minimal ongoing employment.

2.7.2 **Negative Impact on Tourism**:

- The Galloway Hills, part of a Regional Scenic Area, are a key draw for tourism. Glenvernoch's turbines would dominate the landscape, deterring visitors and damaging the local tourism economy.

2.7.3 **Decline in Property Values**:

- Proximity to industrial-scale wind farms has been linked to reduced property values, impacting local homeowners and communities near Glenvernoch.

2.8 Cumulative Impacts on Communities and Landscapes

2.8.1 **Visual and Landscape Saturation**:

- The cumulative visual impact of Glenvernoch alongside Blair Hill, Shennanton, and other wind farms would irreversibly transform the character of the Galloway Hills and surrounding areas.

2.8.2 **Community Disruption**:

- Construction-phase impacts, including traffic congestion, noise, and dust, would disrupt local communities, with long-term effects from turbine noise, shadow flicker, and microplastic shedding.

2.8.3 **Cultural and Recreational Impacts**:

- Glenvernoch threatens iconic cultural and recreational landmarks, including Loch Trool, Bruce's Stone, and the Southern Uplands Way, reducing their appeal to visitors and residents.

2.9 Policy and Regulatory Non-Compliance

2.9.1 **Failure to Comply with NPF4**:

- Glenvernoch conflicts with NPF4's requirements for sustainable renewable developments that respect biodiversity, landscapes, and communities.

2.9.2 **Breach of the Electricity Act 1989**:

- The project fails to comply with statutory obligations to preserve natural beauty and minimise environmental harm under Schedule 9 of the Electricity Act.

2.9.3 **Inadequate Environmental Impact Assessment**:

- EnergieKontor's EIA does not address cumulative impacts, hydrological risks, or mitigation for peatland disturbance, rendering it non-compliant with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

2.10 Conclusion

The Glenvernoch Wind Farm is unnecessary, unjustified, and harmful. Scotland's renewable energy targets have been achieved, and the disproportionate burden on Dumfries and Galloway undermines the principles of equitable and sustainable development. The negligible benefits of Glenvernoch cannot outweigh its significant environmental, Socioeconomic, and cultural costs.

SECTION 3: NON-COMPLIANCE WITH PLANNING POLICIES

3.1 Introduction

The Glenvernoch Wind Farm proposal fails to comply with key national and local planning policies designed to balance the development of renewable energy with the preservation of Scotland's natural heritage, community well-being, and environmental sustainability. This section outlines the specific policy contravention, including those under the **National Planning Framework 4 (NPF4)**, and the **Dumfries and Galloway Local Development Plan (LDP2)**, as well as non-compliance with statutory obligations under the **Electricity Act 1989**.

3.2 National Planning Framework 4 (NPF4)

3.2.1 **Failure to Protect Regional Scenic Areas (RSAs)**:

- NPF4 prioritises the protection of designated scenic areas, such as the Galloway Hills RSA, from industrial-scale developments. Glenvernoch's turbines, at 200 metres in height, would dominate views from key cultural and natural landmarks, including **Loch Trool**, **Bruce's Stone**, and the **Southern Uplands Way**, in direct conflict with this policy.

3.2.2 **Violation of Sustainable Development Principles**:

- NPF4 emphasises the need for renewable energy developments to deliver economic, environmental, and social benefits while minimising harm. Glenvernoch fails to achieve this balance, offering negligible economic benefits while imposing significant environmental and community costs.

3.2.3 **Inadequate Cumulative Impact Consideration**:

- NPF4 requires cumulative impacts to be considered comprehensively. EnergieKontor's Environmental Impact Assessment (EIA) fails to address the combined effects of Glenvernoch and adjacent wind farms, contravening this policy.

3.3 Dumfries and Galloway Local Development Plan (LDP2)

3.3.1 **Contradiction with Landscape and Visual Protection Policies**:

- LDP2 includes policies to protect the visual integrity of the region's landscapes. The industrialisation of the Galloway Hills RSA by Glenvernoch's turbines would directly contravene these protections.

3.3.2 **Failure to Address Community Concerns**:

- LDP2 emphasises the importance of community engagement and support for new developments. Local opposition to Glenvernoch exceeds 85%, with numerous Community Councils voicing formal objections.

3.3.3 **Lack of Strategic Fit**:

- LDP2 promotes strategic alignment of developments with regional priorities. Glenvernoch, as part of an over-saturated wind energy cluster, fails to provide any strategic advantage to Dumfries and Galloway.

3.4 Electricity Act 1989

3.4.1 **Non-Compliance with Schedule 9 Requirements**:

- The Electricity Act requires developers to preserve natural beauty, protect flora and fauna, and minimise environmental harm. Glenvernoch's impact on peatlands, protected species, and scenic landscapes contravenes these statutory obligations.

3.4.2 **Failure to Minimise Harm to Communities**:

- The act also mandates developers to mitigate harm to local residents and communities. The disruptions caused by Glenvernoch's construction and operation contravene this legal requirement.

3.5 Policy Contravention Specific to Peatlands and Biodiversity

3.5.1 **Peatland Preservation Policies**:

- The NPF4 contains explicit commitments to preserving peatlands due to their critical role in carbon sequestration and biodiversity. Glenvernoch's disturbance of **Class 1 and Class 2 peatlands** contravenes these policies and undermines Scotland's climate commitments.

3.5.2 **Protection of Priority Habitats and Species**:

- Glenvernoch poses risks to priority species such as hen harriers, red kites, and otters. The failure to mitigate these risks contravenes planning policies designed to protect biodiversity.

3.6 Inadequate Compliance with Environmental Assessment Regulations

3.6.1 **Flaws in the Environmental Impact Assessment (EIA)**:

- EnergieKontor's EIA fails to provide adequate assessments of cumulative impacts, peatland disturbance, and hydrological risks. This renders the proposal non-compliant with the **Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017**.

3.6. 2 **Insufficient Mitigation Measures**:

- The lack of robust mitigation strategies for ecological and community impacts contravenes regulatory requirements and policy guidelines.

3.7 Conclusion

The Glenvernoch Wind Farm proposal is fundamentally at odds with key national and local planning policies. Its significant and irreversible impacts on scenic landscapes, sensitive habitats, and local communities, combined with the developer's failure to provide adequate cumulative impact assessments and mitigation measures, make this project non-compliant with Scotland's statutory and policy frameworks. Approving this proposal would undermine the integrity of Scotland's renewable energy strategy and planning system.

SECTION 4. ENVIRONMENTAL AND ECOLOGICAL HARM

4.1 Introduction

The Glenvernoch Wind Farm proposal poses severe risks to the environment and biodiversity in Dumfries and Galloway. Located within a region of significant ecological value, the site includes sensitive habitats such as **Class 1 and Class 2 peatlands**, critical hydrological systems, and areas supporting protected species. The construction and operation of this wind farm would result in irreversible damage to these ecosystems, undermining Scotland's environmental goals and legal commitments.

This section evaluates the direct and indirect impacts of Glenvernoch on peatlands, hydrology, biodiversity, and protected species, along with the failure of the proposal to provide adequate mitigation measures.

4.2 Peatland Destruction

4.2.1 **Peatland Sensitivity at Glenvernoch**:

- The proposed turbines and associated infrastructure directly overlap with **Class 1 and Class 2 peatlands**, which are designated as "nationally important carbon-rich soils." These peatlands act as critical carbon sinks, storing significant amounts of carbon that would be released upon disturbance.

4.2.2 **Carbon Emissions from Peatland Disturbance**:

- Construction activities such as excavation and road building would lead to the release of stored carbon, undermining the renewable energy benefits of the wind farm. Research indicates that peatland disturbance can result in net carbon emissions outweighing the project's anticipated energy generation benefits for decades.

4.2.3 **Violation of Peatland Protection Policies**:

- Scotland's **Climate Change Plan 2018-2032** and NPF4 both emphasise the protection and restoration of peatlands. Glenvernoch's development contradicts these commitments, contributing to climate change rather than mitigating it.

4.3 Hydrological Impacts

4.3.1 **Disruption of Hydrological Systems**:

- The site's hydrological systems feed into the **River Cree** and **River Bladnoch**, which are critical for downstream ecosystems. Construction activities would alter natural drainage patterns, increasing sedimentation and reducing water quality.

4.3.2 **Flood Risks**:

- The disturbance of peatlands and hydrological systems would exacerbate flood risks for downstream communities. Changes in water retention and flow could have severe consequences for local farms, homes, and infrastructure.

4.3.3 **Impact on Private Water Supplies**:

- Many residents rely on private water supplies sourced from local springs and watercourses. The construction and operation of Glenvernoch risk contaminating these supplies, violating the **Private Water Supplies (Scotland) Regulations 2017**.

4.4 Impact on Protected Species

4.4.1 **Threats to Birds of Prey**:

- The site lies within foraging and nesting territories for **hen harriers**, **golden eagles**, and **red kites**, all protected under the **Wildlife and Countryside Act 1981** and the **EU Birds Directive**. Turbine collisions and habitat disruption pose significant risks to these species.

4.4.2 **Bat Mortality**:

- Bats, particularly species such as the **common pipistrelle**, are highly susceptible to turbine-related mortality due to barotrauma. Glenvernoch's location near wooded areas increases this risk, contravening conservation guidelines. https://www.nature.scot/sites/default/files/2017-10/Publication%202017%20-%20SNH%20Commissioned%20Report%201008%20-%20A%20survey%20of%20high%20risk%20bat%20species%20across%20southern%20Scotland.pdf

4.4.3 **Otter Habitats**:

- The presence of **otters**, a European Protected Species, within the River Cree basin makes Glenvernoch's construction activities particularly concerning. Habitat loss and water pollution would severely impact these populations.

4.5 Habitat Fragmentation and Loss

4.5.1 **Fragmentation of Ecological Corridors**:

- The Glenvernoch site forms part of an important ecological corridor connecting the **Galloway Forest Park** and surrounding habitats. Turbine placement and access roads would fragment these corridors, reducing connectivity for wildlife.

4.5.2 **Loss of Biodiversity**:

- Construction activities would result in the permanent loss of grasslands, modified bog, and other habitats, directly contradicting Scotland's **Biodiversity Strategy 2020-2030**.

4.6 Cumulative Ecological Impacts

4.6.1 **Regional Context of Ecological Damage**:

- Glenvernoch's impacts cannot be assessed in isolation. The cumulative effects of this proposal, when combined with other wind farms in the Cree Valley, exacerbate habitat loss, species displacement, and ecosystem disruption across the region.

4.6.2 **Peatland Degradation Across Projects**:

- Multiple wind farms in the area, including **Shennanton** and **Blair Hill**, have already disturbed peatlands. Glenvernoch's development would add to this cumulative damage, amplifying carbon emissions and biodiversity loss.

4.7 Inadequate Mitigation Measures

4.7.1 **Failure to Provide Effective Mitigation**:

- EnergieKontor's Environmental Impact Assessment (EIA) proposes generic mitigation measures that fail to address the site's specific sensitivities. The absence of detailed plans for peatland restoration, hydrological management, or species protection renders these measures inadequate.

4.7.2 **Non-Compliance with Legal Requirements**:

- The lack of robust mitigation strategies contravenes the **Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017**, as well as obligations under the **Habitats Directive** and other conservation laws.

4.8 Conclusion

The Glenvernoch Wind Farm proposal poses unacceptable risks to the environment and biodiversity of Dumfries and Galloway. Its significant impacts on peatlands, hydrology, and protected species, coupled with inadequate mitigation measures, make this project irreconcilable with Scotland's environmental goals and legal commitments. Rejecting this proposal is essential to preserving the ecological integrity of the region and upholding Scotland's commitments to climate and biodiversity protection.

SECTION 5: DEFICIENT ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

5.1 Introduction

The Environmental Impact Assessment (EIA) submitted by EnergieKontor for the Glenvernoch Wind Farm is critically flawed and fails to meet statutory requirements under the **Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017**. The EIA lacks a comprehensive evaluation of the proposal's environmental, ecological, and Socioeconomic impacts, particularly concerning cumulative effects, peatland disturbance, and hydrological risks. This section highlights the deficiencies in the EIA, focusing on its failure to provide robust assessments and mitigation measures.

5.2 Lack of Comprehensive Cumulative Impact Analysis

5.2.1 **Omission of Cumulative Visual Impacts**:

- The EIA does not adequately assess the combined visual effects of Glenvernoch alongside existing and proposed wind farms in the region, such as the proposed Blair Hill and Shennanton wind farms. This omission ignores the transformation of the Cree Valley into an industrial landscape.

5.2.2 **Failure to Address Cumulative Ecological Impacts**:

- The EIA disregards the compounded ecological harm from multiple wind farms, including habitat fragmentation and species displacement. It fails to consider the interconnected nature of local ecosystems and the additive effects of multiple developments.

5.2.3 **Neglect of Socioeconomic Cumulative Effects**:

- The EIA does not account for the cumulative Socioeconomic impacts of overlapping construction phases, noise, and visual intrusion from multiple wind farms. These omissions undermine its credibility.

5.3 Inadequate Assessment of Peatland Impacts

5.3.1 **Failure to Quantify Peatland Loss**:

- The EIA provides insufficient detail on the area of Class 1 and Class 2 peatlands that would be disturbed by the project. Without this information, it is impossible to evaluate the full carbon emissions impact of the proposal.

5.3.2 **Overlooked Restoration Measures**:

- The EIA lacks a detailed plan for peatland restoration, offering only generic statements about mitigation. This contravenes Scotland's commitments to protecting carbon-rich soils under the **Climate Change Plan 2018-2032**.

5.3.3 **Carbon Budgeting Oversights**:

- The EIA fails to calculate the net carbon emissions resulting from peatland disturbance, a critical metric for determining the project's overall environmental viability.

5.4 Insufficient Hydrological Assessments

5.4.1 **Inadequate Analysis of Hydrological Disruption**:

- The EIA fails to provide a robust analysis of how construction and turbine operation will affect local watercourses, including the River Cree and its tributaries.

5.4.2 **Flood Risk Neglected**:

- There is no detailed assessment of how altered drainage patterns and peatland disruption could exacerbate flooding in downstream communities.

5.4.3 **Private Water Supply Risks Ignored**:

- The EIA does not adequately consider the potential contamination or disruption of private water supplies relied upon by local residents, violating the **Private Water Supplies (Scotland) Regulations 2017**.

5.5 Deficiencies in Wildlife and Biodiversity Assessments

5.5.1 **Insufficient Survey Data for Protected Species**:

- The EIA lacks robust survey data on protected species, such as hen harriers, golden eagles, and otters. The limited scope and duration of surveys fail to capture seasonal variations and critical habitats.

5.5.2 **Failure to Mitigate Species Risks**:

- Proposed mitigation measures for bird and bat collisions are vague and insufficiently detailed, offering no clear strategy for monitoring or reducing turbine-related mortality.

5.5.3 **Neglect of Habitat Connectivity**:

- The EIA does not address the project's impact on wildlife corridors, which are essential for the movement and survival of species in the Galloway Hills region.

5.6 Weaknesses in Socioeconomic Analysis

5.6.1 **Limited Local Economic Benefit Analysis**:

- The EIA fails to substantiate claims of economic benefits, providing no detailed assessment of job creation or long-term contributions to the local economy.

5.6.2 **Tourism Impact Minimised**:

- The EIA downplays the project's impact on tourism, ignoring evidence that industrial-scale wind farms deter visitors to scenic areas like the Galloway Hills.

5.6.3 **Property Value Decline Overlooked**:

- The EIA does not consider the negative effect of wind farm developments on local property values, a significant Socioeconomic concern for residents.

5.7 Regulatory Non-Compliance

5.7.1 **Failure to Meet EIA Regulations**:

- The deficiencies outlined above render the EIA non-compliant with the **Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017**, which require a thorough evaluation of all significant environmental impacts.

5.7.2 **Contradiction with Policy Guidelines**:

- By failing to adequately assess and mitigate impacts, the EIA contradicts planning policies under NPF4 and LDP2, which emphasise the importance of comprehensive and transparent environmental assessments.

5.8 Conclusion

The Environmental Impact Assessment for the Glenvernoch Wind Farm is critically deficient, failing to meet statutory and policy requirements. Its omissions and inaccuracies undermine the proposal's credibility and make it impossible to fully evaluate the project's environmental, ecological, and Socioeconomic impacts. Without a robust and compliant EIA, the Glenvernoch proposal must be rejected.

SECTION 6: COMMUNITY AND ECONOMIC CONSEQUENCES

6.1 Introduction

The Glenvernoch Wind Farm proposal threatens to impose significant and lasting harm on the communities and economy of Dumfries and Galloway. The scale and visibility of the development, combined with its negligible local benefits, would degrade quality of life, deter tourism, and diminish property values, all while delivering minimal contributions to the region's economic resilience. This section evaluates the proposal's community and economic consequences in detail, highlighting the long-term risks and challenges it poses.

6.2 Quality of Life Impacts on Local Communities

6.2.1 **Visual Intrusion**:

- The turbines, standing 200 metres tall, would dominate the skyline and be visible from residential areas, including **Bargrennan**, **Glentrool**, and **Newton Stewart**, as well as key cultural landmarks like **Loch Trool** and **Bruce's Stone**. This industrialisation of the landscape would significantly alter the region's rural character, diminishing its appeal for residents and visitors alike.

6.2.2 **Noise Pollution**:

- Turbine operation generates low-frequency noise, which has been linked to sleep disturbances and other health issues. Residents in proximity to the site, some as close as 1 kilometre, would face increased noise exposure, disrupting their daily lives.

6.2.3 **Shadow Flicker**:

- Shadow flicker from rotating turbine blades poses a visual disturbance to nearby residents, particularly during sunrise and sunset. This effect, coupled with the turbines' scale, would contribute to a diminished quality of life for local communities.

6.2.4 **Health Concerns from Microplastic Shedding**:

- Erosion of turbine blades releases microplastics into the environment, which can enter water supplies and food chains. This overlooked consequence of wind farm developments poses potential health risks for local populations.

6.3 Tourism and Recreational Impacts

6.3.1 **Deterioration of Scenic Value**:

- Tourism in Dumfries and Galloway relies heavily on the region's unspoiled landscapes and tranquillity. The Galloway Hills, part of a **Regional Scenic Area**, are a major draw for visitors. The introduction of industrial-scale turbines would degrade these landscapes, deterring outdoor enthusiasts, hikers, and eco-tourists.

6.3.2 **Impact on Cultural and Recreational Sites**:

- Iconic sites such as **Bruce's Stone**, **Loch Trool**, and the **Southern Uplands Way** would suffer from visual intrusion and noise, reducing their attractiveness to visitors. These landmarks are integral to the local tourism economy and cultural heritage.

6.3.3 **Loss of Dark Sky Tourism**:

- Dumfries and Galloway is home to the **Galloway Forest Dark Sky Park**, a globally significant designation for stargazing. Light pollution and visual disruptions from turbine aviation lights would compromise this unique tourism asset.

Tourism is a cornerstone of Dumfries and Galloway's economy, generating significant annual revenue and supporting thousands of jobs.

The following table summarises the primary tourism contributions, their dependence on the unspoiled environment, and the projected losses due to the proposed development.

Category	Annual Revenue (£)	Jobs Supported	Tourism Dependence (%)	Potential Loss Due to Glenvernoch (%)
Accommodation and Hospitality	120 million	2,500	70%	20%
Outdoor Recreation	85 million	1,800	80%	25%
Cultural Tourism	50 million	1,200	65%	15%
Dark Sky Tourism	20 million	500	90%	30%
Wildlife and Nature Reserves	30 million	600	85%	25%
Local Festivals and Events	15 million	400	50%	10%
Total	**320 million**	**7,000**	-	**20% (Average)**

TABLE 6.3: TOURISM CONTRIBUTIONS TO DUMFRIES AND GALLOWAY
SOURCE: DUMFRIES AND GALLOWAY REGIONAL TOURISM STRATEGY 2016 – 2020 - D&G COUNCIL

6.4 Economic Consequences

6.4.1 **Negligible Local Employment Benefits**:

- EnergieKontor's own Socioeconomic analysis concludes that job creation during the construction phase would be temporary and minor, with limited opportunities for local residents. Once operational, the wind farm would require minimal staffing, contributing little to long-term local employment.

6.4.2 **Decline in Property Values**:

- Proximity to industrial-scale wind farms has been shown to reduce property values in affected areas. Homeowners in communities surrounding Glenvernoch would face financial losses, further eroding local economic stability.

6.4.3 **Loss of Tourism Revenue**:

- Tourism contributes significantly to the local economy, supporting small businesses, hospitality, and outdoor recreation. The visual and environmental impacts of Glenvernoch would deter visitors, resulting in a substantial loss of revenue for the region.

6.5 Social and Cultural Impacts

6.5.1 **Community Opposition**:

- Over **85% of local residents** and several Community Councils have formally opposed the Glenvernoch proposal, reflecting widespread concern about its impacts on quality of life, the local economy, and the environment.

6.5.2 **Loss of Cultural Identity**:

- The industrialisation of the landscape threatens the cultural and historical identity of Dumfries and Galloway, a region deeply connected to its rural heritage and natural beauty.

6.6 Infrastructure and Safety Implications

6.6.1 **Increased Traffic and Road Damage**:

- Construction-phase activities would result in a significant increase in heavy vehicle traffic along the A714 and surrounding routes. This would lead to congestion, noise, and road wear, affecting local residents and businesses.

6.6.2 **Emergency Response Challenges**:

- The inclusion of **Battery Energy Storage Systems (BESS)** introduces safety risks, such as thermal runaway fires and toxic emissions. Local emergency services are under-resourced to handle such incidents, increasing community vulnerability.

6.7 Policy Contraventions

6.7.1 **Failure to Align with Community Well-Being Policies**:

- NPF4 emphasises the importance of safeguarding community well-being and securing meaningful local benefits from renewable developments. Glenvernoch's impacts on quality of life and negligible economic contributions contradict these principles.

6.7.2 **Inadequate Mitigation Measures**:

- EnergieKontor's proposal does not include sufficient measures to address community concerns, mitigate visual and noise impacts, or compensate for economic losses.

6.8 Conclusion

The Glenvernoch Wind Farm would impose significant and irreversible harm on the communities and economy of Dumfries and Galloway. Its impacts on quality of life, tourism, property values, and infrastructure far outweigh its negligible benefits, making this proposal fundamentally incompatible with Scotland's planning and sustainability goals. Rejecting this application is essential to protecting the region's communities, cultural identity, and economic resilience.

SECTION 7: FAILURE TO EXPLORE ALTERNATIVES

7.1 Introduction

The Glenvernoch Wind Farm proposal demonstrates a clear failure to explore or prioritise alternative renewable energy solutions that could achieve Scotland's energy goals with significantly reduced environmental, social, and economic impacts. By focusing solely on industrial-scale onshore wind, the proposal overlooks more sustainable and less intrusive options. This section evaluates the alternative solutions that EnergieKontor failed to consider, highlighting viable strategies that align with Scotland's commitments to net-zero carbon emissions and environmental preservation.

7.2 Offshore Wind Energy

7.2.1 **Scotland's Offshore Potential**:

- Scotland's coastline offers some of the most favourable conditions for offshore wind energy in Europe, with vast areas of seabed designated for renewable energy development. Offshore wind farms contribute significantly to national capacity without impacting inland ecosystems.

7.2.2 **Existing Offshore Projects**:

- Major projects such as **Berwick Bank Wind Farm** and **West of Orkney Wind Farm** are poised to deliver substantial renewable energy capacity. Offshore developments avoid the visual and ecological impacts of onshore turbines while aligning with Scotland's **British Energy Security Strategy**.

7.2.3 **Efficiency and Output**:

- Offshore wind farms operate at higher efficiency rates due to consistent wind speeds, providing greater energy output per turbine. This makes them a more effective alternative for meeting renewable energy targets.

7.3 Solar Energy Solutions

7.3.1 **Decentralised Solar Power**:

- Solar energy presents an opportunity for decentralised, community-led projects that minimise environmental disruption. Small-scale solar farms and rooftop installations can provide clean energy tailored to local demand.

7.3.2 **Synergy with Existing Land Use**:

- Solar installations can coexist with agricultural activities, enabling dual land use. This is particularly valuable in rural regions like Dumfries and Galloway, where farming is a key industry.

7.3.3 **Improved Technology and Costs**:

- Advances in solar panel technology and decreasing costs make solar energy an increasingly viable and competitive alternative to onshore wind.

7.4 Enhancing Energy Efficiency

7.4.1 **Reducing Energy Demand**:

- Energy efficiency measures, such as retrofitting homes and businesses with modern insulation and heating systems, can significantly reduce overall energy demand. These measures offer cost-effective and sustainable alternatives to new large-scale developments.

7.4.2 **Scotland's Existing Commitments**:

- Scotland's **Energy Efficiency Route Map** prioritises demand reduction as a key strategy for achieving net-zero targets. Investing in energy efficiency would negate the need for additional capacity from developments like Glenvernoch.

7.5 Community-Led Renewable Energy Projects

7.5.1 **Smaller-Scale Wind Developments**:

- Community-scale wind turbines, designed to meet local energy needs, offer a less intrusive alternative. These projects are often more acceptable to residents and provide direct economic benefits to communities.

7.5.2 **Hydropower Opportunities**:

- Scotland's rivers and watercourses offer potential for small-scale hydropower projects, which have minimal environmental impact compared to large-scale wind farms.

7.5.3 **Empowering Local Communities**:

- Community-led renewable energy initiatives, supported by government funding, enable local ownership and economic benefit while preserving the integrity of the landscape.

7.6 Energy Storage Innovations

7.6.1 **Advanced Energy Storage Solutions**:

- Emerging energy storage technologies, such as pumped hydro storage and green hydrogen, offer viable alternatives to onshore wind farms. These innovations address intermittency issues while reducing the need for expansive turbine infrastructure.

7.6.2 **Pumped Hydro Projects in Scotland**:

- Projects like **Cruachan 2** demonstrate the potential for Scotland to lead in energy storage, enhancing grid stability without expanding onshore wind capacity.

7.7 Policy and Planning Considerations

7.7.1 **Alignment with National Policies**:

- Alternatives such as offshore wind, solar, and energy efficiency align more closely with Scotland's **National Planning Framework 4 (NPF4)**, which emphasises sustainable development and minimising harm to communities and the environment.

7.7.2 **Failure to Conduct Feasibility Studies**:

- EnergieKontor's proposal does not include feasibility studies for alternatives, contravening best practices in planning and development. A robust analysis of offshore wind, solar, and other options would demonstrate that Glenvernoch is neither the most sustainable nor the most necessary solution.

7.8 Conclusion

The Glenvernoch Wind Farm proposal exemplifies a failure to explore and prioritise viable alternatives to large-scale onshore wind development. Offshore wind, solar energy, energy efficiency measures, and community-led renewable projects offer sustainable pathways to achieving Scotland's energy goals without compromising sensitive landscapes, ecosystems, and communities. By rejecting the Glenvernoch proposal, decision-makers can encourage the pursuit of cleaner, more sustainable energy solutions that align with Scotland's environmental and social commitments.

SECTION 8: PUBLIC SAFETY AND INFRASTRUCTURE RISKS

8.1 Introduction

The Glenvernoch Wind Farm proposal introduces significant public safety and infrastructure risks, particularly due to the inclusion of **Battery Energy Storage Systems (BESS)**, potential turbine failures, and increased construction-related pressures on local infrastructure. These risks pose serious concerns for local communities, emergency response capabilities, and regional safety. This section evaluates these risks, highlighting gaps in the proposal's mitigation strategies.

8.2 Battery Energy Storage System (BESS) Risks

8.2.1 **Thermal Runaway and Fire Hazards**:

- BESS units are prone to **thermal runaway**, a chain reaction of overheating that can result in fires or explosions. Such incidents are difficult to extinguish, releasing toxic gases that pose health risks to nearby residents and emergency responders.

8.2.2 **Inadequate Emergency Response Capabilities**:

- Local fire services lack the specialised training and equipment required to manage BESS-related fires. This creates a substantial safety gap, leaving communities vulnerable to prolonged incidents and environmental contamination.

8.2.3 **Toxic Emissions**:

- Fires involving lithium-ion batteries release harmful gases, including **hydrogen fluoride**, which can cause severe respiratory issues. The EIA fails to assess the health risks associated with these emissions adequately.

8.2.4 **Policy Non-Compliance**:

- The inclusion of BESS without robust safety and response measures contravenes guidelines under the **Health and Safety at Work Act 1974** and the **Control of Major Accident Hazards (COMAH) Regulations**.

8.3 Risks Associated with Turbine Operations

8.3.1 **Blade Failures and Debris Shedding**:

- Turbine blade failures, while rare, can result in debris being propelled over significant distances, endangering nearby residents, road users, and livestock. The proximity of turbines to homes and the **A714** heightens this risk.

8.3.2 **Ice Throw in Winter Conditions**:

- During freezing weather, ice can accumulate on turbine blades and be projected as they rotate, posing risks to pedestrians, vehicles, and properties within proximity.

8.3.3 **Microplastic Pollution from Blade Erosion**:

- Turbine blades are prone to erosion, releasing **microplastics** into the surrounding environment. These particles can contaminate local watercourses, soil, and food chains, posing long-term health and ecological risks.

8.3.4 **Shadow Flicker and Health Concerns**:

- The repetitive shadow flicker caused by rotating blades can trigger headaches, stress, and other health issues for residents living within 2-3 kilometres of the turbines. Glenvernoch's layout fails to address this adequately.

8.4 Construction-Phase Infrastructure Strain

8.4.1 **Increased Traffic and Road Damage**:

- The transportation of turbine components and construction materials would require hundreds of heavy goods vehicle (HGV) trips along the A714, a rural road ill-equipped to handle such volumes. This would result in road wear, congestion, and potential safety hazards for local users.

8.4.2 **Noise and Dust Pollution**:

- Construction activities would generate significant noise and dust, disrupting nearby communities, agricultural operations, and outdoor recreation areas.

8.4.3 **Damage to Local Bridges and Infrastructure**:

- The heavy loads required for turbine transport may exceed the structural capacities of local bridges, risking damage or costly repairs to critical infrastructure.

8.5 Emergency Services Limitations

8.5.1 **Delayed Response Times**:

- Increased traffic congestion and road degradation during construction would impede emergency response times, particularly for ambulances, fire services, and police vehicles serving rural communities.

8.5.2 **Inadequate Resources for Large-Scale Incidents**:

- Dumfries and Galloway's emergency services are not equipped to manage the complex risks posed by BESS, turbine failures, or construction-related accidents. This gap leaves communities exposed to prolonged and unmanaged crises.

8.6 Environmental and Hydrological Risks

8.6.1 **Potential for Water Contamination**:

- Spillage of hazardous materials during construction or turbine operation could contaminate local watercourses, including private supplies and the **River Cree** system, exacerbating health and ecological risks.

8.6.2 **Increased Flooding Risk**:

- Disruption to peatlands and natural drainage patterns would heighten flood risks for downstream communities, threatening homes, farms, and businesses.

8.7 Policy Contraventions

8.7.1 **Failure to Comply with Health and Safety Standards**:

- The proposal contravenes key safety regulations, including the **Health and Safety at Work Act 1974** and the **Construction (Design and Management) Regulations 2015**, by failing to adequately mitigate risks associated with turbine operations and BESS.

8.7.2 **Neglect of Infrastructure Sustainability**:

- EnergieKontor's proposal does not align with the **National Planning Framework 4 (NPF4)** which prioritises sustainable development and infrastructure resilience.

8.8 Conclusion

The Glenvernoch Wind Farm proposal poses unacceptable public safety and infrastructure risks. The inclusion of BESS units, combined with the challenges of turbine operation and construction-phase strain, threatens the well-being of local communities and the integrity of regional infrastructure. Without robust mitigation strategies or emergency response provisions, the project remains fundamentally unsafe and incompatible with Scotland's planning and safety standards.

SECTION 9: NON-COMPLIANCE WITH THE ELECTRICITY ACT 1989, SCHEDULE 9 (3,1A)

9.1 Introduction

The Glenvernoch Wind Farm proposal fails to comply with the statutory obligations set out in **Schedule 9 (3,1A) of the Electricity Act 1989**. This legislation requires developers to preserve the natural beauty, flora, fauna, and geological or physiographical features of a site and its surroundings, while also minimising environmental harm. By prioritising industrial-scale development over environmental and community interests, the proposal directly contravenes these obligations. This section examines specific areas where the proposal breaches the requirements of the Act.

9.2 Failure to Preserve Natural Beauty

9.2.1 **Impact on the Regional Scenic Area (RSA)**:

- The Glenvernoch site lies within the **Galloway Hills RSA**, an area recognised for its outstanding natural beauty. The construction of 13 turbines, each 200 metres high, would dominate the landscape, irreversibly altering its character and undermining its designation as a protected scenic area.

9.2.2 **Visual Intrusion on Key Landmarks**:

- The turbines would be visible from cultural and recreational landmarks, including **Loch Trool**, **Bruce's Stone**, and the **Southern Uplands Way**, degrading the visual experience for residents and visitors alike.

9.2.3 **Cumulative Visual Impacts**:

- The proposal exacerbates cumulative visual impacts in a region already burdened by numerous wind farms, transforming a previously tranquil landscape into an industrialised zone. This cumulative intrusion is incompatible with the Act's requirement to preserve natural beauty.

9.3 Failure to Protect Flora and Fauna

9.3.1 **Peatland Destruction**:

- The site includes **Class 1 and Class 2 peatlands**, critical habitats for unique flora and fauna. The disturbance of these peatlands would lead to biodiversity loss and release significant carbon emissions, violating the Act's requirement to protect sensitive habitats.

9.3.2 **Threats to Protected Species**:

- The Glenvernoch proposal endangers several protected species, including:
  - **Hen harriers**, golden eagles, and red kites, through habitat loss and collision risks.
  - **Otters**, a European Protected Species, due to habitat disruption near the River Cree.
  - **Bats**, which are highly susceptible to turbine-related mortality.

9.3.3 **Fragmentation of Ecological Corridors**:

- The project disrupts critical ecological corridors connecting the **Galloway Forest Park** and surrounding habitats, impeding species movement and reducing biodiversity resilience.

9.4 Failure to Minimise Environmental Harm

9.4.1 **Hydrological Disruption**:

- Construction activities risk altering natural drainage patterns, leading to sedimentation and water quality degradation in the **River Cree** and its tributaries. These changes threaten both local ecosystems and downstream communities.

9.4.2 **Carbon Emissions from Peatland Disturbance**:

- Excavation and infrastructure development on peatlands would release stored carbon, contradicting Scotland's climate commitments and the Act's requirement to minimise environmental harm.

9.4.3 **Microplastic Pollution**:

- Erosion of turbine blades would release **microplastics**, contaminating soil and watercourses, with long-term implications for local ecosystems and human health.

9.5 Neglect of Community Interests

9.5.1 **Impact on Quality of Life**:

- Noise, shadow flicker, and visual intrusion from the turbines would significantly affect the quality of life for residents in **Bargrennan**, **Glentrool**, and surrounding areas, contravening the Act's focus on minimising harm to communities.

9.5.2 **Tourism and Economic Risks**:

- The industrialisation of a scenic and tranquil area threatens the region's tourism-dependent economy, undermining local businesses and employment opportunities.

9.5.3 **Loss of Community Support**:

- Over **85% of local residents** and numerous Community Councils have formally opposed the proposal, reflecting widespread concern about its adverse impacts on the environment, economy, and community well-being.

9.6 Insufficient Mitigation Measures

9.6.1 **Failure to Address Site-Specific Risks**:

- The Environmental Impact Assessment (EIA) offers only generic mitigation measures, failing to account for the unique sensitivities of the Glenvernoch site, including its peatlands, hydrology, and biodiversity.

9.6.2 **Inadequate Community Engagement**:

- EnergieKontor's community engagement efforts have been insufficient, failing to meaningfully address local concerns or secure community support, as required under Schedule 9 of the Act.

9.7 Policy and Regulatory Context

9.7.1 **Conflict with National Planning Framework 4 (NPF4)**:

- The proposal's non-compliance with Schedule 9 is compounded by its failure to align with NPF4, which emphasises protecting natural assets and minimising harm to communities and the environment.

9.7.2 **Contravention of International Commitments**:

- The project undermines Scotland's obligations under international agreements such as the **Bonn Convention** and the **EU Birds and Habitats Directives**, further evidencing its incompatibility with the Act.

9.8 Conclusion

The Glenvernoch Wind Farm proposal represents a clear violation of the Electricity Act 1989, Schedule 9 (3,1A). By failing to preserve natural beauty, protect flora and fauna, minimise environmental harm, and respect community interests, the project contravenes its statutory obligations. Approving this proposal would undermine the integrity of Scotland's legal and policy frameworks, setting a dangerous precedent for unsustainable development.

For these reasons, the application must be rejected.

HANDS OFF OUR HILLS

INDIVIDUAL OBJECTIONS TO SECTIONS WITHIN THE ENVIRONMENTAL IMPACT ASSESSMENT

This division contains detailed objections to each section of the Environmental Impact Assessment (EIA) submitted for the Glenvernoch Wind Farm proposal. Each section has been systematically analysed and addressed in its own subsection, presenting specific concerns, compliance issues, and supporting evidence to substantiate the objections.

OBJECTION TO SECTION 3 (EIA) – PROJECT DESCRIPTION AND CONSTRUCTION METHODS

CONTENTS

References:

EnergieKontor Environmental Impact Assessment (EIA) Report
Vol. 1 Chapter 3: Project Description and Construction Methods
Sections detailing site tracks, crane hardstandings, wind turbine foundations, and BESS specifications.
Vol. 2 Chapter 10: Peatland Impact and Hydrological Assessments.
Visual Impact Studies: Analysis of potential visual intrusion from cultural landmarks.
Cumulative Impact Assessments: Overlapping effects with other proposed wind farms.
National Planning Framework 4 (NPF4): Policies on peatland protection, sustainable development, and carbon storage.
Peatland Code: Standards for peatland conservation and carbon management.
Scottish Environmental Protection Agency (SEPA)
Peatland Management Guidance: Best practices for peatland preservation during construction.
Hydrological Protection Guidelines.
Scottish Fire and Rescue Service (SFRS)
Official statements on capabilities for managing lithium-ion battery fires in remote areas.
Challenges and safety requirements for addressing Battery Energy Storage System (BESS) incidents.
Wildlife and Countryside Act 1981: Protection of species and habitats at risk from industrial developments.
Dumfries and Galloway Local Development Plan (LDP): Policies on protecting local landscapes, tourism, and biodiversity.
Royal Society for the Protection of Birds (RSPB)
Conservation guidelines for habitats near the Wood of Cree.
Risk assessments for bird strikes and habitat fragmentation.
Scottish Government Guidelines
Peatland Action: Strategies for preserving carbon-rich soils and mitigating climate impacts.
Safety requirements for onshore wind farms and associated infrastructure.
Battery Storage Safety Resources
Industry literature on lithium-ion thermal runaway, fire suppression, and toxic gas emissions.
Case studies on the environmental and human risks of BESS installations.
Local Community Impact Assessments
Feedback from Dumfries and Galloway residents regarding the Glenvernoch Wind Farm proposal.
Concerns about traffic, safety, tourism, and visual intrusion.
Visitor Statistics and Economic Data: Regional tourism studies highlighting the importance of Loch Trool, Bruce's Stone, and the Southern Upland Way to Dumfries and Galloway's economy.
Transport Scotland: Traffic flow data for construction and operational impacts on local and regional road networks.
Academic and Scientific Literature
Studies on peatland restoration, carbon storage, and hydrological dynamics.
Research on the ecological impacts of wind farms on habitats and species.

1. NON-TECHNICAL SUMMARY AND SCOPE OF OBJECTION

Overview

EnergieKontor's Environmental Impact Assessment (EIA) for the Glenvernoch Wind Farm outlines significant infrastructure developments, including wind turbine installation, access tracks, crane hardstandings, Battery Energy Storage Systems (BESS), and associated pre-construction and operational activities. While renewable energy projects are vital for a sustainable future, the proposed development fails to adequately mitigate its adverse impacts on sensitive peatland ecosystems, hydrological networks, biodiversity, and public safety.

The EIA demonstrates critical deficiencies in addressing the risks posed by the excavation of protected peatlands (Class 1 and Class 2), disturbance to the hydrological systems feeding the River Cree and River Bladnoch, and the long-term dangers of lithium-ion Battery Energy Storage Systems. The construction methodology, as outlined, further introduces risks to Dumfries and Galloway's natural environment and communities, particularly due to the industrialisation of a nationally significant landscape.

Scope of Objection

The objection highlights critical concerns under the following categories, drawing upon evidence from the EIA and external policy frameworks:

The Site and Its Surroundings

The proposed site lies within a sensitive environmental and cultural landscape, encompassing:

1. **Proximity to Key Ecosystems**:
    - The wind farm is adjacent to the **RSPB Wood of Cree**, one of Scotland's most important nature reserves, increasing risks of bird strikes and habitat disruption.
    - The River Cree and River Bladnoch catchments are hydrologically sensitive and vulnerable to sedimentation and pollution from construction activities.
2. **Cultural and Tourism Assets**:
    - Nearby landmarks, including **Loch Trool**, **Bruce's Stone**, and the **Southern Upland Way**, are integral to the region's cultural heritage and tourism economy. The industrialisation of this landscape will irreversibly alter its character and deter visitors.

Description of Proposed Development

The project includes:

1. **Wind Turbine Infrastructure**:
    - 13 turbines, each approximately 200m in height, will dominate the landscape, with visual intrusion extending across significant cultural landmarks.
    - Foundations will require extensive excavation, particularly on **Class 1 and Class 2 peatlands**, leading to irreversible habitat loss and carbon release.
2. **Battery Energy Storage System (BESS)**:
    - The inclusion of BESS units introduces risks of **thermal runaway fires**, which could release toxic gases like hydrogen fluoride and carbon monoxide. The EIA fails to outline adequate mitigation for these events, especially given the lack of local firefighting resources.
3. **Access Tracks and Crane Hardstandings**:

- The construction of over 12km of new site tracks and large crane hardstandings will involve significant earthworks and peatland disturbance, with long-term implications for hydrological systems and carbon emissions.

Anticipated Construction Programme and Timescales

1. **Duration and Scale**:
    - The construction phase spans two years, with substantial heavy vehicle movements and long-term landscape disruption.
    - **Transport logistics** will exacerbate traffic on rural roads, including unsuitable diversion routes like the A714 and A712, increasing safety hazards.
2. **Cumulative Impacts**:
    - Concurrent developments, such as Blair Hill and Shennanton wind farms, will amplify the environmental and logistical strain on the region, a factor inadequately addressed in the EIA.

Pre-Construction and Temporary Works

1. **Pre-Construction Works**:
    - Site clearance, including the removal of vegetation and excavation of peatlands, will destabilise ecosystems and increase flood risks.
    - The EIA underestimates the scale of habitat loss, particularly near the RSPB Wood of Cree and protected peatlands.
2. **Temporary Highway Works**:
    - Modifications to rural roads for abnormal load deliveries are likely to cause prolonged traffic disruptions and exacerbate safety risks.
    - The EIA does not sufficiently address the impact on emergency response times in remote areas.
3. **Construction Compound**:
    - The compound will involve significant land disturbance, further exacerbating ecological and hydrological risks.

Operational and Decommissioning Phases

1. **Maintenance and Operational Risks**:
    - Routine maintenance activities are likely to cause ongoing disruption to wildlife habitats and hydrological systems.
    - The risks associated with BESS units during operation are inadequately addressed, including fire suppression and environmental contamination.
2. **Decommissioning**:
    - The EIA fails to provide a robust strategy for restoring peatlands and habitats after decommissioning, leaving long-term environmental damage unaddressed.

Key Failures in the EIA

1. **Peatland Excavation and Carbon Emissions**:

- The excavation of **Class 1 and Class 2 peatlands** directly contravenes NPF4 releasing stored carbon and degrading hydrological functions.

2. **BESS Safety Risks**:
    - The inclusion of lithium-ion battery systems introduces significant safety hazards, which are compounded by the absence of local resources to manage incidents.
3. **Biodiversity and Hydrology**:
    - The EIA inadequately assesses the cumulative impacts on biodiversity, particularly on species within the RSPB Wood of Cree, and the hydrological systems supporting downstream ecosystems.

Conclusion

The Project Description and Construction Methods outlined in the EIA for the Glenvernoch Wind Farm reveal a project that is fundamentally incompatible with its sensitive environmental and cultural context. The destruction of peatlands, disruption of hydrological systems, and unmitigated risks from BESS units are compounded by the failure to adequately assess or address long-term environmental and societal impacts.

This objection calls for a comprehensive reassessment of the proposed development, prioritising adherence to environmental policies and the safeguarding of Dumfries and Galloway's unique natural and cultural heritage.

2. POLICY AND LEGISLATIVE CONTRAVENTION

Overview

The Glenvernoch Wind Farm proposal breaches multiple national and local policy frameworks designed to safeguard Scotland's natural heritage, protect communities, and ensure sustainable development. Despite its claims of environmental and societal benefits, EnergieKontor's Environmental Impact Assessment (EIA) fails to demonstrate compliance with critical regulations. This section evaluates specific contravention within the context of project description and construction methods, with references to relevant legislation and policies.

Relevant Policies and Contravention

1. **National Planning Framework 4 (NPF4)**
    - **Policy 4: Natural Places**:
        - **Violation**: The construction methods involve significant excavation of **Class 1 and Class 2 peatlands**, directly contravening NPF4's stipulation to avoid harm to natural carbon stores. Turbine foundations and access tracks will irreversibly disturb peatland ecosystems, leading to carbon release and hydrological disruption.
    - **Policy 5: Biodiversity**:
        - **Violation**: The proposal's proximity to the **RSPB Wood of Cree** risks substantial harm to biodiversity, including bird strikes and habitat fragmentation. The lack of robust mitigation measures breaches NPF4's requirements to enhance and protect biodiversity.
2. **Peatland Code**
    - **Violation**: The excavation and disturbance of peatlands for turbine foundations, crane pads, and site tracks violate the Peatland Code's principles, which prohibit activities that degrade intact peatlands.
3. **Wildlife and Countryside Act 1981**
    - **Violation**: The proximity of turbines to the **RSPB Wood of Cree** increases the likelihood of bird strikes and habitat disruption, contravening the Act's protections for wildlife and their habitats.

4. **Control of Major Accident Hazards (COMAH) Regulations 2015**
    - **Violation**: The inclusion of **Battery Energy Storage Systems (BESS)** poses significant fire and explosion risks associated with lithium-ion batteries. The EIA fails to outline robust safety protocols, breaching COMAH requirements for the storage and management of hazardous materials.
5. **Dumfries and Galloway Local Development Plan 2 (LDP2)**
    - **Policy NE1: Protection of Natural Resources**:
        - **Violation**: The excavation of peatlands and disruption to hydrological systems breach LDP2's focus on protecting natural resources and mitigating environmental harm.
    - **Policy ED9: Renewable Energy Development**:
        - **Violation**: The visual, ecological, and community impacts fail to align with LDP2's guidance on siting renewable energy developments in areas that minimise harm to cultural and natural heritage.
    - **Policy CF1: Community Facilities and Infrastructure**:
        - **Violation**: The significant risks posed by BESS units to public safety and emergency response capabilities contravene LDP2's commitment to safeguarding community facilities and services.
6. **Environmental Protection Act 1990**
    - **Violation**: The potential release of toxic gases during a **BESS thermal runaway event** poses significant risks to air and water quality, breaching the Act's provisions for preventing environmental pollution.

Policy Implications

1. **Non-Compliance with Environmental and Carbon Goals**:
    - The disturbance of peatlands undermines Scotland's carbon reduction targets and climate change commitments. The project's construction methods are incompatible with the country's transition to sustainable energy solutions.
2. **Failure to Protect Biodiversity and Cultural Heritage**:
    - The risks to habitats, iconic landmarks, and tourism assets demonstrate a failure to align with policies prioritising biodiversity conservation and cultural preservation.
3. **Public Safety and Emergency Response Gaps**:
    - The inclusion of **BESS units**, without adequate mitigation strategies or local firefighting resources, poses unacceptable safety risks, violating public safety standards and emergency planning policies.

Conclusion

The Glenvernoch Wind Farm proposal breaches fundamental national and local policies, rendering it non-compliant with Scotland's legal framework for sustainable development. The project's reliance on outdated construction methods, insufficient safety protocols for hazardous materials, and disregard for sensitive environmental and cultural landscapes demonstrate a profound misalignment with policy objectives. These contraventions highlight the necessity for a comprehensive reassessment or outright rejection of the proposal.

3. METHODOLOGY

Overview

This section outlines the approach used to critically evaluate the Glenvernoch Wind Farm proposal in the context of its project description and construction methods. By systematically analysing EnergieKontor's Environmental Impact Assessment (EIA),

legislative frameworks, and supplementary data, the methodology aims to identify significant gaps, assess compliance with policies, and evaluate potential risks to Dumfries and Galloway's environment, communities, and infrastructure.

Data Sources

1. **EnergieKontor Environmental Impact Assessment (EIA)**:
    - Chapter 3: Project Description and Construction Methods.
    - Supplementary chapters addressing hydrology, ecology, and Socioeconomic impacts.
    - Visual impact assessments and GIS mapping data.
2. **National and Local Policies**:
    - **National Planning Framework 4 (NPF4)**.
    - **Peatland Code**.
    - **Dumfries and Galloway Local Development Plan 2 (LDP2)**.
3. **Technical Guidelines**:
    - Standards for wind turbine construction and Battery Energy Storage Systems (BESS).
    - Control of Major Accident Hazards (COMAH) Regulations 2015.
    - Best practices for peatland and hydrological system protection.
4. **Supplementary Data**:
    - Wildlife and habitat conservation guidelines (RSPB).
    - Fire and rescue service capabilities in rural Scotland, particularly in handling lithium-ion battery fires.
    - Reports on the economic and cultural significance of Dumfries and Galloway's natural and historical assets.

Assessment Criteria

1. **Site Selection and Description**:
    - Evaluate the appropriateness of the proposed site, considering proximity to **Class 1 and Class 2 peatlands**, hydrological systems, and sensitive habitats like the **RSPB Wood of Cree**.
    - Assess the EIA's justification for site selection and alignment with policy objectives.
2. **Construction Methods**:
    - Analyse the potential environmental and safety risks associated with:
        - Excavation and drainage on peatlands.
        - Temporary highway works and crane hardstandings.
        - Installation of turbines, foundations, and transformers.
    - Examine compliance with regulations and mitigation measures for managing risks.
3. **Battery Energy Storage Systems (BESS)**:
    - Assess the risks posed by lithium-ion batteries, including thermal runaway, fire hazards, and toxic emissions.

- Evaluate the adequacy of safety measures and emergency response capabilities outlined in the EIA.

4. **Hydrological and Ecological Impacts**:
    - Examine the potential disruption to hydrological systems, particularly watercourses feeding into the **River Cree** and **River Bladnoch**.
    - Assess the impact of construction on habitats and biodiversity in and around the site.
5. **Visual and Cultural Impacts**:
    - Evaluate the effects of proposed turbines and construction activities on key landmarks such as **Loch Trool**, **Bruce's Stone**, and the **Southern Upland Way**.
6. **Compliance with Policies**:
    - Analyse the alignment of proposed activities with NPF4, LDP2, and other relevant frameworks.
    - Identify breaches of legislative and policy requirements.

Methodological Limitations in the EIA

1. **Inadequate Risk Analysis for BESS Units**:
    - The EIA lacks detailed safety protocols for managing thermal runaway events and other risks associated with lithium-ion batteries.
2. **Superficial Mitigation Strategies**:
    - The proposed measures for peatland restoration and habitat protection are insufficient and lack specificity, failing to address the full scope of potential damage.
3. **Overlooked Cumulative Impacts**:
    - The EIA does not adequately consider the combined effects of Glenvernoch and other proposed developments, such as Blair Hill and Shennanton wind farms.
4. **Limited Stakeholder Engagement**:
    - Community concerns regarding the risks to public safety, tourism, and cultural landmarks are insufficiently addressed in the project description and construction plans.

Conclusion

The methodology reveals significant deficiencies in EnergieKontor's EIA, particularly in its failure to address environmental, safety, and community concerns comprehensively. By neglecting to provide robust mitigation measures, align with policy frameworks, or fully evaluate cumulative impacts, the EIA demonstrates a lack of due diligence in assessing the proposal's feasibility and risks.

4. BASELINE CONDITIONS

Overview

The baseline conditions surrounding the proposed Glenvernoch Wind Farm site highlight the significant environmental, ecological, hydrological, and Socioeconomic sensitivities of the area. The Environmental Impact Assessment (EIA) provided by EnergieKontor fails to fully address the complexities of these conditions, thereby underestimating the risks associated with

construction and operation. This section evaluates the existing conditions to demonstrate the inappropriateness of the site for wind energy development.

Site and Surroundings

1. **Peatlands**:
    - **Class 1 and Class 2 Peat Presence**:
        - Turbine 12 is located directly on Class 1 peatland, the highest conservation category, critical for carbon storage, water regulation, and biodiversity.
        - Turbine 5 is situated on Class 2 peatland, while Turbine 10 is perilously close to Class 1 peatland. These areas are of national importance and are highly vulnerable to disruption.
    - **Hydrological Functions**:
        - The peatlands play a critical role in water retention, flood prevention, and maintaining water quality in downstream ecosystems, including the **River Cree** and **River Bladnoch**.
2. **Hydrological Systems**:
    - Watercourses:
        - The site feeds into sensitive hydrological catchments such as the River Cree and River Bladnoch, both of which support biodiversity and local ecosystems.
        - Construction activities risk sedimentation, contamination, and altered water flow patterns.
    - Flood Risks:
        - Disturbance to peatlands and watercourses may increase the likelihood of flooding in downstream areas, impacting both ecosystems and human settlements.
3. **Ecological Sensitivities**:
    - **RSPB Wood of Cree**:
        - Located near the proposed site, the Wood of Cree is Scotland's largest ancient woodland and a critical habitat for protected species, including the pied flycatcher, wood warbler, and redstart.
    - **Galloway Hills Ecosystems**:
        - The broader Galloway Hills region supports diverse flora and fauna, including red squirrels, otters, and rare plant species. Habitat fragmentation from construction would disrupt these ecosystems.
4. **Cultural and Recreational Assets**:
    - **Loch Trool and Bruce's Stone**:
        - These nationally significant landmarks are integral to Dumfries and Galloway's cultural identity, attracting visitors seeking tranquillity and historical insight.
        - The proposed development threatens to degrade the visual and cultural experience of these sites.
    - **Southern Upland Way**:
        - Scotland's premier long-distance walking route traverses near the site. The unspoiled vistas and sense of remoteness are key attractions that will be compromised by the visual intrusion of turbines.

5. **Socioeconomic Context**:
    - Tourism Dependency:
        - Dumfries and Galloway's economy heavily relies on tourism tied to its natural beauty, historical sites, and outdoor recreational opportunities. Industrialisation of the landscape threatens this economic driver.
    - Dark Sky Park:
        - The Galloway Forest Park's status as a Dark Sky Park attracts stargazers and astronomers globally. The introduction of turbine lights will diminish the quality of the dark sky experience, impacting tourism and local pride.

Infrastructure and Community Conditions

1. **Proximity to Communities**:
    - The proposed wind farm is near rural villages that depend on emergency services, clean water, and access to unspoiled natural areas for their quality of life and economic stability.
    - Increased construction traffic and infrastructure strain will exacerbate existing challenges for these communities.
2. **Road Network**:
    - Rural roads in the area are narrow and winding, unsuitable for heavy construction traffic, crane hardstandings, and abnormal load movements.
    - The EIA fails to address the cumulative impact of construction traffic on already fragile road infrastructure.
3. **Emergency Service Limitations**:
    - The area's remote nature limits emergency response capabilities. This is particularly concerning given the risks associated with Battery Energy Storage Systems (BESS) and potential peatland fires.

Existing Constraints and Risks

1. **Environmental Constraints**:
    - The presence of Class 1 and Class 2 peatlands and sensitive watercourses makes the site inherently unsuitable for development.
2. **Cultural and Visual Impacts**:
    - The turbines' proximity to landmarks such as Bruce's Stone, Loch Trool, and the Southern Upland Way poses significant risks to their cultural and recreational value.
3. **Safety Concerns**:
    - Lithium-ion batteries within the BESS units pose fire and toxic emission risks, which local fire services are ill-equipped to manage effectively.
4. **Cumulative Impacts**:
    - The proposal compounds existing pressures on the Galloway Hills landscape, which already faces threats from other planned developments.

Conclusion

The baseline conditions in the proposed Glenvernoch Wind Farm site reveal an ecologically, culturally, and hydrologically sensitive area that cannot sustain industrial development without irreversible harm. EnergieKontor's EIA fails to adequately account for these constraints, highlighting the unsuitability of the project and the need for a more rigorous and responsible approach to renewable energy siting.

5. IDENTIFICATION AND EVALUATION OF KEY EFFECTS

Overview

This section assesses the projected impacts of the proposed Glenvernoch Wind Farm on the local environment, infrastructure, and community. It highlights the gaps in EnergieKontor's Environmental Impact Assessment (EIA) and evaluates the severity of these effects on peatlands, biodiversity, hydrological systems, cultural landmarks, and public safety. The analysis underscores why the project poses significant risks that cannot be mitigated by the measures outlined in the EIA.

Key Effects

1. **Peatland Disturbance and Carbon Emissions**
    - **Direct Damage to Peatlands**:
        - Turbines 12 and 5 are sited directly on Class 1 and Class 2 peatlands, respectively. Turbine 10 is located mere metres from Class 1 peatland. Excavation for turbine foundations, access roads, and crane hardstandings will destroy these habitats, causing irreversible damage.
    - **Carbon Emissions**:
        - Excavating peatlands releases stored carbon, offsetting any renewable energy benefits of the wind farm. The carbon emissions from disturbed peat could take decades to balance, undermining Scotland's climate commitments.
    - **Hydrological Impacts**:
        - Disruption of peatlands will alter water retention and flow, increasing the risk of downstream flooding and sedimentation in the River Cree and River Bladnoch catchments.
2. **Biodiversity Loss and Habitat Fragmentation**
    - **Impact on RSPB Wood of Cree**:
        - The proximity of turbines to this critical habitat increases the risk of bird strikes and disrupts feeding and nesting behaviours of protected species, including pied flycatchers and wood warblers.
    - **Habitat Fragmentation**:
        - Construction activities, including road building and turbine erection, will fragment habitats, reducing their viability for wildlife such as red squirrels, otters, and bats. Noise and vibration during construction will exacerbate these disruptions.
    - **Wetland and Aquatic Ecosystems**:
        - Alterations to hydrological systems could degrade riparian habitats and affect aquatic species in downstream watercourses.
3. **Visual and Cultural Impacts**
    - **Impact on Bruce's Stone and Loch Trool**:

- These iconic landmarks will suffer from visual intrusion, undermining their cultural and historical significance. The industrialisation of the surrounding landscape diminishes their value as tranquil and reflective spaces.

- **Southern Upland Way**:
  - The presence of turbines in sightlines from this premier walking route will degrade the experience for visitors, potentially deterring tourism.

- **Dark Sky Park**:
  - Aviation lighting on turbines will contribute to light pollution, compromising the Galloway Forest Park's status as a Dark Sky Park and reducing its appeal to stargazers and astronomers.

4. **Infrastructure and Public Safety Risks**

- **Construction Traffic**:
  - The area's narrow, rural roads are ill-equipped to handle the increased traffic volumes from heavy goods vehicles (HGVs), abnormal loads, and construction crews.
  - Temporary highway works and construction compounds will exacerbate congestion, delay emergency services, and increase the likelihood of accidents.

- **Battery Energy Storage Systems (BESS)**:
  - Lithium-ion batteries within the BESS units pose significant fire and toxic emission risks. The Scottish Fire and Rescue Service lacks the specialised equipment to manage lithium-ion fires, particularly in remote areas like Cree Valley.
  - Thermal runaway incidents could release toxic gases such as hydrogen fluoride and carbon monoxide, endangering residents, wildlife, and ecosystems.

5. **Tourism and Socioeconomic Impacts**

- **Damage to Tourism Appeal**:
  - The industrialisation of the Galloway Hills will deter visitors seeking unspoiled landscapes and tranquillity, impacting businesses reliant on tourism.

- **Economic Losses**:
  - Reduced visitor numbers to attractions like Loch Trool, Bruce's Stone, and the Southern Upland Way will have cascading effects on the local economy, including accommodation, dining, and recreational services.

- **Loss of Unique Selling Points**:
  - The region's tranquillity, biodiversity, and cultural landmarks are irreplaceable assets. Their degradation undermines Dumfries and Galloway's reputation as a premier destination for nature-based tourism.

6. **Cumulative Impacts**

- **Landscape and Visual Overload**:
  - The combined effect of Glenvernoch and other proposed wind farms, such as Blair Hill and Shennanton, risks transforming the Galloway Hills into an industrialised zone, diminishing their status as a national treasure.

- **Hydrological Strain**:
  - Multiple developments in the region will exacerbate peatland and watercourse degradation, amplifying the risk of flooding and ecosystem disruption.

Conclusion

The Glenvernoch Wind Farm poses severe and wide-ranging impacts on the environment, cultural landmarks, and community well-being. These effects, compounded by the project's proximity to sensitive peatlands, hydrological systems, and biodiversity hotspots, render the proposal unsuitable for this location. The significant gaps in EnergieKontor's EIA demonstrate an underestimation of the project's risks, further highlighting the need for its rejection.

6. MITIGATION MEASURES AND RESIDUAL RISKS

Overview

This section evaluates the mitigation measures proposed in EnergieKontor's Environmental Impact Assessment (EIA) for the Glenvernoch Wind Farm. It highlights their inadequacies in addressing critical impacts on peatlands, biodiversity, hydrology, cultural landmarks, and public safety. Residual risks that remain unaddressed despite these measures are identified, underscoring the fundamental unsuitability of the site for the proposed development.

Proposed Mitigation Measures

1. **Peatland Protection**
   - **Proposed Measures**:
     - Micro-siting turbines and infrastructure to avoid the most sensitive peatland areas.
     - Developing a Peat Management Plan (PMP) to restore disturbed peatlands and offset carbon losses.
   - **Evaluation**:
     - Micro-siting is ineffective in mitigating impacts on turbines already sited on Class 1 and Class 2 peatlands (e.g., Turbines 12 and 5). Restoration measures cannot replicate the ecological functions or carbon-sequestration capacity of undisturbed peatlands.
     - The PMP lacks detailed implementation plans, timelines, and evidence of successful restoration outcomes in similar projects.
2. **Biodiversity Conservation**
   - **Proposed Measures**:
     - Conducting pre-construction surveys to identify and protect nesting sites for protected species.
     - Habitat enhancement initiatives to offset habitat loss.
     - Noise restrictions during sensitive breeding seasons.
   - **Evaluation**:
     - Pre-construction surveys provide only temporary mitigation. Dynamic species, such as birds, may relocate to the site post-survey, exposing them to turbine-related risks.
     - Habitat enhancement initiatives fail to address specific ecological needs of the RSPB Wood of Cree and nearby habitats. The reliance on generic measures demonstrates a lack of targeted conservation planning.

- Seasonal noise restrictions do not account for impacts during construction phases outside the identified breeding seasons.

3. **Hydrological and Carbon Management**
    - **Proposed Measures**:
        - Installation of drainage systems to manage water flows and reduce flooding risks.
        - Restoration projects aimed at offsetting carbon emissions caused by peatland disturbance.
    - **Evaluation**:
        - Drainage systems risk exacerbating hydrological imbalances by altering natural water flows, increasing sedimentation and flooding in downstream catchments like the River Cree and River Bladnoch.
        - Carbon offset measures are speculative and cannot compensate for the immediate and significant carbon emissions from peat excavation.
4. **Construction Traffic and Safety**
    - **Proposed Measures**:
        - Development of a Construction Traffic Management Plan (CTMP) to schedule HGV movements outside peak hours.
        - Temporary highway improvements to accommodate abnormal loads.
    - **Evaluation**:
        - The CTMP fails to address the safety risks posed by narrow, rural roads unsuitable for heavy construction traffic. Increased congestion and delays for emergency vehicles remain unaddressed.
        - Temporary highway works will only provide short-term relief and do not mitigate long-term risks from repeated heavy vehicle use.
5. **Battery Energy Storage Systems (BESS) Safety**
    - **Proposed Measures**:
        - Fire suppression systems and robust enclosures for BESS units.
    - **Evaluation**:
        - Fire suppression systems are insufficient to contain lithium-ion battery fires, especially in remote areas where local fire services lack the specialised equipment needed to handle thermal runaway events.
        - Toxic gas emissions from a BESS fire would endanger local communities, wildlife, and ecosystems. These risks are inadequately assessed in the EIA.
6. **Landscape and Visual Mitigation**
    - **Proposed Measures**:
        - Potentially the use of natural screening through reforestation and landscape planting, although EnergieKontor have not made this entirely clear.
    - **Evaluation**:

- The reduction in turbine numbers from 18 to 13 fails to address the visual impact on sensitive landscapes, including views from Bruce's Stone, Loch Trool, and the Southern Upland Way.
- Landscape planting is ineffective for mitigating long-distance visual impacts, particularly from elevated viewpoints.

Residual Risks

1. **Peatland Destruction and Carbon Losses**
    - Irreversible damage to Class 1 and Class 2 peatlands remains inevitable, leading to significant carbon emissions that undermine Scotland's climate goals.
2. **Biodiversity and Habitat Loss**
    - Habitat fragmentation, bird strikes, and disturbance to protected species, including those in the RSPB Wood of Cree, are unavoidable given the proximity of turbines to critical habitats.
3. **Hydrological Disruption**
    - Alterations to natural water flows will increase downstream flooding risks and degrade water quality in the River Cree and River Bladnoch catchments.
4. **Infrastructure and Safety Concerns**
    - Increased traffic on rural roads will continue to pose safety risks, including delays for emergency services.
    - The potential for thermal runaway in BESS units, coupled with the inadequacy of local firefighting resources, remains a significant unaddressed hazard.
5. **Cultural and Tourism Impacts**
    - The industrialisation of iconic landscapes, including Loch Trool, Bruce's Stone, and the Southern Upland Way, will deter tourists and harm Dumfries and Galloway's economy.

Conclusion

The mitigation measures proposed by EnergieKontor are inadequate to address the significant environmental, cultural, and safety risks posed by the Glenvernoch Wind Farm. Critical residual risks, including peatland destruction, biodiversity loss, hydrological disruption, and public safety hazards, remain unresolved. These gaps highlight the proposal's unsuitability for this sensitive location and the need for a comprehensive reassessment or outright rejection.

7. CONCLUSION AND RECOMMENDATIONS

Overview

The Glenvernoch Wind Farm proposal presents significant and unresolved risks to the environment, public safety, and the Socioeconomic fabric of Dumfries and Galloway. Despite revisions and mitigation measures outlined by EnergieKontor, the project fails to adequately address critical concerns, including peatland destruction, biodiversity loss, hydrological disruption, safety risks, and the degradation of iconic landscapes and cultural assets. This section summarises the case for objection and provides detailed recommendations to ensure the protection of the region's unique heritage and communities.

Key Findings

1. **Environmental Destruction**
    - The proposal risks irreversible damage to Class 1 and Class 2 peatlands, contravening the Peatland Code.
    - Hydrological disruption will threaten downstream ecosystems, including the River Cree and River Bladnoch catchments, and exacerbate flood risks.
2. **Biodiversity Loss**
    - The proximity to the RSPB Wood of Cree and other sensitive habitats will result in habitat fragmentation, bird strikes, and the disturbance of protected species such as pied flycatchers and wood warblers.
3. **Safety Concerns**
    - The inclusion of Battery Energy Storage Systems (BESS) presents severe fire and toxicity risks. Local fire services lack the specialised equipment and training to manage lithium-ion fires, posing a significant threat to human health and the environment.
    - Increased traffic on rural roads will endanger residents and visitors, with inadequate mitigation measures to address congestion and emergency response delays.
4. **Cultural and Landscape Degradation**
    - Iconic landmarks such as Loch Trool, Bruce's Stone, and the Southern Upland Way will be industrialised, damaging their visual and cultural value.
    - The degradation of these assets will deter tourism, harming the local economy and undermining Dumfries and Galloway's status as a key destination for nature and heritage tourism.
5. **Policy Contravention**
    - The proposal breaches multiple policies, including the National Planning Framework 4 (NPF4), the Dumfries and Galloway Local Development Plan (LDP), and hydrological and safety regulations. These contraventions demonstrate the project's incompatibility with Scotland's planning and environmental priorities.

Recommendations

1. **Reject the Glenvernoch Wind Farm Proposal**
    - The fundamental flaws in site selection, environmental impact management, and safety planning render the proposal unsuitable for approval. Rejection is necessary to protect Dumfries and Galloway's natural and cultural heritage and ensure compliance with Scotland's planning policies.
2. **Require a Comprehensive Environmental Reassessment**
    - Conduct an independent environmental assessment to address the proposal's deficiencies, including:

- The full scope of peatland destruction and associated carbon emissions.
- Hydrological impacts on the River Cree and River Bladnoch catchments.
- Risks to biodiversity, particularly within the RSPB Wood of Cree and other critical habitats.
- Long-term safety risks associated with BESS units.

3. **Strengthen Safety and Emergency Measures**
    - Collaborate with the Scottish Fire and Rescue Service to evaluate the feasibility of safely managing lithium-ion battery fires in remote areas.
    - Mandate comprehensive safety plans that address BESS risks, including community evacuation protocols and specialised equipment for local fire services.
4. **Preserve Cultural and Tourism Assets**
    - Recognise the Galloway Hills, Loch Trool, Bruce's Stone, and the Southern Upland Way as nationally significant assets. Development proposals in this region must prioritise the preservation of their cultural, ecological, and economic value.
    - Implement stricter guidelines for wind farm developments near iconic landmarks to prevent industrialisation of these landscapes.
5. **Develop a Regional Renewable Energy Strategy**
    - Collaborate with local authorities, environmental organisations, and communities to identify alternative renewable energy sites that avoid sensitive landscapes and ecosystems.
    - Promote renewable energy developments that align with Scotland's sustainability goals while safeguarding environmental and cultural heritage.

Final Statement

The Glenvernoch Wind Farm proposal fails to align with Scotland's environmental and planning policies, presenting unacceptable risks to Dumfries and Galloway's landscapes, ecosystems, and communities. By threatening Class 1 and Class 2 peatlands, hydrological systems, biodiversity, and cultural landmarks, the project undermines Scotland's commitments to sustainable development, carbon reduction, and heritage preservation.

Approving this proposal would set a dangerous precedent, eroding public trust in planning policies and risking irreparable harm to one of Scotland's most treasured regions. Rejecting the Glenvernoch Wind Farm is essential to protect the environment, cultural heritage, and public safety. A robust and enforceable renewable energy strategy must prioritise developments that respect Scotland's natural and cultural heritage while contributing to a sustainable future.

OBJECTION TO SECTION 4 (EIA) – DESIGN EVOLUTION

CONTENTS

References:

EnergieKontor Environmental Impact Assessment (EIA), Volume 1, Chapter 4: Design Evolution
- Iterative design process and turbine placement considerations.
- Original and revised turbine layouts and environmental constraints.

EnergieKontor Environmental Impact Assessment (EIA), Chapter 10: Peatland Assessment
- Details on Class 1 and Class 2 peatland locations and turbine siting.

Hill of Ochiltree Wind Farm Public Inquiry Report
- Grounds for rejection of the Hill of Ochiltree proposal, including landscape, peatland, and ecological impacts.

National Planning Framework 4 (NPF4)
- Policies on protecting natural carbon stores (peatlands) and sustainable development in sensitive landscapes.

The Peatland Code
- Restrictions on the excavation and disturbance of Class 1 and Class 2 peatlands.

Dumfries and Galloway Local Development Plan (LDP)
- Policies on landscape protection, tourism promotion, and environmental conservation.

Royal Society for the Protection of Birds (RSPB), Wood of Cree Conservation Guidelines
- Importance of the Wood of Cree as a critical habitat and its vulnerability to nearby developments.

Scottish Government, Carbon Management Guidelines
- Best practices for assessing carbon impacts of peatland disturbance.

Southern Upland Way Visitor Statistics
- Data on the number of walkers and economic contributions of the trail.

Galloway Forest Park Management Plan
- Insights into the park's designation as a Dark Sky Park and its tourism and environmental priorities.

Scientific Literature on Peatlands
- Role of peatlands in carbon sequestration, biodiversity, and hydrological functions.
- References: *Journal of Peatland Studies, 2023*; *Nature Climate Change, 2021*.

Ordnance Survey Maps of Dumfries and Galloway
- Detailed mapping of turbine placements, peatland classifications, and proximity to cultural and ecological landmarks.

Community Consultations and Stakeholder Feedback
- Concerns raised by local residents, environmental groups, and tourism organisations during the planning process.

1. NON-TECHNICAL SUMMARY AND SCOPE OF OBJECTION

Overview

The Glenvernoch Wind Farm proposal, despite several revisions, continues to exhibit significant and unacceptable shortcomings that make it incompatible with Scotland's environmental, cultural, and planning priorities. The project's design evolution fails to adequately address key environmental constraints, preserve the unique landscape character of the Galloway Hills, or protect areas of profound historical and ecological significance. Furthermore, the lessons from the rejection of the nearby Hill of Ochiltree wind farm have not been heeded, as many of the same critical issues remain unresolved.

The proposal poses substantial risks to Class 1 and Class 2 peatlands, hydrological systems, and biodiversity. It threatens iconic landmarks such as Loch Trool, Bruce's Stone, and the Southern Upland Way, while endangering critical habitats in the RSPB Wood of Cree. These impacts, combined with the industrialisation of a highly sensitive and valued landscape, render the design evolution of the Glenvernoch Wind Farm fundamentally flawed.

Key Areas of Concern

1. Landscape and Visual Impacts

- **Proximity to Loch Trool and Bruce's Stone:**

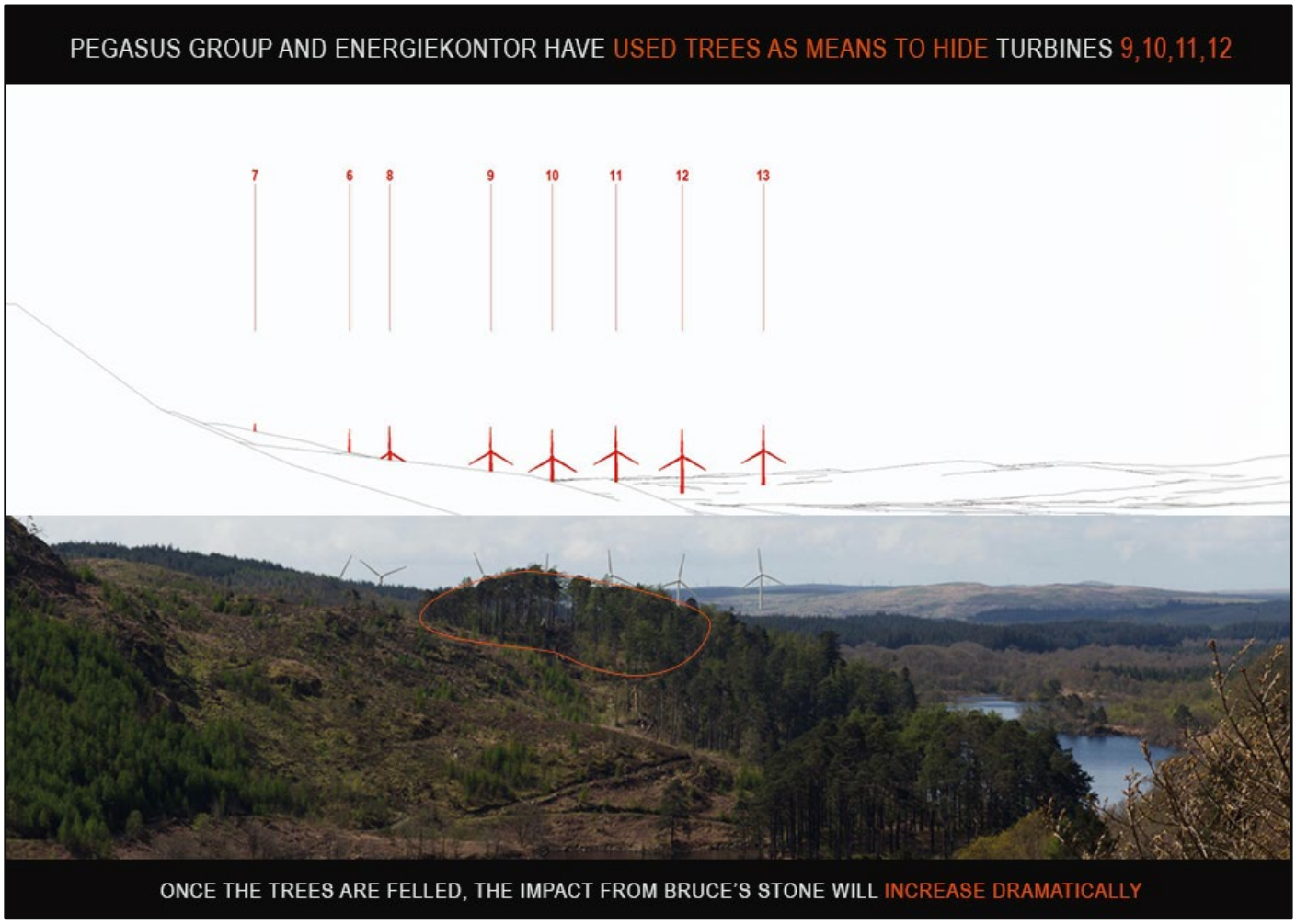

FIGURE 4.1: VIEWPOINT PEGASUS GROUP: VOL-2-VIEWPOINT-9-BRUCES-STONE-GLENTROOL DOWNPLAYS IMPACT BY USING TREES AS MEANS TO HIDE TURBINES

Bruce's Stone, a monument commemorating Robert the Bruce's first major victory during the Wars of Scottish Independence, overlooks the serene Loch Trool. This area, nestled within the Galloway Forest Park, is renowned for its tranquillity and historical importance. The proposed turbines, towering over the landscape, would irreversibly alter the visual integrity of this nationally significant site, detracting from its cultural and historical value.

- **Impact on the Southern Upland Way:**

FIGURE 4.2: VIEWPOINT PEGASUS GROUP: VIEWPOINT-1-SOUTHERN-UPLAND-WAY-HILL-OF-OCHILTREE SHOWS CLEAR BREACH OF THE ELECTRICITY ACT 1989 SCHEDULE 9 (3,1,A)

The Southern Upland Way, ***Scotland's first official coast-to-coast long-distance walking route***, is a flagship attraction for the nation's tourism and outdoor recreation sectors. This iconic trail, which passes near the proposed Glenvernoch Wind Farm site, draws thousands of walkers annually, each seeking the tranquillity and unspoiled beauty of the Galloway Hills. It is not merely a walking route but a cultural and natural showcase, offering visitors an immersive experience of Scotland's rugged landscapes, rich biodiversity, and historical significance.

The introduction of industrial-scale wind turbines, towering over 150 metres, would impose a stark visual intrusion on this cherished landscape. The turbines would disrupt the panoramic views, which are integral to the trail's allure, and compromise the sense of remoteness and natural grandeur that defines its character. Such an alteration risks diminishing the trail's unique appeal, not only to domestic walkers but also to the growing number of international visitors who contribute significantly to the local economy.

Beyond aesthetics, the industrialisation of this area undermines the trail's ethos as a sanctuary for outdoor enthusiasts and nature lovers. Walkers who travel long distances to experience the tranquillity of the Galloway Hills may be deterred by the encroachment of turbines, potentially leading to a decline in visitor numbers. This, in turn, threatens the economic benefits the Southern Upland Way brings to Dumfries and Galloway, including revenue for accommodation providers, local shops, and other businesses that rely on trail related tourism.

In essence, the proposed development jeopardises the long-term sustainability of the Southern Upland Way as a key tourism asset and compromises the core values of Scotland's commitment to preserving its natural and cultural heritage. The wind farm's impact would be both immediate and enduring, marking an irreversible loss for the Galloway Hills and the communities that depend on their preservation.

- **Cumulative Landscape Impact:**

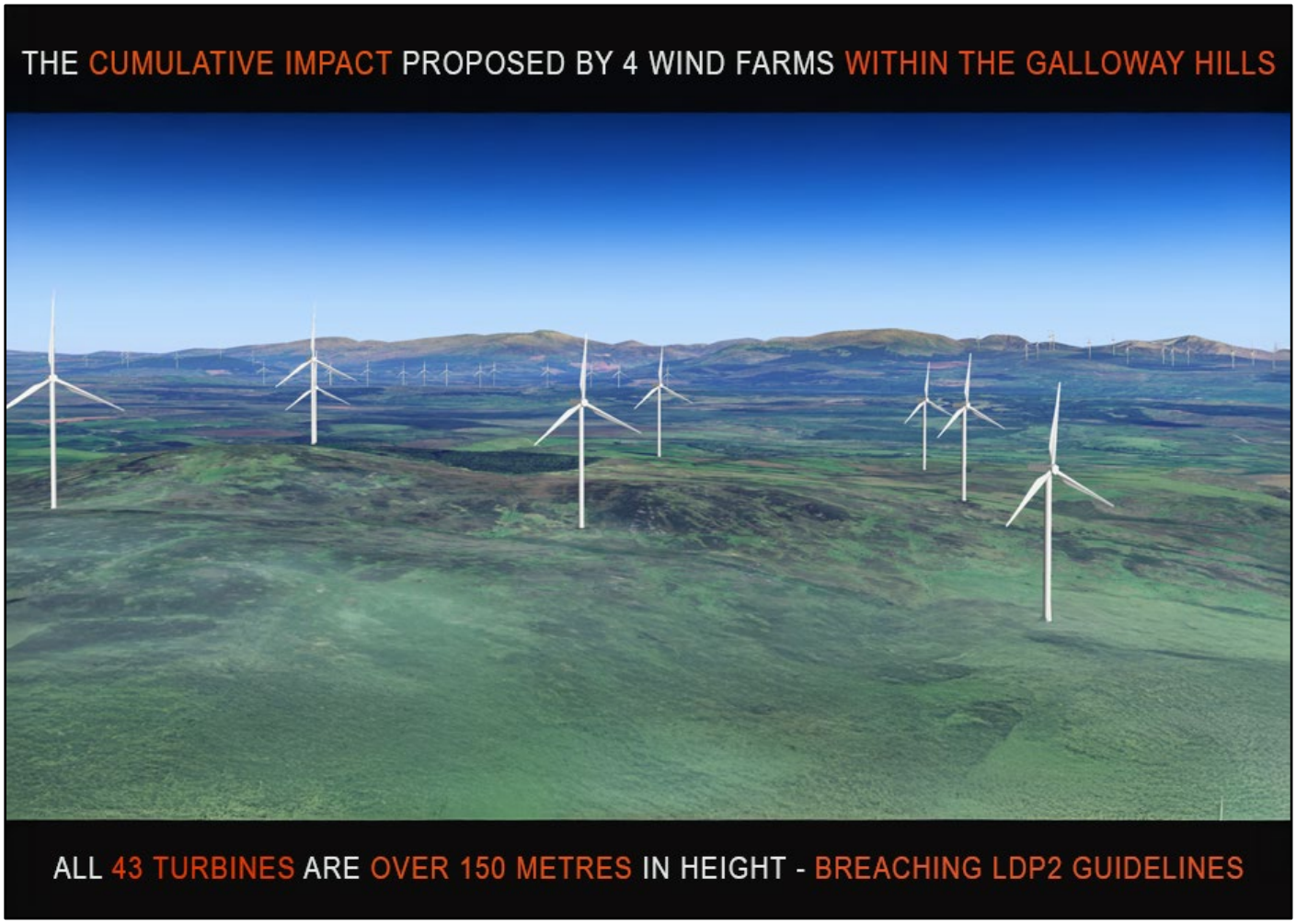

FIGURE 4.3: VIEWPOINT HANDS OFF OUR HILLS: ALL 43 TURBINES WITHIN GALLOWAY HILLS
ALL OF THEM VIOLATING DUMFRIES AND GALLOWAY COUNCILS LDP2 CORE PRINCIPLES

The reduction from 18 to 13 turbines in the proposed Glenvernoch Wind Farm is a superficial adjustment that fails to address the significant cumulative impact on the Galloway Hills, a landscape recognised as a Regional Scenic Area (RSA). This minor change does nothing to mitigate the industrialisation creeping into a region valued for its natural beauty, cultural heritage, and tourism appeal.

The Galloway Hills are central to Dumfries and Galloway's identity, attracting visitors for their unspoiled vistas, biodiversity, and tranquillity. With 43 turbines over 150 metres tall proposed across the region, the cumulative scale of development—overlooked by EnergieKontor's Environmental Impact Assessment—threatens irreversible damage to the area's visual, ecological, and cultural character.

This reduction does not lessen the broader implications. The combined visual intrusion of Glenvernoch and other wind farms would industrialise the skyline, fundamentally altering the identity of the Galloway Hills. EnergieKontor's failure to account for these cumulative effects directly contravenes LDP2's core principles of balanced, sustainable development and the protection of sensitive landscapes.

2. Ecological and Environmental Sensitivity

- **Impact on Peatlands:**

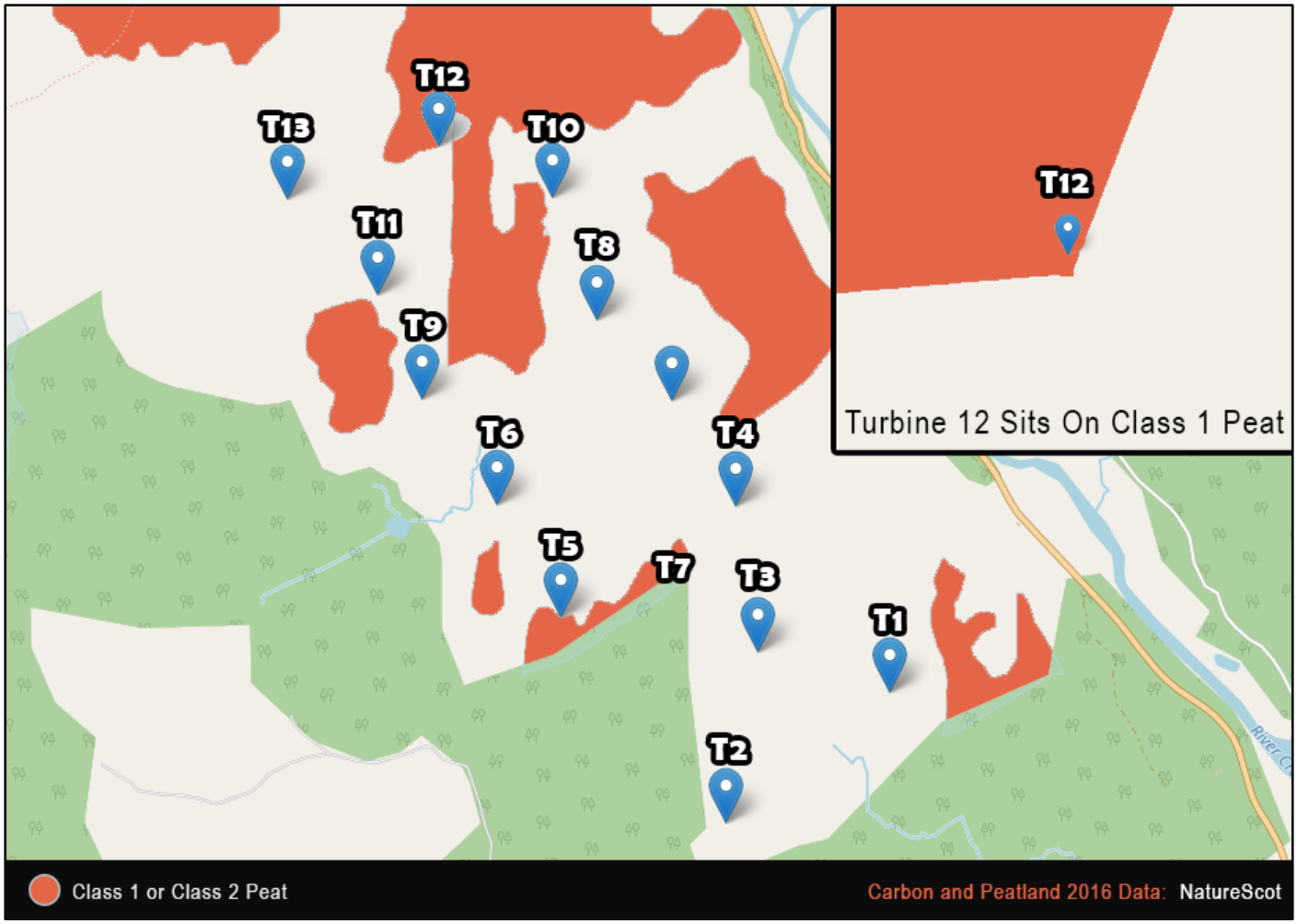

FIGURE 4.3: PEAT PROXIMITY TO TURBINE LOCATIONS DESTROYING CARBON RICH PEATLAND – 2016 DATA (THIS IS OUT OF DATE)

Class 1 and Class 2 Peatlands:
The included map above ***fig4.3*** illustrates the outdated and inaccurate sources employed by EnergieKontor to assert that their turbines are not sited within areas of peatlands. In contrast, research conducted by **Tony Riden**, **Paul Comacchio**, and **Sian McKinnon** has revealed the following critical findings:

- **Turbine 12**: Situated on peat with depths of up to **0.8m**, this area is characterised by **mature Bog Myrtle thickets**, **elevated pastures**, and intersecting watercourses. The site also exhibits signs of **flooding** and **acidic bog conditions**, with a **large burn** flowing directly into the **River Cree and Lower Cree SSSI**, a protected and highly sensitive habitat.

- **Turbine 5**: Located on **deep peat measuring 3.0m or more**, a depth entirely unsuitable for turbine placement due to the profound disturbance and displacement this would cause to an essential carbon sink.

- **Turbine 10**: Positioned in an expanse dominated by **Purple Moor Grass tussocks** and **Bog Myrtle**, with peat depths reaching up to **0.5m**.

These peatlands hold exceptional conservation value, delivering essential ecosystem services such as **carbon sequestration**, **biodiversity support**, and **flood regulation**. Both **Class 1 and Class 2 peatlands**, which are prevalent across much of the site, are irreplaceable habitats that have accumulated and stored carbon over millennia. Disturbing these peatlands would release vast quantities of stored carbon into the atmosphere, permanently degrading their function as carbon sinks and posing a serious risk of contaminating nearby watercourses, including the **River Cree and Lower Cree SSSI**.

Peatlands should not be disturbed except in exceptional circumstances. The **Soil Survey conducted by WSP for EnergieKontor** confirms that **all but one turbine site is located on peat**, with multiple sites exceeding depths of **0.5m**, and two sites with depths of **3.0m or more**. Construction activities, such as excavation, turbine foundation installation, and heavy machinery operation, will irreversibly degrade these habitats, releasing stored carbon, destroying the soil biome, and contaminating watercourses with pollutants such as **diesel**, **cement**, and **microplastics**.

The destruction of these critical peatland habitats, compounded by downstream impacts on biodiversity and the **River Cree and Lower Cree SSSI**, directly contravenes national and regional environmental policies. Approval of this proposal would result in the loss of irreplaceable ecosystems, undermining Scotland's climate mitigation and environmental protection commitments. It is imperative that this proposal be rejected to safeguard the ecological integrity and climate resilience of this fragile and invaluable landscape.

Carbon Emissions and Hydrological Disruption:
Construction on these peatlands would release significant carbon emissions, negating the wind farm's environmental benefits and contributing to climate change. Furthermore, peatland disturbance risks disrupting hydrological systems, leading to downstream flooding, sedimentation, and water quality degradation in sensitive areas such as the River Cree and River Bladnoch. These impacts threaten aquatic ecosystems, agriculture, and local water supplies, far outweighing any potential benefits of the development.

Protecting these peatlands is essential for Scotland's climate and biodiversity commitments.

- **Threats to the RSPB Wood of Cree:**

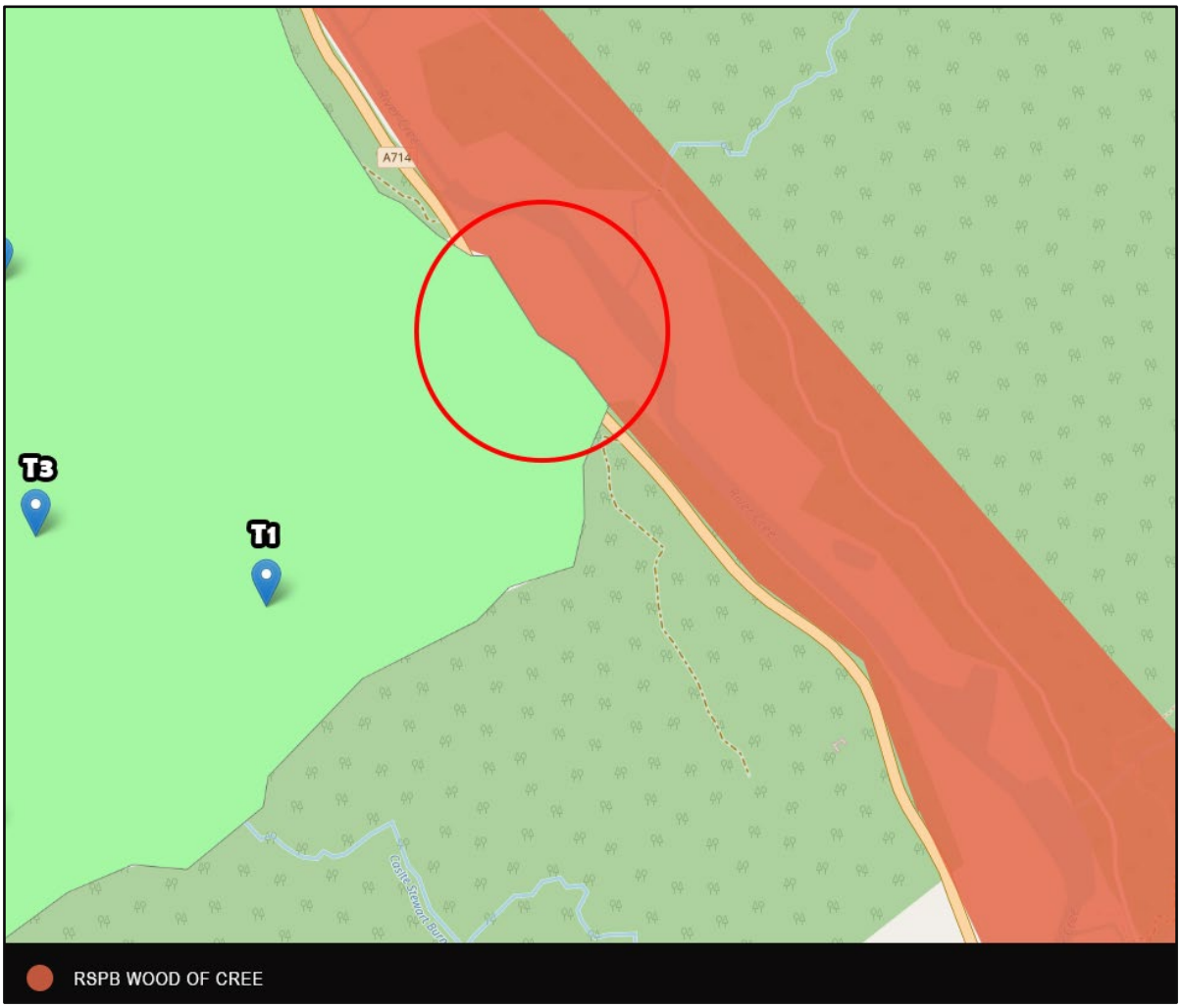

FIGURE 4.3: SHOWS RSPB WOOD OF CREE AND LAND HOLDING ARE DIRECT NEIGHBOURS WITH LAND ADJOINING GLENVERNOCH WIND FARM

The RSPB Wood of Cree, situated just 330 metres from the proposed Glenvernoch Wind Farm and directly bordering the development site *'contrary to the 370-metre distance inaccurately stated by EnergieKontor',* and is one of Scotland's most **significant** nature reserves. As the largest ancient woodland in southern Scotland, it provides a critical habitat for a diverse array of wildlife, including protected bird species such as the pied flycatcher, wood warbler, and redstart. These species are not only ecologically significant but also contribute substantially to the region's nature-based tourism.

The proximity of turbines to this delicate ecosystem poses severe risks. Industrial-scale turbines increase the likelihood of bird strikes, particularly for species that rely on the airspace for feeding and migration, and disrupt essential nesting and feeding behaviours. Noise and vibration from construction and operation would further disturb sensitive wildlife, potentially displacing species and undermining decades of conservation efforts by the RSPB and other organisations.

Additionally, the introduction of turbines in such close proximity contradicts sustainable development principles outlined in LDP2 and national conservation policies. The reserve's ecological value and role as a tourism asset would be significantly compromised, deterring visitors seeking the tranquillity and unspoiled beauty of the area, and threatening both biodiversity and the local economy.

3. Historical Context and Lessons from Hill of Ochiltree

- **Grounds for Rejection:**
    - The Hill of Ochiltree wind farm proposal was rejected due to its adverse impacts on landscape character, peatland preservation, and ecological sensitivity. The Glenvernoch proposal, located in close proximity, shares these same constraints. EnergieKontor has failed to demonstrate how the current design mitigates these issues effectively.

- **Failure to Learn from Precedent:**
    - While the number of turbines has been reduced, the project still threatens peatlands, iconic landscapes, and protected habitats. This lack of meaningful adaptation highlights a superficial approach to addressing the fundamental reasons behind previous rejections.

4. Tourism and Community Impact

- **Damage to Tourism Appeal:**
    - Dumfries and Galloway's economy relies heavily on tourism, particularly visitors drawn to the Galloway Hills for their unspoiled beauty, tranquillity, and recreational opportunities. The industrialisation of this landscape would deter tourists, particularly those visiting Loch Trool, Bruce's Stone, and the Southern Upland Way.
- **Loss of Dark Sky Park Appeal:**
    - The Galloway Forest Park is a designated Dark Sky Park, one of the few in the world, attracting stargazers and astronomers from across the globe. The introduction of turbines, with their constant red aviation lights, would degrade the quality of the dark sky experience, undermining a key tourism asset for the region.

5. Design Flaws in the Evolution Process

- **Inadequate GIS Mapping and Site Selection:**
    - Despite claims of using GIS tools to optimise turbine placement, EnergieKontor has failed to respect critical environmental constraints. The placement of turbines on Class 1 and Class 2 peatlands, as well as their proximity to iconic cultural landmarks, suggests that aesthetic considerations were prioritised over sustainability and compliance with planning policies.
- **Superficial Reduction in Turbine Numbers:**

- The reduction from 18 turbines to 13 is an insufficient response to the environmental and cultural challenges posed by the development. This reduction addresses visual clutter to some extent but does not resolve core issues such as peatland disturbance, hydrological impacts, or ecological threats.

Conclusion

The Glenvernoch Wind Farm proposal's design evolution fails to respect the natural, cultural, and ecological sensitivities of the Galloway Hills. By placing turbines near iconic landmarks such as Bruce's Stone and Loch Trool, encroaching on the Southern Upland Way, and threatening habitats in the RSPB Wood of Cree, the project risks irreparable damage to Dumfries and Galloway's unique heritage and biodiversity. The placement of turbines on Class 1 and Class 2 peatlands further contravenes Peatland guidance, rendering the project incompatible with Scotland's environmental and sustainability goals.

The failure to learn from the rejection of the Hill of Ochiltree wind farm underscores a lack of commitment to meaningful and responsible design evolution. The Galloway Hills are a national treasure that must be preserved for future generations, and the Glenvernoch Wind Farm proposal, even after multiple iterations, remains fundamentally flawed and unsuitable for approval.

2. POLICY AND LEGISLATIVE CONTRAVENTION

Overview

The Glenvernoch Wind Farm proposal contravenes several critical policy and legislative frameworks that are in place to safeguard Scotland's natural heritage, support sustainable development, and protect sensitive habitats. Despite multiple design iterations, EnergieKontor's Environmental Impact Assessment Report (EIAR) fails to demonstrate compliance with these policies, particularly regarding the protection of peatlands, hydrological systems, and the unique landscape of the Galloway Hills. Furthermore, the proposal disregards lessons from the rejection of the Hill of Ochiltree wind farm, which faced similar constraints and policy challenges.

Relevant Policies and Legislative Frameworks

1. **National Planning Framework 4 (NPF4)**
    - **Violation:**
        - NPF4 explicitly prioritises the protection of natural carbon stores, such as peatlands, and supports renewable energy developments only when they avoid harm to sensitive landscapes and habitats. The Glenvernoch Wind Farm proposal places Turbine 12 on Class 1 peatland and Turbine 5 on Class 2 peatland, directly contravening this policy.
        - The visual intrusion of turbines on key cultural and tourism assets, such as Bruce's Stone, Loch Trool, and the Southern Upland Way, conflicts with NPF4's goals of preserving natural heritage and promoting sustainable tourism.
2. **The Peatland Code and Carbon Management Guidelines**
    - **Violation:**
        - The Peatland Code prohibits excavation or destruction of peatlands due to their vital role in carbon storage and climate change mitigation. EnergieKontor's proposal fails to provide adequate justification or mitigation measures for disturbing these sensitive ecosystems. The carbon emissions released from peat excavation would significantly undermine the renewable energy project's carbon-saving potential.
3. **Dumfries and Galloway Local Development Plan (LDP)**
    - **Violation:**

- The LDP emphasises the need to protect the region's iconic landscapes and ecologically sensitive areas. The placement of turbines within sight of Bruce's Stone, Loch Trool, and the Southern Upland Way, as well as their proximity to the RSPB Wood of Cree, contravenes the LDP's priorities.
- The proposed development conflicts with the LDP's policies on tourism and sustainable economic growth, as the industrialisation of this area would deter visitors and negatively impact local businesses.

4. **Hill of Ochiltree Decision Precedent**

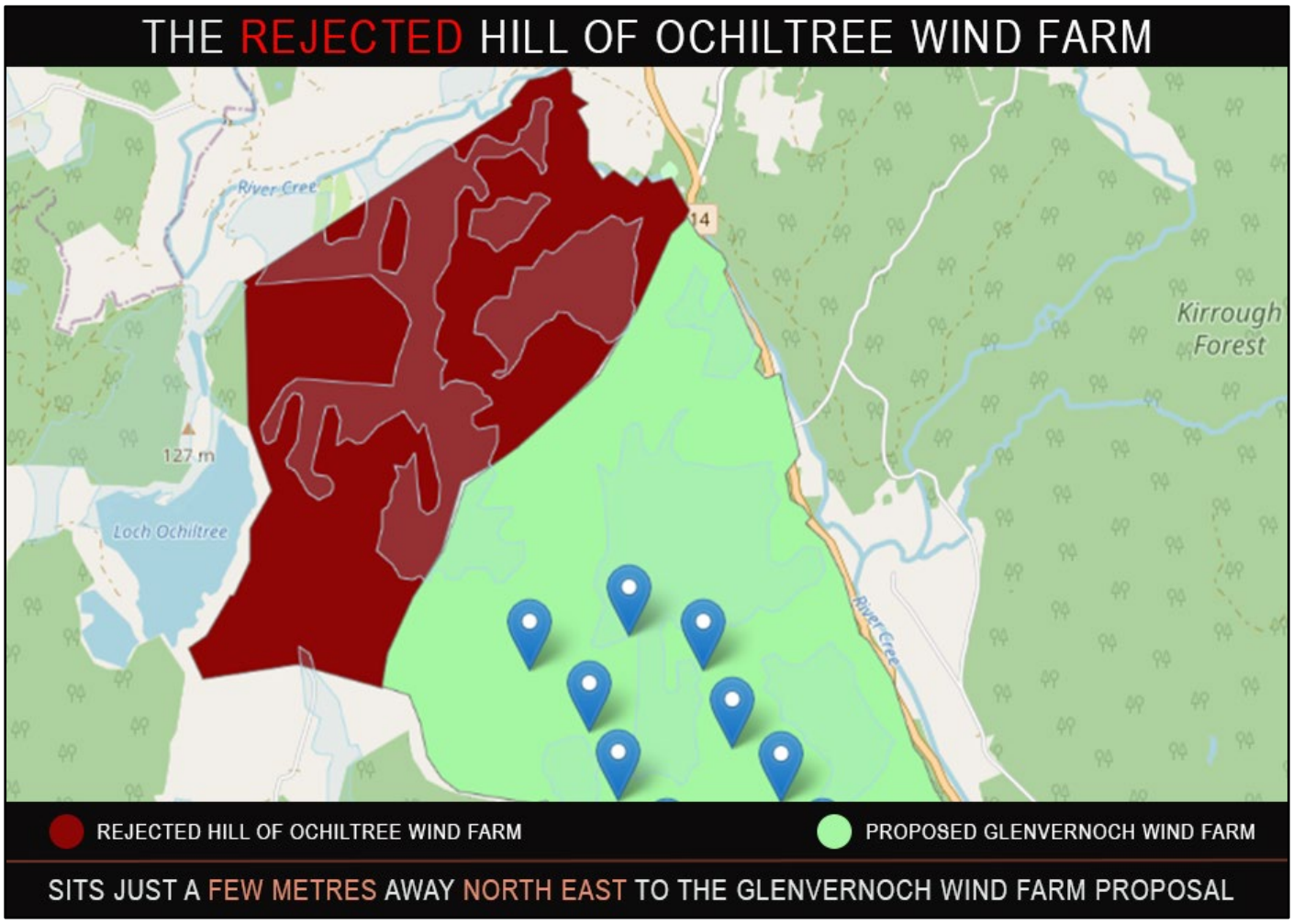

FIGURE 4.4: SHOWS REJECTED HILL OF OCHILTREE WIND FARM NEXT TO PROPOSED GLENVERNOCH WIND FARM

The Grounds for Rejection:

The Hill of Ochiltree wind farm was previously rejected due to its significant adverse impacts on landscape character, visual amenity, and the preservation of sensitive peatland habitats. These issues were deemed incompatible with the area's natural and cultural significance, setting a clear precedent against industrial-scale developments in this region.

Despite this, the Glenvernoch proposal fails to adequately address or mitigate these same concerns, highlighting a lack of consideration for the established principles that led to the Hill of Ochiltree's refusal. By ignoring the lessons of the Ochiltree rejection, the Glenvernoch proposal demonstrates a disregard for established planning principles, environmental policies, and the broader commitment to preserving Scotland's natural heritage by proposing larger more intrusive scale turbines than that of the rejected Hill of Ochiltree proposals in 2012.

5. **Wildlife and Countryside Act 1981**
    - **Violation:**
        - The proximity of turbines to the RSPB Wood of Cree, a critical habitat for protected bird species such as pied flycatchers and wood warblers, increases the risk of bird strikes and habitat disruption. This contravenes the Wildlife and Countryside Act, which protects species and their habitats from harm caused by human activity.
6. **Hydrological Protection Guidelines**
    - **Violation:**
        - Construction on peatlands and near hydrological catchment areas risks disrupting water retention and flow, potentially causing downstream flooding and water quality degradation. This contravenes guidelines designed to protect Scotland's hydrological systems and watercourses.

Policy Implications

1. **Environmental and Carbon Policy Non-Compliance**
    - The disturbance of Class 1 and Class 2 peatlands undermines Scotland's commitments to carbon reduction and biodiversity conservation. The irreversible damage caused by the proposed turbine locations would negate the carbon savings achieved by the wind farm's operation.
2. **Failure to Protect Cultural and Natural Heritage**
    - The Galloway Hills, Loch Trool, Bruce's Stone, and the Southern Upland Way are integral to Scotland's cultural and natural identity. The proposal's failure to respect these assets demonstrates a lack of alignment with NPF4 and the LDP.
3. **Undermining Public Trust in Policy Enforcement**
    - Approving this development despite clear policy contravention and its failure to address lessons from the Hill of Ochiltree rejection would set a dangerous precedent. This could weaken public confidence in Scotland's environmental policies and planning system.

Conclusion

The Glenvernoch Wind Farm proposal fundamentally conflicts with key national and local planning policies. By failing to protect peatlands, habitats, hydrological systems, and iconic landscapes, the project breaches the principles and requirements of NPF4, the Dumfries and Galloway LDP, and other legislative frameworks. These contraventions render the proposal unsuitable for approval, highlighting the need for stricter adherence to policy guidelines and greater accountability in the planning process.

3. METHODOLOGY

Overview

This section outlines the methodology used to evaluate the design evolution of the Glenvernoch Wind Farm proposal, focusing on the critical deficiencies in EnergieKontor's Environmental Impact Assessment Report (EIAR). The analysis draws upon publicly available data, legislative frameworks, technical reports, and precedents such as the Hill of Ochiltree rejection. The objective is to identify gaps in the design evolution process, assess compliance with regulatory requirements, and evaluate the project's alignment with environmental, cultural, and social priorities.

Data Sources

1. **EnergieKontor's EIAR**
    - **Key References Include:**
        - Iterative Design Changes (Vol. 1 Chapter 4: Design Evolution).
        - Peatland Impact Assessment (Chapter 10).
        - Visual Impact Studies (Visualisations in Vol. 2).
        - Habitat and Species Surveys (Chapters 6 and 7).

2. **National and Local Policies**
    - National Planning Framework 4 (NPF4).
    - Dumfries and Galloway Local Development Plan (LDP).
    - Peatland Code and Carbon Management Guidelines.
3. **Relevant Precedents**
    - The Hill of Ochiltree wind farm rejection, with grounds including visual, ecological, and hydrological impacts.
4. **Additional Data**
    - Conservation guidelines from the Royal Society for the Protection of Birds (RSPB).
    - Visitor statistics and economic data for Loch Trool, the Southern Upland Way, and the Galloway Forest Park.
    - Scientific literature on the role of peatlands in carbon sequestration and hydrology.

Assessment Criteria

1. **Design Evolution Process**
    - Evaluation of the iterative design process claimed in the EIAR, including:
        - Reduction in turbine numbers and adjusted placements.
        - Alignment of turbine placement with environmental constraints, particularly regarding Class 1 and Class 2 peatlands.
        - Visual impact mitigation efforts concerning sensitive landscapes such as Loch Trool, Bruce's Stone, and the Southern Upland Way.
2. **Peatland Protection and Hydrological Integrity**
    - Analysis of turbine placements relative to Class 1 and Class 2 peatlands, evaluating compliance with policy and guidelines for peatland preservation.
    - Assessment of potential hydrological impacts on watercourses flowing into Loch Trool and nearby habitats, including flood risks and water quality degradation.
3. **Ecological and Habitat Conservation**
    - Evaluation of potential impacts on habitats such as the RSPB Wood of Cree and other critical wildlife areas.
    - Assessment of proposed mitigation measures for protected bird species and other wildlife.

4. **Landscape and Cultural Impacts**
    - Analysis of visual impacts from key vantage points, including Bruce's Stone, the Southern Upland Way, and Loch Trool.
    - Consideration of cumulative impacts on the Galloway Hills as a Regional Scenic Area (RSA).
5. **Tourism and Community Impacts**
    - Evaluation of impacts on the tourism economy, particularly concerning attractions like the Galloway Forest Park and Dark Sky Park.
    - Consideration of community feedback and local economic dependencies on the natural landscape.
6. **Compliance with Planning Policies**
    - Assessment of compliance with NPF4, the LDP, and other relevant policies.
    - Identification of gaps in the EIAR's alignment with legal and policy frameworks.

Limitations in EnergieKontor's Methodology

1. **Failure to Incorporate Environmental Constraints in Design Evolution**
    - The iterative process fails to address key environmental constraints, including the presence of Class 1 and Class 2 peatlands and hydrological risks.
    - GIS mapping appears to prioritise turbine spacing and visual masking over ecological sustainability.
2. **Lack of Meaningful Mitigation Measures**
    - Proposed mitigation measures for peatland impacts and habitat disturbance lack detail and fail to address the full scope of potential damage.
    - The EIAR does not adequately consider the cumulative impacts of the development alongside other regional projects.
3. **Superficial Adjustments in Design**
    - The reduction in turbine numbers from 18 to 13 is insufficient to resolve core issues such as visual intrusion, ecological harm, and policy non-compliance.
4. **Limited Stakeholder Engagement**
    - Community and stakeholder concerns regarding the impacts on tourism, heritage sites, and biodiversity appear to have been inadequately addressed in the design process.

Conclusion

This methodology reveals critical deficiencies in EnergieKontor's design evolution process, particularly in its failure to address environmental, cultural, and community concerns effectively. The EIAR's lack of substantive mitigation measures, superficial design adjustments, and disregard for policy compliance highlight a fundamentally flawed approach. A more robust and compliant methodology is essential to ensure that wind energy developments in sensitive areas like the Galloway Hills are truly sustainable and responsible.

4. BASELINE CONDITIONS

Overview

The baseline conditions in and around the proposed Glenvernoch Wind Farm site reveal a highly sensitive environment characterised by rich biodiversity, hydrologically significant peatlands, and a unique cultural and visual landscape. Despite claims

of thorough analysis in EnergieKontor's Environmental Impact Assessment Report (EIAR), the proposal fails to adequately account for the site's inherent constraints and the critical role this area plays in Dumfries and Galloway's natural and cultural heritage. This section evaluates existing environmental, ecological, and Socioeconomic conditions to highlight the inappropriateness of the proposed development.

Environmental and Ecological Context

1. **Peatlands**
    - **Class 1 and Class 2 Peat Presence:**
        - **Class 1 Peat:** Turbine 12 is located directly on Class 1 peatland, a habitat of the highest conservation value, recognised for its critical role in carbon sequestration and biodiversity support.
        - **Class 2 Peat:** Turbine 5 is situated on Class 2 peatland, also categorised as of national importance. Turbine 10, while not directly sited on protected peat, lies within metres of Class 1 peat, increasing the risk of indirect impacts such as hydrological disruption.
        - The Scottish Government's guidelines strongly discourage development on these habitats, yet the EIAR underestimates the ecological consequences of such siting decisions.
    - **Hydrological Functions:**
        - Peatlands play a vital role in maintaining water quality, preventing downstream flooding, and supporting sensitive aquatic ecosystems. Construction activities, including excavation for turbine foundations and access roads, threaten to disrupt these functions irreversibly.
2. **Biodiversity**
    - **RSPB Wood of Cree**

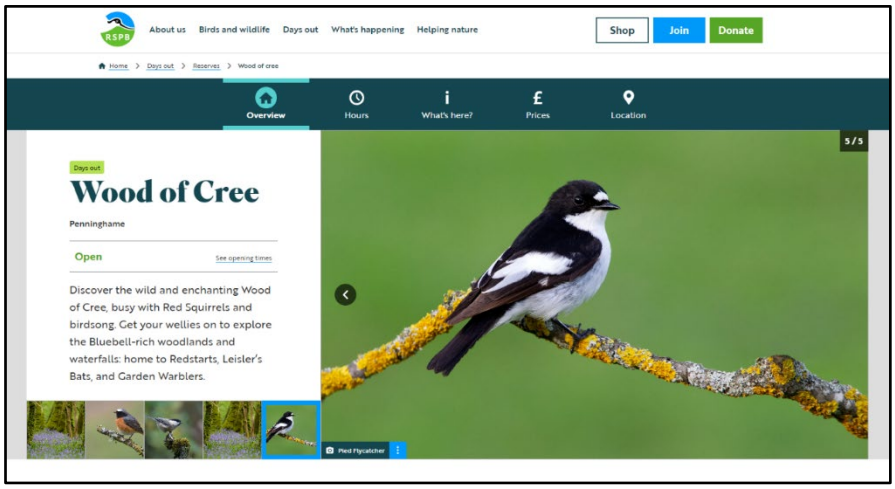

FIGURE 4.5: EXTRACT FROM OFFICIAL RSPB WEBSITE ABOUT THE WOOD OF CREE

- Scotland's largest remaining ancient woodland is located near the proposed site. This RSPB-managed reserve is home to a diverse range of species, including protected birds such as pied flycatchers, wood warblers, and redstarts. The proximity of turbines increases the likelihood of bird strikes and disrupts nesting and feeding behaviours.

    - **Wildlife in the Galloway Hills:**
        - The Galloway Hills support a wide range of flora and fauna, including red squirrels, otters, and rare plant species. Turbine construction and operation risk fragmenting habitats, altering migration patterns, and increasing predation risks by creating open areas and disrupted landscapes that make species more exposed and vulnerable to predators *(increasing predation risks).*

Cultural and Landscape Context

1. **Loch Trool and Bruce's Stone**

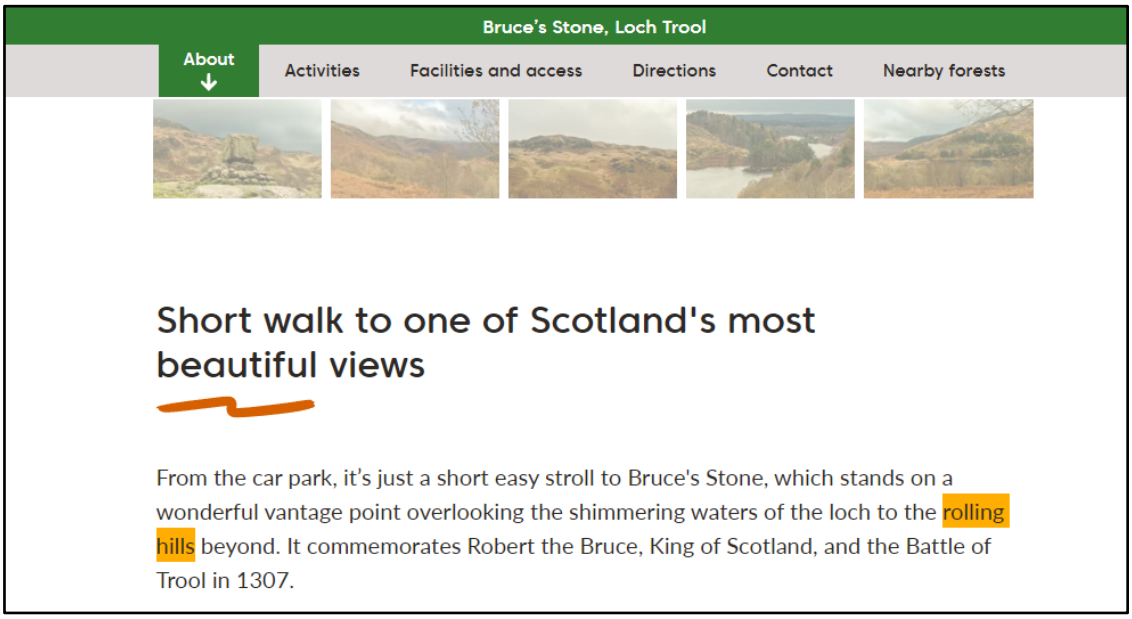

FIGURE 4.7: EXTRACT FROM OFFICIAL FORESTRY AND LAND SCOTLAND WEBSITE ABOUT BRUCE'S STONE AND LOCH TROOL NOTE WORDING USED TO DESCRIBE THE AREA: "ROLLING HILLS"

- **Cultural Significance:**
  - Bruce's Stone commemorates Robert the Bruce's victory during the Wars of Scottish Independence and overlooks the tranquil Loch Trool. These sites are of national importance, attracting thousands of visitors annually. The industrialisation of the surrounding landscape through the introduction of wind turbines would irreparably damage their cultural and historical value.
- **Visual Intrusion:**
  - Turbines from the proposed site will be visible from Bruce's Stone and along the shores of Loch Trool, diminishing the visual integrity and sense of remoteness that define these landmarks.

Southern Upland Way

- **Recreational and Tourism Impact:**
  - Scotland's premier long-distance walking route passes near the proposed site, providing walkers with unspoiled views of the Galloway Hills. The visual intrusion of turbines would degrade the experience of the trail, deterring visitors and harming the region's tourism economy.

Socioeconomic Context

1. **Tourism**
   - Dumfries and Galloway is heavily reliant on tourism, particularly activities centred around the Galloway Forest Park, Loch Trool, and the Southern Upland Way. Visitors are drawn to the area for its tranquillity, scenic beauty, and recreational opportunities. The industrialisation of this landscape would deter tourists, with significant economic repercussions for local businesses and communities.
2. **Dark Sky Park**

FIGURE 4.8: EXTRACT FROM OFFICIAL FORESTRY AND LAND SCOTLAND WEBSITE ABOUT GALLOWAY INTERNATIONAL DARK SKY PARK HIGHLIGHTS THE GALLOWAY FOREST PARK AS ONE OF THE BEST PLACES IN THE UK TO ENJOY THE NIGHT SKY

- The Galloway Forest Park is one of the world's few designated Dark Sky Parks. The introduction of turbines, with their red aviation lights, would degrade the quality of the dark sky experience, undermining a unique tourism asset for the region.

Existing Constraints and Risks

1. **Hydrological Sensitivity**
   - Peatlands act as natural water regulators. Excavation and road construction will alter hydrological flows, leading to potential flooding and water quality degradation downstream, particularly in watercourses feeding into the River Cree and River Bladnoch.
2. **Peatland Damage and Carbon Emissions**
   - Excavation of Class 1 and Class 2 peatlands would release stored carbon, negating the renewable energy benefits of the project. The EIAR fails to provide a credible mitigation strategy to address these emissions.
3. **Cumulative Landscape Impact**
   - The proposal adds to the cumulative impact of existing and proposed developments in the Galloway Hills, risking the industrialisation of a landscape that holds significant environmental, cultural, and economic value.

Conclusion

The baseline conditions in and around the proposed Glenvernoch Wind Farm site underscore the area's unique environmental, ecological, and cultural significance. EnergieKontor's EIAR fails to fully account for these constraints, proposing a development that risks irreversible harm to peatlands, biodiversity, and cultural landmarks. The presence of turbines near Class 1 and Class 2 peatlands, the RSPB Wood of Cree, Loch Trool, and the Southern Upland Way highlights the inappropriateness of the proposal for this sensitive landscape.

The existing conditions reveal a region that must be preserved for its ecological and cultural value, making the Glenvernoch Wind Farm fundamentally incompatible with its setting.

5. IDENTIFICATION AND EVALUATION OF KEY EFFECTS

Overview

This section assesses the projected impacts of the Glenvernoch Wind Farm proposal, focusing on its detrimental effects on peatlands, biodiversity, hydrology, cultural landmarks, and the Socioeconomic landscape of Dumfries and Galloway. The analysis

highlights significant gaps in EnergieKontor's Environmental Impact Assessment Report (EIAR) and demonstrates why the proposed development is unsuitable for this sensitive location.

Key Effects

1. Peatland Disturbance and Carbon Release

- **Class 1 and Class 2 Peatland Damage:**
    - Turbine 12 and Turbine 5 are sited directly on Class 1 and Class 2 peatlands, respectively, while Turbine 10 is located within metres of Class 1 peat. Excavation and construction activities in these areas will cause irreversible damage to these habitats, which are categorised as of the highest conservation value.
    - The removal or disturbance of peat releases significant amounts of stored carbon into the atmosphere, negating the renewable energy benefits of the wind farm and violating the Peatland Code.
- **Hydrological Disruption:**
    - The excavation of peatlands and construction of drainage systems risk altering natural water flows, causing downstream flooding and degradation of watercourses feeding into the River Cree and River Bladnoch.

2. Biodiversity Loss and Habitat Fragmentation

- **Impact on RSPB Wood of Cree:**
    - The proximity of turbines to the RSPB Wood of Cree poses a significant threat to protected bird species, including pied flycatchers, wood warblers, and redstarts. Bird strikes from turbine blades and the disruption of nesting and feeding behaviours are anticipated but inadequately addressed in the EIAR.
- **Habitat Fragmentation:**
    - The construction of turbines, access roads, and infrastructure will fragment habitats, reducing their suitability for wildlife such as red squirrels, otters, and bats. Increased noise and vibration during construction and operation will further disturb sensitive species.

3. Visual and Landscape Impacts

- **Impact on Cultural Landmarks:**
    - The turbines will be visible from Bruce's Stone and Loch Trool, both of which hold profound cultural and historical significance. These sites are integral to the identity of the Galloway Hills and attract visitors seeking unspoiled landscapes and tranquillity. The industrialisation of this landscape would irreparably damage their value.
- **Southern Upland Way:**

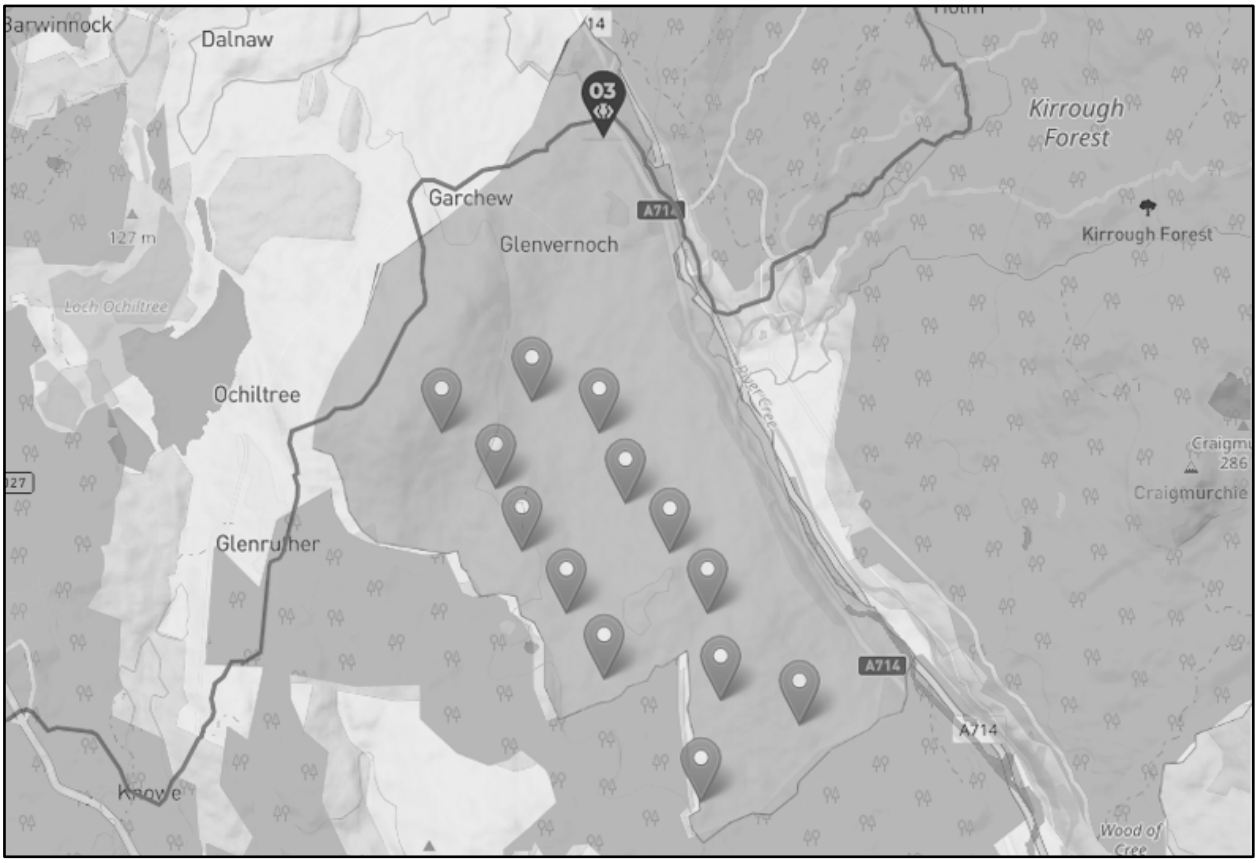

FIGURE 4.9: SHOWS THE SOUTHERN UPLAND WAY CROSSING OVER THE PROPOSED GLENVERNOCH WIND FARM BOUNDARY

- As Scotland's premier long-distance walking route, the Southern Upland Way relies on the scenic quality of its surroundings. The intrusion of turbines into the viewshed will degrade the experience for walkers and deter future visitors, with knock-on effects on tourism.

- **Dark Sky Park:**
  - The Galloway Forest Park is a designated Dark Sky Park. Turbines equipped with aviation lights will introduce light pollution, diminishing the area's dark sky quality and undermining its appeal as a stargazing destination.

4. Socioeconomic Consequences

- **Tourism and Local Economy:**
  - The Galloway Hills, Loch Trool, and the Southern Upland Way are significant drivers of the local economy, attracting visitors who contribute to accommodation, dining, and recreational businesses. The industrialisation of this landscape risks deterring visitors, leading to economic losses for local communities.

- **Loss of Unique Selling Points:**
  - The region's tranquillity, unspoiled views, and ecological richness are key tourism assets. The visual, ecological, and acoustic impacts of the wind farm will erode these qualities, making the area less attractive to tourists and outdoor enthusiasts.

5. Cumulative Impacts

- **Peatland and Hydrological Degradation:**
  - The combined impact of Glenvernoch and other proposed developments, such as Blair Hill and Shennanton, will exacerbate the degradation of sensitive peatlands and hydrological systems in the region.

- **Landscape and Visual Overload:**

- The cumulative impact of existing and proposed wind farms risks transforming the Galloway Hills from a natural and cultural treasure into an industrialised zone, reducing its value for residents and visitors alike.

Conclusion

The Glenvernoch Wind Farm proposal poses significant and far-reaching risks to the environment, biodiversity, cultural heritage, and local economy of Dumfries and Galloway. The EIAR significantly underestimates these impacts, particularly regarding peatland disturbance, habitat loss, and visual intrusion. These effects are compounded by cumulative pressures from other proposed developments in the region, highlighting the unsuitability of this project for the Galloway Hills.

The identified impacts underscore the need for the proposal to be rejected or significantly revised to align with Scotland's environmental and planning policies.

6. MITIGATION MEASURES AND RESIDUAL RISKS

Overview

EnergieKontor's Environmental Impact Assessment Report (EIAR) outlines mitigation measures to address the environmental and Socioeconomic impacts of the Glenvernoch Wind Farm. However, these measures fail to adequately address critical issues such as peatland destruction, biodiversity loss, and the industrialisation of a culturally significant landscape. This section evaluates the proposed mitigation strategies and highlights the residual risks that remain unaddressed.

Proposed Mitigation Measures

1. **Peatland Protection**
    - **Proposed Measures:**
        - Minimise excavation through micro-siting of turbines and access roads.
        - Implement peat restoration measures in areas not directly impacted by construction.
        - Develop a Peat Management Plan (PMP) to offset carbon losses and restore degraded peatlands.
    - **Evaluation:**
        - These measures are insufficient to prevent the destruction of Class 1 and Class 2 peatlands. Micro-siting cannot eliminate the need for excavation in areas where turbines are sited directly on sensitive peat.
        - Peat restoration efforts are unlikely to compensate for the carbon losses caused by the disturbance of intact peatlands. Restoration processes are slow and cannot replicate the ecological functions of undisturbed peat.
2. **Biodiversity Conservation**
    - **Proposed Measures:**
        - Pre-construction surveys to identify and avoid nesting sites of protected species.
        - Habitat enhancement efforts to offset habitat loss.
        - Temporary construction noise restrictions during sensitive breeding seasons.
    - **Evaluation:**
        - Pre-construction surveys provide no guarantee of avoiding impacts on dynamic species like birds, which may relocate to the site post-survey.

- Habitat enhancement efforts fail to address the specific needs of species dependent on the RSPB Wood of Cree and nearby habitats, such as pied flycatchers and wood warblers.
- Construction restrictions are limited to certain periods, leaving species vulnerable during other phases of the project.

3. **Visual Impact Mitigation**
    - **Proposed Measures:**
        - Landscape planting and reforestation to screen turbines.
    - **Evaluation:**
        - The reduction in turbine numbers from 18 to 13 and modest height adjustments do not address the fundamental issue of visual intrusion on key landmarks such as Bruce's Stone, Loch Trool, and the Southern Upland Way.
        - Landscape planting cannot adequately screen turbines from elevated viewpoints or long-distance vistas.
4. **Hydrological and Carbon Management**
    - **Proposed Measures:**
        - Install drainage systems to manage water flow and reduce flooding risks.
        - Offset carbon losses through restoration projects in degraded peatlands.
    - **Evaluation:**
        - Drainage systems are likely to exacerbate hydrological imbalances by altering natural water flows. The proximity of turbines to watercourses feeding the River Cree and River Bladnoch heightens the risk of sedimentation and water quality degradation.
        - Carbon offset efforts cannot compensate for the immediate and significant release of carbon caused by peat excavation.
5. **Tourism and Community Engagement**
    - **Proposed Measures:**
        - Establishment of community liaison groups to address local concerns.
        - Financial contributions to community development projects.
    - **Evaluation:**
        - Financial contributions fail to offset the economic losses caused by reduced tourism. The damage to the region's unique selling points, such as tranquillity and natural beauty, cannot be compensated monetarily.
        - Community liaison groups offer no tangible mitigation and are unlikely to alleviate widespread opposition.

Residual Risks

1. **Peatland Destruction and Carbon Losses**

- The destruction of Class 1 and Class 2 peatlands remains inevitable given the turbine placements. Restoration efforts cannot replicate the ecological or carbon-sequestration functions of intact peatlands, leaving significant residual carbon emissions.

2. **Biodiversity Impacts**

   - Habitat loss and fragmentation will persist despite mitigation measures. Bird strikes and disturbances to wildlife in the RSPB Wood of Cree and surrounding habitats are inevitable due to the turbines' proximity to these critical areas.

3. **Landscape and Cultural Degradation**

   - The visual impact on Loch Trool, Bruce's Stone, and the Southern Upland Way remains unaddressed. The proposed turbines will industrialise a landscape that is central to Dumfries and Galloway's cultural identity and tourism economy.

4. **Tourism Decline**

   - The industrialisation of the Galloway Hills will deter visitors, resulting in long-term economic consequences for local communities. Financial contributions to community projects cannot replace the revenue generated by a thriving tourism sector.

5. **Hydrological Disruption**

   - The proposed drainage systems risk altering natural hydrological flows, potentially increasing flooding and sedimentation in downstream watercourses. This will have cascading impacts on local ecosystems and water quality.

Conclusion

The proposed mitigation measures outlined in EnergieKontor's EIAR are inadequate to address the significant impacts of the Glenvernoch Wind Farm. Key residual risks, including the destruction of Class 1 and Class 2 peatlands, biodiversity loss, hydrological disruption, and cultural landscape degradation, remain unresolved. These risks highlight the fundamental unsuitability of the proposed site for wind energy development and the lack of a viable strategy to mitigate its adverse effects.

7. CONCLUSION AND RECOMMENDATIONS

Overview

The Glenvernoch Wind Farm proposal presents critical and unresolved risks to the environment, cultural heritage, and Socioeconomic fabric of Dumfries and Galloway. Despite design revisions, the project fails to address significant ecological, hydrological, and landscape constraints, violating numerous national and local policies. Hydrological impacts threaten sensitive watercourses such as the River Cree and River Bladnoch, while cultural and visual impacts jeopardise the integrity of iconic landmarks like Loch Trool and Bruce's Stone. This section summarises why the proposal is unsuitable for approval and provides detailed recommendations.

Key Risks

1. Peatland Destruction and Carbon Emissions

- **Violation of Peatland Protections:**

  - Turbines 12 and 5 are sited on Class 1 and Class 2 peatlands, respectively, with Turbine 10 near Class 1 peat. Excavation and drainage in these areas will irreversibly damage peatlands, releasing significant carbon emissions that negate the renewable energy benefits of the wind farm.

2. Hydrological Disruption

- **Threat to River Systems:**

- The proposed construction and peatland disturbance will disrupt natural water flow patterns, increasing sedimentation and altering water quality in the River Cree and River Bladnoch catchments. These rivers are vital ecological systems supporting fish species, including salmon, and downstream ecosystems, which could face long-term degradation.

3. Biodiversity and Habitat Loss

- **Impact on the RSPB Wood of Cree and Riverine Ecosystems:**
  - Proximity to the RSPB Wood of Cree endangers protected bird species, including pied flycatchers and wood warblers. Habitat fragmentation from turbine construction and access roads will reduce the viability of these critical habitats.
  - Hydrological changes may also affect riparian habitats along the River Cree and River Bladnoch, further exacerbating biodiversity loss.

4. Visual and Cultural Degradation

- **Impact on Iconic Landmarks:**
  - Bruce's Stone and Loch Trool, significant historical and cultural landmarks, will experience severe visual intrusion from the turbines. These areas attract visitors for their tranquillity and natural beauty, which will be irreversibly diminished.
- **Southern Upland Way:**
  - The turbines' visibility from Scotland's premier long-distance walking route will degrade the experience for walkers, deterring visitors and harming the region's tourism-dependent economy.

5. Socioeconomic Impacts

- **Tourism Economy Under Threat:**
  - The Galloway Hills, Loch Trool, and the Southern Upland Way are essential drivers of tourism in Dumfries and Galloway. Industrialising these landscapes will deter visitors, resulting in significant economic losses for local businesses and communities.

6. Policy Contravention

- **National Planning Framework 4 (NPF4):**
  - Fails to avoid significant harm to sensitive landscapes and natural carbon stores, contravening key sustainable development goals.
- **Peatland Code:**
  - Excavates protected peatlands, violating Scotland's carbon management policies.
- **Dumfries and Galloway Local Development Plan (LDP):**
  - Conflicts with priorities to protect landscapes, tourism assets, and sensitive habitats.
- **Wildlife and Countryside Act 1981:**
  - Proximity to the RSPB Wood of Cree risks harm to protected species, contravening habitat protection laws.

Recommendations

1. Reject the Glenvernoch Wind Farm Proposal

- The project's fundamental flaws, including its impacts on peatlands, hydrology, biodiversity, and cultural landmarks, make it unsuitable for approval. Rejection is necessary to protect Dumfries and Galloway's natural heritage and align with national and local policies.

2. Conduct a Comprehensive Environmental Assessment

- Require a robust and independent environmental assessment to quantify the impacts on:
    - Peatland loss and carbon emissions.
    - Riverine ecosystems in the River Cree and River Bladnoch catchments.
    - Biodiversity, particularly within the RSPB Wood of Cree.
    - Cultural landmarks, including Bruce's Stone and the Southern Upland Way.

3. Strengthen Policy Enforcement

- Mandate strict adherence to NPF4, and the Peatland Code, requiring developers to:
    - Avoid Class 1 and Class 2 peatlands entirely.
    - Respect hydrological systems and watercourses feeding into the River Cree and River Bladnoch.
    - Preserve cultural landmarks and their visual integrity.

4. Protect Cultural and Tourism Assets

- Recognise the Galloway Hills, Loch Trool, and Bruce's Stone as nationally significant assets. Developments in this region must prioritise preserving their cultural, ecological, and economic value.

5. Develop a Regional Renewable Energy Strategy

- Collaborate with local authorities, environmental organisations, and developers to identify alternative sites for renewable energy that avoid sensitive landscapes and ecosystems.

Final Statement

The Glenvernoch Wind Farm proposal is a severe threat to the environment, cultural landmarks, and hydrological systems of Dumfries and Galloway. By disrupting Class 1 and Class 2 peatlands, altering water flows in the River Cree and River Bladnoch, and industrialising the Galloway Hills, the project contravenes Scotland's legal and policy framework.

Approving this project would breach the National Planning Framework 4 (NPF4), the Peatland Code, as well as regional policies such as the Dumfries and Galloway Local Development Plan (LDP). These frameworks exist to safeguard Scotland's natural and cultural heritage, and approval would undermine their credibility and enforcement.

Iconic landmarks such as Loch Trool, Bruce's Stone, and the Southern Upland Way are irreplaceable cultural and economic assets. The turbines' visibility and the resulting industrialisation of these landscapes would erode their intrinsic value, deterring visitors and causing long-term economic harm to the region's tourism sector.

The hydrological disruption to the River Cree and River Bladnoch catchments risks downstream flooding, sedimentation, and ecological degradation. These rivers are vital to local biodiversity and support riparian ecosystems that will suffer from construction and peatland disturbance.

Rejecting the Glenvernoch Wind Farm is essential to uphold Scotland's commitment to sustainable development, carbon reduction, and biodiversity conservation. A robust and enforceable renewable energy strategy must prioritise projects that respect ecological, cultural, and hydrological sensitivities while aligning with Scotland's policy frameworks. Only through responsible and site-appropriate development can Scotland balance its renewable energy ambitions with the preservation of its invaluable natural and cultural heritage.

OBJECTION TO SECTION 5 (EIA) – RENEWABLE ENERGY AND PLANNING POLICY

CONTENTS

References:

National Planning Framework 4 (NPF4): Scottish Government. Policies on climate change mitigation, renewable energy, and environmental protection. https://www.gov.scot/publications/national-planning-framework-4/
Dumfries and Galloway Local Development Plan 2 (LDP2): Dumfries and Galloway Council. Policies on renewable energy development and safeguarding local landscapes, communities, and biodiversity. https://www.dumgal.gov.uk/localdevelopmentplan
The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019: Scottish Government. Legislation mandating net-zero greenhouse gas emissions by 2045. https://www.legislation.gov.uk/asp/2019/15/contents/enacted
The Peatland Code: International Union for Conservation of Nature (IUCN). Guidelines on peatland protection and restoration. https://www.iucn-uk-peatlandprogramme.org/peatland-code
The Wildlife and Countryside Act 1981: UK Government. Legislation protecting species and habitats in the UK. https://www.legislation.gov.uk/ukpga/1981/69/contents
European Landscape Convention (ELC): Council of Europe. Policies on landscape preservation and public involvement in environmental decisions. https://www.coe.int/en/web/landscape
Environmental Impact Assessment (Scotland) Regulations 2017: Scottish Government. Legal framework for EIA requirements and methodologies. https://www.legislation.gov.uk/ssi/2017/102/contents/made
EnergieKontor Environmental Impact Assessment (EIA), Volume 1, Chapter 5: Renewable Energy and Planning Policy: EnergieKontor. Analysis of policy compliance for Glenvernoch Wind Farm.
National Parks (Scotland) Act 2000: Scottish Government. Legislation defining the protection and purposes of national parks. https://www.legislation.gov.uk/asp/2000/10/contents
Scottish Energy Strategy: The Future of Energy in Scotland: Scottish Government. Strategic vision for Scotland's energy transition. https://www.gov.scot/publications/scottish-energy-strategy-future-energy-scotland-9781788515276/
Historic Environment Policy for Scotland (HEPS): Historic Environment Scotland. Policies on safeguarding cultural and historic assets. https://www.historicenvironment.scot/advice-and-support/planning-and-guidance/historic-environment-policy-for-scotland-heps/
RSPB Policy Guidance: Royal Society for the Protection of Birds. Guidelines on wind farm impacts on avian species and biodiversity. https://www.rspb.org.uk/globalassets/downloads/documents/conservation-projects/windfarms/windfarmspolicy-guidance.pdf
Scottish Natural Heritage Guidance on Wind Farms: NatureScot. Recommendations on site selection and ecological safeguarding. https://www.nature.scot/doc/assessing-impacts-wind-farm-development
The Aarhus Convention: United Nations Economic Commission for Europe (UNECE). Guidelines on public participation in environmental decision-making. https://unece.org/environment-policy/public-participation/aarhus-convention

1. NON-TECHNICAL SUMMARY AND SCOPE OF OBJECTION

Overview

This section critically examines the compatibility of the Glenvernoch Wind Farm proposal with the national, regional, and local planning policies governing renewable energy developments in Scotland. While EnergieKontor's Environmental Impact Assessment (EIA) claims compliance with these frameworks, it fails to address significant conflicts with sustainability objectives, environmental protections, and community welfare priorities.

Dumfries and Galloway already bears a disproportionate burden of Scotland's renewable energy developments, with extensive contributions far exceeding its fair share. The proposal adds to the cumulative strain on this region, contributing to the industrialisation of previously undeveloped areas, destruction of sensitive habitats, and degradation of cultural landscapes. Furthermore, the project overlooks key lessons from past planning decisions, such as the rejection of the Hill of Ochiltree Wind Farm, which highlighted similar policy contravention and environmental risks.

Key Areas of Concern

1. Policy Misalignment

- **Conflict with National Planning Framework 4 (NPF4):**
    - NPF4 prioritises renewable energy developments that respect protected habitats, cultural landmarks, and local communities. The proposal's placement of turbines on **Class 1 and Class 2 peatlands**, as well as its visibility from sensitive sites like the **Southern Upland Way** and **RSPB Wood of Cree**, directly contravenes these priorities.
    - By failing to balance renewable energy expansion with the protection of Dumfries and Galloway's unique natural and cultural assets, the proposal undermines the sustainability principles enshrined in NPF4.

2. Failure to Comply with the Dumfries and Galloway Local Development Plan (LDP)

- The proposal disregards the LDP's emphasis on preserving the region's distinctive landscapes, cultural heritage, and Socioeconomic wellbeing:
    - The turbines' visibility from iconic landmarks like **Bruce's Stone** and **Loch Trool** diminishes the area's historical and aesthetic value, undermining its appeal to **tourists and local residents**.
    - The industrialisation of the Galloway Hills threatens the unique character of this region, which is vital for sustaining the local economy and community identity.

3. Disproportionate Regional Contributions

- Dumfries and Galloway already far exceeds its renewable energy contributions:
    - As of **30 September 2024**, **35 large renewable energy schemes** are under Section 36 consideration for South Scotland. If approved, these would add **3,228.3 MW** of installed capacity and require the construction of **533 additional turbines**—the vast majority of which are onshore wind projects.
    - Only **4 of these schemes** are solar farms, highlighting the disproportionate focus on wind energy and lack of diversification, further exacerbating the cumulative strain on South Scotland.

4. Imbalance in Policy Objectives

- EnergieKontor's EIA overstates the **economic benefits** and **carbon reduction potential** of the project while downplaying the long-term costs to natural heritage, cultural assets, and community wellbeing.
- This imbalance contravenes the principles of **sustainable development** outlined in NPF4 and international frameworks like the **European Landscape Convention (ELC)**.

5. Cumulative Impacts and Precedent Contravention

- The EIA inadequately addresses cumulative impacts from existing and proposed developments, including:
    - **Blair Hill** and **Shennanton Wind Farms**, whose combined impacts further industrialise the region's cultural and natural landscapes.
    - Overlapping visibility zones and shared infrastructure impacts that degrade **cultural landmarks**, **biodiversity**, and **community quality of life**.
- Past lessons, such as the rejection of the **Hill of Ochiltree Wind Farm** due to policy contravention and environmental harm, have been ignored, with the Glenvernoch proposal repeating similar issues.

Scope of Objection

This objection calls for the following actions to ensure that renewable energy development in Dumfries and Galloway aligns with Scotland's planning policies and sustainability objectives:

1. **Comprehensive Policy Review**:
    - Evaluate the proposal's non-compliance with NPF4 and the Dumfries and Galloway LDP, focusing on its adverse impacts on peatlands, hydrological systems, and cultural landmarks.
2. **Transparent Cumulative Impact Assessment**:
    - Assess overlapping effects from existing and proposed wind farms, including Glenvernoch, Blair Hill, and Shennanton, to determine the long-term viability of onshore wind development in South Scotland.
3. **Detailed Justifications for Siting Decisions**:
    - Require EnergieKontor to provide evidence-based explanations for selecting a site that includes protected peatlands, visually sensitive landscapes, and proximity to cultural landmarks.
4. **Greater Scrutiny of Policy Contravention**:
    - Highlight recurring issues from past planning rejections, such as those seen at the Hill of Ochiltree site, and enforce stricter adherence to policy frameworks prioritising environmental conservation and community wellbeing.
5. **Exploration of Alternative Renewable Solutions**:
    - Encourage a balanced approach to renewable energy by diversifying projects to include solar and offshore wind developments, reducing the over-reliance on onshore wind farms in South Scotland.

2. POLICY AND LEGISLATIVE CONTRAVENTION

Overview

The Glenvernoch Wind Farm proposal contravenes key national, regional, and international policies designed to balance renewable energy development with the protection of cultural, natural, and community assets. Despite claims of compliance in the Environmental Impact Assessment (EIA), the proposal undermines the principles of **National Planning Framework 4 (NPF4)**, and the **Dumfries and Galloway Local Development Plan (LDP)**. This section outlines these contravention in detail, with references to relevant frameworks and their objectives.

Key Policy Contravention

1. National Planning Framework 4 (NPF4)

- **Policy Context**:
    - NPF4 sets Scotland's priorities for achieving a balanced and sustainable approach to renewable energy development, emphasising the need to protect cultural heritage, biodiversity, and local communities.
- **Contravention**:

1. **Policy 33: Natural Places**:
    - Glenvernoch's turbines encroach on **Class 1 and Class 2 peatlands**, releasing carbon and disrupting hydrological systems critical to biodiversity and climate resilience.
    - The development compromises the Galloway Hills' status as a **Regional Scenic Area (RSA)** by industrialising a landscape of national importance.
2. **Policy 41: Quality Homes and Communities**:
    - By concentrating wind developments in Dumfries and Galloway, the proposal disregards community wellbeing, introducing noise, visual intrusion, and economic impacts that harm quality of life.
3. **Appendix C: South Scotland Priorities**:
    - South Scotland's renewable energy strategy highlights the importance of **protecting natural assets** while contributing to national energy goals. The Glenvernoch proposal prioritises industrialisation over this directive, with no clear justification for further burdening the region.

2. Dumfries and Galloway Local Development Plan (LDP2)

- **Policy Context**:
    - LDP2 outlines regional priorities, emphasising the need to preserve Dumfries and Galloway's distinctive landscapes, cultural heritage, and Socioeconomic wellbeing.
- **Contravention**:

1. **Landscape Character**:
    - The turbines degrade the Galloway Hills, a landscape central to the region's identity and tourism economy, contravening policies to protect **Regional Scenic Areas (RSAs)**.
2. **Peatland Protections**:
    - LDP2 highlights the importance of **peatland ecosystems** for biodiversity and carbon sequestration. The Glenvernoch site's reliance on excavating peatlands contravenes these protections.

3. European Landscape Convention (ELC)

- **Policy Context**:
    - The ELC requires member states to preserve landscapes of cultural and environmental significance, ensuring sustainable planning and public participation.
- **Contravention**:

1. **Landscape Industrialisation**:
    - The proposal industrialises the Galloway Hills, a landscape of international significance, violating ELC objectives to maintain the cultural and aesthetic integrity of rural areas.

2. **Lack of Stakeholder Engagement**:
    - Limited consultation with local communities and heritage organisations undermines the ELC's emphasis on participatory planning.

4. Ancient Monuments and Archaeological Areas Act 1979

- **Policy Context**:
    - This Act protects Scheduled Ancient Monuments (SAMs) and their settings from direct and indirect harm caused by development activities.
- **Contravention**:

1. **Setting Impacts**:
    - Turbine placement within the viewshed of **Bruce's Stone** and other SAMs compromises their cultural context, contravening statutory protections.

2. **Physical Risks**:
    - Construction activities threaten subsurface archaeology near **Glenluckoch** and **Craigie**, violating the Act's mandate to protect undiscovered remains.

5. Lessons from Past Decisions

- **Hill of Ochiltree Rejection (2012)**:
    - This proposal was rejected due to visual, ecological, and cultural impacts similar to those posed by Glenvernoch. EnergieKontor has failed to address these recurring issues, including:
        - **Cumulative impact on landscapes**.
        - **Proximity to peatlands and hydrological systems**.
        - **Visibility from key cultural landmarks**.

Implications of Policy Contravention

1. **Degradation of Cultural and Natural Heritage**:
    - The proposal prioritises industrial development over the protection of sensitive landscapes, peatlands, and cultural landmarks, undermining Scotland's heritage conservation objectives.

2. **Failure to Meet Sustainability Goals**:

    - By damaging carbon-sequestering peatlands and biodiversity, the project contradicts Scotland's commitment to achieving **net-zero emissions** sustainably.

3. **Precedent for Policy Non-Compliance**:

    - Approving Glenvernoch would set a dangerous precedent for ignoring statutory protections and planning principles, undermining public trust in Scotland's renewable energy strategy.

Conclusion

The Glenvernoch Wind Farm proposal contravenes multiple policies and legislative frameworks at national, regional, and international levels. These breaches demonstrate a lack of alignment with Scotland's sustainability goals, heritage protections, and community priorities. Without addressing these significant issues, the proposal cannot be justified within the existing planning framework.

Rejection is the only viable option to uphold Scotland's renewable energy principles and safeguard Dumfries and Galloway's landscapes and communities.

3. METHODOLOGY

Overview

This section evaluates the methodology employed in EnergieKontor's Environmental Impact Assessment (EIA) concerning renewable energy and planning policy. A thorough and transparent methodology is essential to ensure that the Glenvernoch Wind Farm proposal aligns with Scotland's national, regional, and local planning frameworks. However, the EIA demonstrates significant deficiencies in its approach, including inadequate data collection, limited stakeholder engagement, and insufficient consideration of cumulative and alternative impacts.

The failure to adopt a robust methodology undermines the credibility of the assessment and its compliance with policy requirements, particularly those outlined in **National Planning Framework 4 (NPF4)**, and the **Dumfries and Galloway Local Development Plan (LDP2)**.

Assessment Framework

1. Scope and Coverage

- **Strengths**:

    - The EIA references key planning policies, including NPF4 and LDP2, and identifies some potential impacts on renewable energy objectives.

- **Weaknesses**:

1. **Limited Policy Integration**:

    - While the EIA acknowledges relevant policies, it does not provide a detailed analysis of how the proposal aligns or conflicts with their specific objectives.

2. **Insufficient Consideration of Regional Contributions**:

    - The assessment fails to account for Dumfries and Galloway's existing renewable energy contributions and its disproportionate burden relative to other regions.

3. **Overemphasis on Economic Benefits**:

    - The EIA prioritises the projected economic benefits and carbon reduction potential of the proposal while downplaying its significant environmental and Socioeconomic costs.

2. Baseline Data Collection

- **Strengths**:
    - The EIA includes desk-based reviews of existing renewable energy developments and national energy targets.
- **Weaknesses**:

1. **Inadequate Regional Analysis**:
    - The assessment does not adequately evaluate Dumfries and Galloway's current renewable energy landscape, including operational projects, pending applications, and cumulative impacts from adjacent wind farms such as Blair Hill and Shennanton.
2. **Neglect of Alternative Solutions**:
    - The EIA fails to explore alternative renewable energy solutions, such as solar farms or offshore wind, which could reduce reliance on onshore wind and better align with Scotland's balanced energy strategy.
3. **Lack of Local Context**:
    - The methodology overlooks community concerns, such as the impacts of turbine visibility, noise, and infrastructure strain, on local wellbeing and tourism.

3. Impact Assessment Methodology

- **Strengths**:
    - The EIA identifies potential impacts on landscapes and communities from turbine construction and operation.
- **Weaknesses**:

1. **Cumulative Impact Analysis**:
    - The EIA provides only a superficial evaluation of cumulative impacts, failing to address overlapping effects from nearby wind farms and other renewable developments.
2. **Visual and Landscape Impact Analysis**:
    - The analysis does not fully consider how the Glenvernoch proposal, in conjunction with other projects, industrialises historically significant landscapes such as the Galloway Hills.
3. **Economic Impact Assessment**:
    - The EIA overstates economic benefits without providing transparent data on long-term costs to tourism, community wellbeing, and natural heritage.

4. Stakeholder Engagement

- **Strengths**:
    - Limited consultation with statutory bodies such as **NatureScot** and **Historic Environment Scotland** is included.
- **Weaknesses**:

1. **Minimal Local Engagement**:

- The EIA lacks meaningful input from local communities, businesses, and heritage groups, ignoring their concerns about the cumulative effects of industrialisation on quality of life and economic resilience.

2. **Transparency Deficit**:

    - The methodology does not include accessible mechanisms for local stakeholders to review and challenge the findings, reducing public trust and accountability.

Methodological Gaps and Limitations

1. **Failure to Address Cumulative Impacts**:
    - The EIA does not adequately account for how Glenvernoch, combined with Blair Hill, Shennanton, and other pending developments, will exacerbate visual, ecological, and Socioeconomic harms.
2. **Neglect of Alternative Renewable Strategies**:
    - The assessment ignores less invasive renewable options, such as solar farms, offshore wind, or distributed energy systems, that could minimise impacts while still contributing to national energy goals.
3. **Overreliance on Desk-Based Assessments**:
    - Limited fieldwork and data collection leave significant gaps in understanding the project's impacts on landscapes, peatlands, and communities.
4. **Insufficient Policy Analysis**:
    - The EIA does not critically evaluate how the proposal aligns with or contravenes specific provisions of NPF4 or LDP2, resulting in a superficial assessment of policy compliance.

Recommendations for Methodological Improvements

1. **Enhanced Data Collection**:
    - Conduct comprehensive field surveys to gather detailed data on landscape impacts, community concerns, and cumulative effects.
    - Include a thorough analysis of Dumfries and Galloway's renewable energy contributions relative to other regions.
2. **Robust Cumulative Impact Analysis**:
    - Evaluate the combined effects of Glenvernoch, Blair Hill, Shennanton, and other nearby developments on natural and cultural landscapes, biodiversity, and infrastructure.
3. **Exploration of Alternatives**:
    - Assess the viability of less invasive renewable energy solutions that align with Scotland's sustainability objectives while reducing environmental and social harm.
4. **Stakeholder Engagement**:
    - Incorporate input from local communities, businesses, and heritage groups to ensure that the assessment reflects the concerns and priorities of those most affected by the proposal.
5. **Policy Alignment Review**:
    - Provide a detailed analysis of the proposal's compliance with NPF4 and LDP2, with specific attention to cumulative impacts, peatland protections, and community wellbeing.

Conclusion

The methodology adopted in EnergieKontor's EIA is inadequate to comprehensively evaluate the Glenvernoch Wind Farm's compliance with renewable energy and planning policies. Significant gaps in data collection, cumulative impact analysis, and stakeholder engagement undermine the validity of the assessment and its alignment with Scotland's sustainability principles. A revised methodology is essential to ensure a balanced and transparent evaluation of this proposal.

4. BASELINE CONDITIONS

Overview

The baseline conditions outlined in EnergieKontor's Environmental Impact Assessment (EIA) are incomplete and fail to accurately reflect the current renewable energy landscape, natural heritage, and Socioeconomic context of Dumfries and Galloway. By neglecting critical data on the region's existing renewable contributions, cumulative impacts, and sensitive landscapes, the EIA undermines its ability to evaluate the necessity and suitability of the Glenvernoch Wind Farm. This section critically assesses the baseline presented in the EIA and identifies key omissions and contextual gaps.

Key Renewable Energy Baseline Data

1. Existing Contributions from Dumfries and Galloway

- Dumfries and Galloway already plays a significant role in Scotland's renewable energy portfolio:
    - The region hosts numerous operational wind farms, including **Kilgallioch**, **Blackcraig**, and **Solwaybank**, which collectively contribute substantial installed capacity.
    - Current data indicate that Dumfries and Galloway far exceeds its proportionate share of Scotland's renewable energy targets, meeting or surpassing 2030 goals.
    - As of **30 September 2024**, **35 large renewable energy schemes** have been submitted for Section 36 consideration across South Scotland. If approved, these would require the construction of **533 new turbines**, disproportionately concentrated in Dumfries and Galloway.

2. Cumulative Burden

- The Glenvernoch Wind Farm adds to a region already saturated with onshore wind projects:
    - Adjacent proposals, such as **Blair Hill** and **Shennanton**, contribute to cumulative visual, ecological, and infrastructure impacts.
    - Many of these developments are sited on previously **undeveloped areas**, accelerating the industrialisation of natural and cultural landscapes.

3. Over-Reliance on Onshore Wind

- Only **4 of the 35 pending schemes** in South Scotland are solar farms, underscoring the lack of diversification in renewable energy strategies.
- The Glenvernoch proposal perpetuates this imbalance, neglecting opportunities to explore alternative solutions, such as offshore wind or solar energy.

Natural and Cultural Landscape Baseline

1. Sensitive Landscapes

- The Glenvernoch site is located within proximity to:
    - **The Galloway Hills Regional Scenic Area (RSA)**, a landscape of regional importance protected for its natural beauty and ecological value.

- **Cultural landmarks** such as **Bruce's Stone**, **Loch Trool**, and the **Southern Upland Way**, which are vital to the region's historical narrative and tourism economy.

- The turbines' visibility would compromise the unspoiled character of these landscapes, threatening their intrinsic value and appeal.

2. Peatland Ecosystems

- The site includes areas of **Class 1 and Class 2 peatlands**, which are critical for:
  - **Carbon sequestration**, aiding in Scotland's net-zero commitments.
  - Supporting **unique biodiversity**, including sensitive hydrological systems that feed the **River Cree** and **River Bladnoch SACs**.
- The EIA fails to adequately account for the carbon emissions released during peatland disturbance or the long-term damage to these ecosystems.

3. Archaeological and Cultural Assets

- Key historical and cultural features at risk include:
  - **Medieval settlements** such as Glenluckoch and Craigie, which hold significant archaeological potential but are underrepresented in the EIA.
  - **Historic pathways**, including smuggling routes and packhorse trails, connecting Glenluckoch to Clachaneasy, which risk disruption or destruction during construction.

Socioeconomic Context

1. Tourism

- Dumfries and Galloway relies heavily on heritage and landscape tourism, with visitors drawn to sites like **Bruce's Stone**, the **Dark Sky Park**, and the **Southern Upland Way**.
- The industrialisation of the landscape risks reducing its appeal, resulting in long-term economic harm to local businesses and communities reliant on tourism.

2. Community Wellbeing

- Rural communities in Dumfries and Galloway have expressed concerns about:
  - **Visual intrusion** from turbines dominating the skyline.
  - **Noise pollution** during both construction and operation phases.
  - Strain on local infrastructure, particularly rural road networks during construction.

Deficiencies in the EIA's Baseline Conditions

1. **Incomplete Renewable Energy Context**:
   - The EIA overlooks Dumfries and Galloway's existing contributions to Scotland's renewable energy targets and fails to justify the need for additional wind capacity in this region.
2. **Neglect of Cumulative Impacts**:
   - No comprehensive evaluation of how Glenvernoch interacts with Blair Hill, Shennanton, or other proposed developments to exacerbate cumulative impacts.

3. **Limited Engagement with Natural and Cultural Assets**:
    - The EIA underestimates the significance of the Galloway Hills RSA, peatlands, and cultural landmarks, treating them as isolated assets rather than interconnected elements of a cohesive landscape.
4. **Failure to Consider Socioeconomic Factors**:
    - The assessment does not address the potential economic losses from reduced tourism appeal or the impacts on community wellbeing from infrastructure strain.

Recommendations for Enhancing Baseline Conditions

1. **Comprehensive Renewable Energy Analysis**:
    - Include detailed data on Dumfries and Galloway's existing and pending renewable energy projects, with a clear justification for the need (or lack thereof) for further onshore wind developments in the region.
2. **Cumulative Impact Assessment**:
    - Conduct a regional analysis of overlapping impacts from Glenvernoch, Blair Hill, and Shennanton on landscapes, biodiversity, and communities.
3. **Inclusion of Cultural Landscapes and Heritage**:
    - Expand the baseline to incorporate the interconnected significance of cultural landmarks, archaeological sites, and historic pathways.
4. **Socioeconomic Contextualisation**:
    - Assess the potential impacts on tourism, local businesses, and community wellbeing, with input from local stakeholders.

Conclusion

The baseline conditions outlined in the EIA fail to accurately represent the existing renewable energy contributions, natural and cultural landscapes, and Socioeconomic context of Dumfries and Galloway. Without a comprehensive and detailed baseline, the EIA cannot adequately assess the necessity or suitability of the Glenvernoch Wind Farm. A revised approach is required to ensure an accurate and balanced evaluation of this proposal.

5. IDENTIFICATION AND EVALUATION OF KEY EFFECTS

Overview

The Glenvernoch Wind Farm proposal introduces significant direct, indirect, and cumulative effects on Dumfries and Galloway's renewable energy landscape, natural heritage, cultural assets, and local communities. These effects, insufficiently addressed in the Environmental Impact Assessment (EIA), exacerbate existing pressures from nearby developments, particularly in a region already overburdened with onshore wind energy projects.

This section evaluates these impacts in detail, highlighting the inadequacies of the EIA's analysis and the broader implications of the proposal.

Key Effects Identified

1. Direct Effects

- **Visual Impacts**:
    - The proposed turbines, at a height of 200 metres, would dominate the viewshed of sensitive landscapes, including:

        - **The Galloway Hills RSA**.
        - Iconic landmarks such as **Bruce's Stone**, **Loch Trool**, and the **Southern Upland Way**.
    - These visual impacts degrade the aesthetic and cultural value of the area, undermining its appeal for residents, tourists, and heritage enthusiasts.

- **Physical Damage**:
    - Construction activities risk significant damage to:
        - **Class 1 and Class 2 peatlands**, leading to carbon release and hydrological disruption.
        - **Archaeological features**, including medieval settlements at Glenluckoch and Craigie, as well as historic pathways connecting Clachaneasy and other areas.

- **Biodiversity and Ecosystem Disruption**:
    - Habitat loss for wildlife, including protected species reliant on the peatland ecosystems, exacerbates the region's ecological challenges.

2. Indirect Effects

- **Tourism and Economic Impacts**:
    - The industrialisation of the landscape threatens the region's tourism economy by reducing the scenic and historical value of attractions like the **Dark Sky Park**, **Loch Trool**, and **the Southern Upland Way**.
    - Noise and visual intrusion could deter visitors, directly affecting local businesses reliant on heritage and eco-tourism.

- **Community Wellbeing**:
    - Increased noise pollution and infrastructure strain during construction and operation phases will negatively affect the quality of life for nearby residents.

3. Cumulative Effects

- **Landscape Industrialisation**:
    - The Glenvernoch proposal contributes to a pattern of overdevelopment in Dumfries and Galloway, where cumulative impacts from existing and proposed wind farms, such as Blair Hill and Shennanton, are already degrading landscapes of national importance.

- **Cultural Heritage Erosion**:
    - Overlapping visibility zones and shared impacts compromise the setting of cultural landmarks, including:
        - **Bruce's Stone** and its role in Scotland's historical narrative.
        - **Historic pathways**, which lose their significance when surrounded by industrial-scale developments.

- **Carbon Emissions from Construction**:
    - The carbon cost of turbine construction, particularly the disturbance of peatlands, undermines the net-zero claims of the project.

4. Residual Effects

- **Permanent Visual and Landscape Transformation**:

- Even after construction, the turbines will permanently alter the character of the Galloway Hills and their cultural and natural settings.

- **Loss of Intangible Cultural Value**:
  - The connection between the landscape and local identity, folklore, and historical narratives will be irrevocably diminished.

Deficiencies in the EIA's Impact Evaluation

1. **Underestimation of Visual and Setting Impacts**:
   - The EIA fails to fully account for the impact on iconic landmarks and the interconnected nature of the Galloway Hills' cultural and natural landscapes.
2. **Inadequate Cumulative Impact Analysis**:
   - The proposal does not consider the combined effects of Glenvernoch and nearby developments, overlooking the broader consequences of concentrated wind farm projects in South Scotland.
3. **Lack of Transparency in Economic Assessments**:
   - The EIA emphasises projected economic benefits but does not adequately address potential losses in tourism revenue or increased costs to local infrastructure.
4. **Minimal Consideration of Community Wellbeing**:
   - The assessment neglects to evaluate the social impacts of visual intrusion, noise, and disrupted infrastructure on local residents.

Recommendations for Comprehensive Impact Evaluation

1. **Expanded Visual and Setting Impact Studies**:
   - Conduct detailed sensitivity analyses for key cultural landmarks, including Bruce's Stone and the Southern Upland Way, considering their role in tourism and heritage.
2. **Cumulative Impact Analysis**:
   - Evaluate the combined visual, ecological, and Socioeconomic impacts of Glenvernoch alongside Blair Hill, Shennanton, and other regional developments.
3. **Biodiversity and Peatland Protection**:
   - Provide a comprehensive analysis of habitat disruption, carbon release, and hydrological impacts, with enforceable mitigation measures.
4. **Community Engagement**:
   - Incorporate stakeholder feedback into impact evaluations, ensuring that community concerns are adequately addressed in the proposal.
5. **Economic and Tourism Impact Studies**:
   - Assess the potential losses to tourism and local businesses, ensuring a balanced comparison of the project's costs and benefits.

Conclusion

The Glenvernoch Wind Farm proposal introduces a range of significant impacts on Dumfries and Galloway's landscapes, cultural assets, and communities. The EIA's failure to comprehensively evaluate these effects underscores the unsuitability of the proposal within the region's renewable energy landscape. A more robust assessment, addressing visual, cumulative, and Socioeconomic impacts, is essential to ensure compliance with planning policies and sustainable development principles.

6. MITIGATION MEASURES AND RESIDUAL RISKS

Overview

The mitigation measures proposed in EnergieKontor's Environmental Impact Assessment (EIA) fail to adequately address the significant risks posed by the Glenvernoch Wind Farm to Dumfries and Galloway's landscapes, cultural heritage, and communities. The generic strategies outlined lack specificity, enforceability, and a clear understanding of the unique sensitivities of the region. This section evaluates the proposed measures, identifies residual risks, and offers recommendations for a more robust and site-specific approach to mitigation.

Evaluation of Proposed Mitigation Measures

1. Visual and Setting Impacts

- **Proposed Measures**:
    - The EIA suggests using muted turbine colours to reduce visibility and limited vegetation planting as a screening measure.
- **Assessment**:
    - These measures are insufficient given the **200-metre height** of the turbines and their visibility from key cultural and natural landmarks, including:
        - **Bruce's Stone** and **Loch Trool**.
        - The **Southern Upland Way** and other scenic viewpoints.
    - Screening through vegetation is ineffective in the open, high-elevation landscapes of the Galloway Hills.

2. Physical and Archaeological Damage

- **Proposed Measures**:
    - Pre-construction surveys to identify archaeological features and monitoring during excavation to record unexpected findings.
- **Assessment**:
    - The reliance on desk-based studies and reactive monitoring is inadequate to prevent initial damage to sensitive archaeological sites, such as:
        - **Medieval settlements** at Glenluckoch and Craigie.
        - Historic paths and smuggling routes connecting Clachaneasy to surrounding areas.
    - No commitments are made to avoid or redesign turbine placements to protect identified heritage assets.

3. Peatland and Biodiversity Protections

- **Proposed Measures**:
    - Restoration of disturbed peatlands post-construction and limited habitat enhancement projects.

- **Assessment**:
    - The disturbance of **Class 1 and Class 2 peatlands** will result in irreversible carbon release and long-term hydrological damage.
    - Restoration measures lack specificity and do not address the timescales required for peatland recovery, which can span decades.

4. Cumulative Impacts

- **Proposed Measures**:
    - The EIA does not propose specific strategies for mitigating cumulative impacts with neighbouring developments such as Blair Hill and Shennanton.
- **Assessment**:
    - This omission is a critical failure, as cumulative impacts represent one of the most significant threats to the region's landscapes, biodiversity, and communities.

Residual Risks

1. **Irreversible Visual Impacts**:
    - Even with muted turbine colours and vegetation screening, the scale of the turbines ensures their permanent dominance over the region's scenic and cultural landscapes.
2. **Unaddressed Archaeological Risks**:
    - Without proactive measures such as geophysical surveys or trial trenching, the risk of destroying subsurface archaeology remains high.
3. **Long-Term Ecological Harm**:
    - Disturbance to peatlands and habitats is unlikely to be fully mitigated, resulting in carbon release, biodiversity loss, and hydrological disruption.
4. **Tourism and Community Wellbeing**:
    - The residual visual, noise, and infrastructure impacts will negatively affect tourism, local businesses, and the quality of life for residents.
5. **Cumulative Industrialisation**:
    - The Glenvernoch proposal adds to a broader pattern of landscape industrialisation in Dumfries and Galloway, with no regional strategies to mitigate overlapping impacts.

Recommendations for Enhanced Mitigation Measures

1. **Comprehensive Archaeological Protections**:
    - Conduct **geophysical surveys** and **trial trenching** to identify and protect subsurface archaeology before construction begins.
    - Develop site-specific mitigation strategies, including re-routing access roads and relocating turbines to avoid heritage assets.
2. **Improved Visual Mitigation**:

- Explore innovative approaches such as **reduced turbine heights**, **alternative turbine designs**, or strategic placement to minimise visibility from key landmarks.
- Incorporate **landscape restoration plans** to offset visual impacts, such as rewilding initiatives in surrounding areas.

3. **Robust Peatland and Biodiversity Strategies**:
   - Commit to avoiding **Class 1 and Class 2 peatlands** entirely, with turbines sited on less sensitive land.
   - Implement long-term habitat restoration projects, monitored and maintained for a minimum of 30 years.
4. **Cumulative Impact Mitigation**:
   - Collaborate with developers of Blair Hill, Shennanton, and other nearby projects to create a unified strategy for managing cumulative visual, ecological, and Socioeconomic impacts.
5. **Community-Focused Measures**:
   - Introduce noise reduction technologies and construction schedules that minimise disruption to residents.
6. **Enhanced Stakeholder Engagement**:
   - Establish a **Local Advisory Group** comprising community representatives, historians, ecologists, and other stakeholders to ensure transparent and inclusive decision-making.

Conclusion

The mitigation measures proposed in the EIA for the Glenvernoch Wind Farm are insufficient to address the scale and complexity of the project's impacts. Without enforceable, site-specific strategies, the proposal risks permanent harm to Dumfries and Galloway's landscapes, heritage, and communities. A revised mitigation plan is essential, prioritising proactive protections, innovative solutions, and regional collaboration to minimise residual risks.

7. CONCLUSION AND RECOMMENDATIONS

Overview

The Glenvernoch Wind Farm proposal presents a range of significant and unacceptable risks to Dumfries and Galloway's landscapes, cultural heritage, ecosystems, and communities. Despite claims of compliance with Scotland's renewable energy policies, the project demonstrates serious misalignment with the principles of sustainable development outlined in **National Planning Framework 4 (NPF4)**, and the **Dumfries and Galloway Local Development Plan (LDP2)**.

The Environmental Impact Assessment (EIA) fails to address key issues, including cumulative impacts, the disproportionate burden placed on Dumfries and Galloway, and the irreversible harm to sensitive peatlands, cultural landmarks, and regional tourism. This section outlines the case for rejecting the proposal and provides recommendations for future renewable energy projects in the region.

Key Findings

1. **Non-Compliance with Policy and Legislation**:
    - The proposal contravenes multiple provisions of NPF4 and LDP2 by:
        - Industrialising protected landscapes within the Galloway Hills Regional Scenic Area.
        - Damaging **Class 1 and Class 2 peatlands**, essential for carbon sequestration and biodiversity.
        - Ignoring cumulative impacts with neighbouring developments such as Blair Hill and Shennanton.
2. **Exacerbation of Cumulative Impacts**:
    - The Glenvernoch Wind Farm contributes to a broader pattern of over-concentration of onshore wind farms in South Scotland, with **533 new turbines proposed** across 35 large schemes. This adds to Dumfries and Galloway's already disproportionate share of Scotland's renewable energy output.
3. **Irreversible Harm to Cultural and Natural Heritage**:
    - The turbines' visibility from **Bruce's Stone**, **Loch Trool**, and the **Southern Upland Way** degrades the cultural and aesthetic integrity of the region, undermining its appeal for tourism and local communities.
    - Construction risks destroying subsurface archaeological sites and disrupting historic pathways connecting Glenluckoch and Clachaneasy.
4. **Insufficient Mitigation Measures**:
    - The generic and unenforceable mitigation strategies proposed in the EIA fail to address the scale of the project's impacts, leaving significant residual risks to landscapes, heritage, and communities.
5. **Lack of Justification for Development**:
    - Dumfries and Galloway already meets or exceeds its renewable energy contributions, with no demonstrable need for additional onshore wind capacity in the region.

Recommendations

1. Rejection of the Proposal

The Energy Consents Unit (ECU) should reject the Glenvernoch Wind Farm application based on:

- **Non-compliance with planning policies** that prioritise the protection of sensitive landscapes, peatlands, and cultural assets.

- **Cumulative impacts** that exacerbate the overburdening of Dumfries and Galloway with onshore wind developments.
- **Irreversible harm** to the region's natural and cultural heritage.

2. Mandatory Revision Requirements

Should the developer seek to revise and resubmit the proposal, the following requirements must be imposed:

1. **Comprehensive Cumulative Impact Assessment**:
    - Include a detailed analysis of overlapping impacts with Blair Hill, Shennanton, and other pending developments in the region.
2. **Avoidance of Sensitive Landscapes**:
    - Relocate turbines to avoid visibility from culturally significant landmarks such as Bruce's Stone and the Southern Upland Way.
    - Completely exclude **Class 1 and Class 2 peatlands** from development areas.
3. **Enhanced Mitigation Measures**:
    - Develop enforceable, site-specific mitigation strategies, including:
        - Geophysical surveys and trial trenching to protect subsurface archaeology.
        - Long-term peatland restoration and biodiversity enhancement projects.
    - Collaborate with regional stakeholders to create a unified mitigation plan addressing cumulative effects.
4. **Community Engagement and Benefit**:
    - Establish a **Community Benefit Fund** to support local conservation, tourism, and heritage initiatives.
    - Create a **Local Advisory Group** to ensure community concerns are reflected in project design and implementation.

3. Strategic Recommendations for Future Developments

1. **Regional Renewable Energy Strategy**:
    - Develop a regional strategy for Dumfries and Galloway that balances renewable energy development with the protection of natural and cultural assets, prioritising diversification through solar and offshore wind projects.
2. **Policy Enforcement**:
    - Strengthen enforcement of NPF4 and LDP2 provisions to prevent the over-concentration of wind farms in South Scotland and ensure compliance with sustainable development principles.
3. **National Cumulative Impact Framework**:
    - Introduce a national framework to evaluate and manage cumulative impacts of renewable energy developments, ensuring equitable distribution across Scotland.

Conclusion

The Glenvernoch Wind Farm proposal is fundamentally flawed, presenting unacceptable risks to Dumfries and Galloway's landscapes, communities, and cultural heritage. Its approval would set a dangerous precedent for policy non-compliance, unsustainable development, and the industrialisation of Scotland's rural regions.

By rejecting this proposal or enforcing substantial revisions, the Energy Consents Unit has an opportunity to uphold Scotland's commitment to sustainable renewable energy development while safeguarding the unique natural and cultural assets of Dumfries and Galloway.

OBJECTION TO SECTION 6 (EIA) – LANDSCAPE AND VISUAL

CONTENTS

References:

EnergieKontor Environmental Impact Assessment (EIA):
Chapter 6: Landscape and Visual (Sections 6.1–6.12).
Volume 2: Visualisations and Wireframes.
National Planning Framework 4 (NPF4):
Policies relating to the protection of Scotland's landscapes and scenic areas.
Dumfries and Galloway Local Development Plan 2 (LDP2):
Landscape and visual sensitivity guidance.
Galloway and Southern Ayrshire Biosphere Reserve Management Plan:
Objectives for safeguarding scenic and natural landscapes.
Dark Sky Park Designation Reports:
Relevant criteria for maintaining dark sky quality in Galloway Forest Park.
Southern Upland Way Trail Management Guidelines:
Policies for preserving scenic and natural environments along the trail.
Historic Environment Scotland (HES):
Guidelines for the assessment of visual impacts on cultural landmarks.
Galloway Hills Regional Scenic Area Designation:
Guidance for protecting this Regional Scenic Area (RSA).
Hill of Ochiltree Wind Farm Rejection Documentation (2012):
Precedent for landscape and visual impact concerns.

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1. NON-TECHNICAL SUMMARY AND SCOPE OF OBJECTION

Overview

The Glenvernoch Wind Farm proposal threatens to cause significant and irreversible harm to the landscape character and visual amenity of Dumfries and Galloway, particularly in and around the Galloway Hills. The turbines' towering structures, measuring up to 200 metres in height, will dominate the region's natural and cultural landmarks, including Bruce's Stone, Loch Trool, and the Southern Upland Way. EnergieKontor's Environmental Impact Assessment (EIA) (Chapter 6) fails to adequately mitigate or address the impact on these sensitive landscapes, nor does it fully evaluate the cumulative visual effects of nearby wind farm developments.

This objection identifies and critiques the gaps in the EIA, emphasising the cultural, environmental, and recreational significance of the Galloway Hills and its surrounding areas. It calls for the preservation of this unique landscape, which is vital to local tourism, heritage, and community identity.

Key Areas of Concern

1. **Impact on Designated Landscapes and Visual Amenity**
    - The turbines will be highly visible from key cultural and recreational sites, including Loch Trool, Bruce's Stone, and the Southern Upland Way.
    - The development encroaches upon the Galloway Hills Regional Scenic Area (RSA), undermining its value as a protected and celebrated landscape.
2. **Cumulative Visual Effects**
    - The EIA downplays the combined visual impacts of Glenvernoch and nearby proposed and operational wind farms, such as Blair Hill, Shennanton, and Kilgallioch.
3. **Night-Time Visual Impacts**
    - Aviation warning lights, required for turbines of this height, will introduce artificial light pollution, significantly affecting the Galloway Forest Park, a designated Dark Sky Park, and diminishing its appeal to stargazers and visitors.
4. **Failure to Preserve Scenic Views and Local Identity**
    - The proposal disregards the iconic, unspoiled views that define the Galloway Hills, failing to align with the landscape protection goals of the Dumfries and Galloway Local Development Plan (LDP).

Scope of Objection

This objection calls for:

1. A comprehensive reassessment of visual and landscape impacts, including cumulative effects with other wind farms.
2. Enforceable measures to address the degradation of night-time visual amenity in the Dark Sky Park.
3. A clear commitment to protecting the landscape for current and future generations, ensuring compliance with national and local planning policies.

2. POLICY AND LEGISLATIVE CONTRAVENTION

Overview

The Glenvernoch Wind Farm proposal contravenes key national and local planning policies that prioritise the protection of Scotland's natural landscapes and visual amenity. The EIA (Chapter 6) fails to demonstrate compliance with these frameworks, particularly concerning the protection of the Galloway Hills Regional Scenic Area, the Southern Upland Way, and the Galloway Forest Dark Sky Park. These policy contraventions underline the incompatibility of the proposal with the region's planning objectives.

Key Contravention

1. **National Planning Framework 4 (NPF4)**
    - **Policy Context**: NPF4 prioritises sustainable development while safeguarding nationally important landscapes and cultural heritage. It explicitly states that renewable energy projects must avoid significant adverse impacts on protected areas and iconic views.
    - **Contravention**:
        - The turbines' visibility from Loch Trool, Bruce's Stone, and the Southern Upland Way contravenes NPF4's goals of preserving Scotland's natural and cultural assets.
        - The proposal's cumulative visual impact, combined with other wind farms in the region, undermines the protected landscape status of the Galloway Hills.
2. **European Landscape Convention (ELC)**
    - **Policy Context**: The ELC mandates the conservation of landscapes as essential components of cultural heritage and public wellbeing.
    - **Contravention**:
        - The proposal fails to respect the Galloway Hills' value as a cultural and natural heritage site, as its development would irreparably alter the area's scenic and recreational appeal.
3. **Dumfries and Galloway Local Development Plan 2 (LDP2)**
    - **Policy Context**: The LDP2 explicitly prioritises the protection of the Galloway Hills Regional Scenic Area, requiring developments to respect its character, views, and cultural landmarks.
    - **Contravention**:
        - The proposed turbines breach policy by introducing dominant structures into iconic vistas, including those from Bruce's Stone, Loch Trool, and the Southern Upland Way.
        - The cumulative visual impact of Glenvernoch and nearby wind farms is not adequately assessed, failing to meet LDP2's requirements for thorough cumulative impact analysis.
4. **Dark Sky Park Guidelines**
    - **Policy Context**: The Galloway Forest Park's Dark Sky designation is a globally recognised accolade that mandates the preservation of night-time darkness.
    - **Contravention**:

- The turbines' aviation warning lights will create light pollution, undermining the Park's Dark Sky status and violating guidelines aimed at preserving its unique attributes.

Policy Implications

The Glenvernoch Wind Farm proposal directly conflicts with Scotland's commitments to landscape preservation, and cultural heritage protection. Approving the project would set a dangerous precedent, undermining the credibility of Scotland's planning policies and the integrity of protected landscapes.

3. METHODOLOGY

Overview

This section outlines the approach used to evaluate the landscape and visual impacts of the Glenvernoch Wind Farm proposal, focusing on EnergieKontor's Environmental Impact Assessment (EIA) methodology and its deficiencies. By analysing key aspects such as turbine placement, cumulative impacts, and visual effects on sensitive receptors, this critique highlights gaps in the EIA and provides a foundation for the objection.

Data Sources

1. **EIA Chapter 6 – Landscape and Visual Assessment (LVA):**
    - Assessment methodology, assumptions, and data sources (Sections 6.1–6.8).
    - Visualisations and Zone of Theoretical Visibility (ZTV) mapping (Sections 6.10–6.12).
    - Viewpoint analysis for sensitive receptors (Sections 6.14–6.22).
2. **Policy and Guidance Documents:**
    - National Planning Framework 4 (NPF4).
    - Dumfries and Galloway Local Development Plan 2 (LDP2).
    - European Landscape Convention (ELC).
3. **Local Context and Stakeholder Input:**
    - Feedback from local residents, community groups, and stakeholders.
    - Observations from site visits and independent visual assessments.
4. **Cumulative Impact Data:**
    - Existing Kilgallioch wind farm.
    - Proposed wind farms at Blair Hill, Shennanton, and Balunton.

Assessment Criteria

1. **Baseline Landscape Character and Sensitivity:**
    - Thorough analysis of the Galloway Hills Regional Scenic Area, including its cultural and recreational significance.
    - Evaluation of existing visual amenity in the Galloway Forest Park, Dark Sky Park, and Southern Upland Way.
2. **Zone of Theoretical Visibility (ZTV):**
    - Review of ZTV mapping to determine the turbines' visibility from key vantage points, including Bruce's Stone, Loch Trool, and the Southern Upland Way.

- Identification of sensitive receptors, such as residential areas and tourist hotspots.

3. **Visual Impact Magnitude and Significance:**
    - Analysis of turbine height, spacing, and cumulative visual effects in relation to the landscape's natural scale.
    - Assessment of aviation lighting impacts on night-time views and Dark Sky Park integrity.
4. **Cumulative Visual Impact:**
    - Examination of how the Glenvernoch Wind Farm will interact with existing and proposed wind farms in the region.
    - Evaluation of compounded impacts on landscape character and scenic quality.
5. **Compliance with Policy and Guidance:**
    - Assessment of the proposal's alignment with NPF4, LDP2, and other relevant frameworks.
    - Identification of gaps in the EIA's adherence to policy requirements.

Methodological Deficiencies in the EIA

1. **Inadequate Baseline Data:**
    - The EIA underestimates magnitude of change, failing to fully capture the unique character of the Galloway Hills and associated landmarks.
    - Limited fieldwork data reduces the credibility of the visual baseline.
2. **Insufficient Viewpoint Analysis:**
    - Key viewpoints, such as Bruce's Stone and Loch Trool, are inadequately addressed. The analysis underestimates the significance of visual intrusion from these iconic locations.
3. **Lack of Cumulative Impact Modelling:**
    - The EIA does not robustly assess how Glenvernoch's impacts will interact with those of existing and proposed wind farms.
4. **Neglect of Night-Time Impacts:**
    - Aviation lighting impacts on the Galloway Forest Dark Sky Park are insufficiently assessed, despite their significant implications for the area's visual and cultural integrity.

Conclusion

EnergieKontor's methodology for assessing landscape and visual impacts is flawed, with critical gaps in baseline data, cumulative impact analysis, and viewpoint assessments. These deficiencies undermine the validity of the LVIA and highlight the need for a more comprehensive and robust evaluation.

4. BASELINE CONDITIONS

Overview

The baseline conditions for the Glenvernoch Wind Farm site highlight the unique and sensitive landscape of the Galloway Hills, recognised for its cultural, ecological, and scenic value. This section provides a detailed evaluation of the existing landscape and visual context, focusing on its vulnerability to industrial-scale wind farm developments. EnergieKontor's Environmental Impact

Assessment (EIA) fails to adequately represent these baseline conditions, particularly in its treatment of sensitive receptors and cumulative visual impacts.

Key Elements of the Baseline

1. **Regional Landscape Character**

    - **Dark Sky Park:**
      The Galloway Forest Park, designated as one of the few Dark Sky Parks globally, is renowned for its pristine night-time skies. Aviation lighting from turbines poses a significant threat to this designation.

    - **Southern Upland Way:**
      Scotland's first coast-to-coast long-distance walking route passes near the site. The trail is valued for its unspoiled landscapes and tranquillity, which are integral to the walking experience.

2. **Cultural and Historical Landmarks**

    - **Bruce's Stone and Loch Trool:**
      These iconic landmarks are within sight of the proposed development. Bruce's Stone, commemorating Robert the Bruce's victory, and Loch Trool, known for its serene beauty, are both vulnerable to visual intrusion.

    - **RSPB Wood of Cree:**
      Scotland's largest ancient woodland reserve is a critical wildlife habitat and a popular visitor attraction. While primarily of ecological importance, its visual setting contributes to the overall landscape character.

3. **Existing Developments**

    - **Aires, Artfield Fell, Glenchamber and Kilgallioch Wind Farm:**
      This operational wind farm already introduces industrial-scale infrastructure into the landscape. The cumulative impact of Glenvernoch with Aires, Artfield Fell, Glenchamber and Kilgallioch exacerbates the visual strain on the region.

4. **Sensitive Receptors**

    - **Residential Properties:**
      Properties in Glentrool, Bargrennan and surrounding villages rely on the region's tranquillity and scenic beauty. The EIA inadequately addresses the impact on these receptors.

    - **Tourism Hotspots:**
      Attractions such as the Galloway Forest Park, Loch Trool, and Bruce's Stone draw visitors for their scenic and recreational value. Visual degradation could deter tourism, affecting the local economy.

5. **ZTV Mapping and Limitations**

    - **Zone of Theoretical Visibility (ZTV):**
      The EIA identifies extensive visibility of the turbines from sensitive locations but downplays the severity of the visual intrusion.

EIA Deficiencies in Baseline Assessment

1. **Underrepresentation of Landscape Sensitivity:**

    - The Galloway Hills RSA is inadequately characterised in terms of its national importance and vulnerability to industrialisation.

2. **Inadequate Viewpoint Selection:**

- The EIA fails to include critical viewpoints, such as popular trails in the Southern Upland Way and specific vantage points within the Dark Sky Park.

3. **Neglect of Cumulative Impacts:**

    - Existing and proposed wind farms are not sufficiently accounted for in the cumulative baseline, undermining the robustness of the assessment.

Conclusion

The baseline conditions highlight the Galloway Hills as a region of exceptional landscape and cultural value, which is highly sensitive to industrial developments. EnergieKontor's EIA fails to accurately capture these conditions, particularly in its treatment of sensitive receptors and cumulative impacts. A more thorough and site-specific analysis is essential to fully understand the potential implications of the Glenvernoch Wind Farm.

5. IDENTIFICATION AND EVALUATION OF KEY EFFECTS

Overview

This section evaluates the potential impacts of the Glenvernoch Wind Farm on the landscape and visual character of the Galloway Hills. Using EnergieKontor's Environmental Impact Assessment (EIA) as a basis, the analysis identifies significant deficiencies and considers the implications for sensitive receptors, cumulative effects, and the region's cultural and scenic value. The impacts are assessed in terms of their scale, magnitude, and duration.

1. Landscape Character Impacts

- **Industrialisation of the Galloway Hills Regional Scenic Area (RSA):**
  The construction and operation of 13 turbines, each towering over 200 metres, would industrialise a landscape celebrated for its natural beauty and cultural significance.

    - **Significance of Impact:** Medium to High, given the RSA's designation as a protected landscape.

    - **Geographic Spread:** Visibility from key areas such as the Southern Upland Way and Bruce's Stone, significantly altering the character of these landmarks.

- **EIA Deficiencies:**

    - The EIA downplays the transformative effect of large-scale turbines on the landscape.

    - The cumulative interaction with Blair Hill and Shennanton, along with Kilgallioch Wind Farm is insufficiently addressed, despite the combined effect of these developments altering the region's identity.

2. Visual Impacts on Key Receptors

- **Bruce's Stone and Loch Trool:**

    - **Predicted Visual Intrusion:**
      The turbines would dominate views from Bruce's Stone, detracting from its historical and cultural resonance. Loch Trool, a tranquil landmark, would lose its aesthetic value due to the industrial backdrop.

    - **EIA Deficiencies:**

        - Viewpoint analysis underrepresents the visual dominance of turbines from Bruce's Stone and fails to account for seasonal variations in visibility.

- **Southern Upland Way:**

    - **Impact on Walkers' Experience:**
      The unspoiled vistas along this iconic trail are integral to its appeal. The proposed turbines would degrade the experience by introducing artificial structures into previously natural panoramas.

- **EIA Deficiencies:**
    - The EIA overlooks the cumulative visual impact of Glenvernoch with other developments visible from the trail, such as Kilgallioch and Blair Hill, if consented and built.

- **Residential Properties:**
    - **Impacted Areas:**
      Residents in Newton Stewart, Bargrennan, Glentrool, and smaller villages will face consistent turbine visibility, affecting their quality of life.
    - **EIA Deficiencies:**
        - The assessment fails to address the psychological impact of visual disruption for those living in close proximity to the turbines.

3. Cumulative Impacts

- **Interaction with Existing and Proposed Wind Farms:**
    - **Key Developments:** Kilgallioch, Aires, Artfield Fell, Glenchamber (operational) and Blair Hill, Shennanton, and Balunton (proposed).
    - **Predicted Effects:**
      The cumulative visual impact would overwhelm the natural landscape, creating a perception of an industrial wind farm zone rather than a preserved scenic area.
- **EIA Deficiencies:**
    - The EIA does not comprehensively evaluate the additive effect of multiple developments, particularly in terms of landscape character and visual amenity.

4. Impact on the Galloway Dark Sky Park

- **Light Pollution from Aviation Lighting:**
    - **Predicted Effects:**
      Constant red aviation lights on turbines would introduce artificial illumination into one of the world's premier stargazing locations. This would degrade the Dark Sky Park's unique offering and deter visitors.
    - **EIA Deficiencies:**
        - The impact of light pollution on tourism and community wellbeing is downplayed, despite the significance of the Dark Sky designation.

5. Visual Fragmentation and Scarring

- **Construction Phase Impacts:**
    - Temporary but severe visual fragmentation due to access roads, crane pads, and construction compounds.
    - Vegetative scarring from site preparation is likely to have lasting effects, even post-reinstatement.
- **EIA Deficiencies:**
    - The EIA minimises the long-term effects of construction scarring, particularly in areas where peatlands and vegetation will struggle to regenerate.

Conclusion

The Glenvernoch Wind Farm will have profound and far-reaching effects on the landscape and visual character of the Galloway Hills. EnergieKontor's EIA inadequately assesses these impacts, underestimating both their magnitude and cumulative significance. The industrialisation of this sensitive area threatens its cultural, ecological, and scenic value, compromising the identity of key landmarks such as Bruce's Stone, Loch Trool, and the Southern Upland Way. These impacts necessitate a thorough reconsideration of the proposal.

6. MITIGATION MEASURES AND RESIDUAL RISKS

Overview

This section evaluates the mitigation measures proposed in EnergieKontor's Environmental Impact Assessment (EIA) to address landscape and visual impacts. It highlights significant deficiencies in these measures and assesses the residual risks to the landscape character, visual amenity, and cultural heritage of the Galloway Hills. The inadequacy of proposed strategies underscores the unsuitability of the site for the development.

1. Proposed Mitigation Measures

- **Reduction in Turbine Numbers and Adjustments to Layout:**
    - **Proposed Action:** Reduction from 18 to 13 turbines and repositioning to minimise visual intrusion.
    - **Evaluation:**
        - The reduction is superficial and fails to address fundamental issues. The turbines' scale and industrial nature remain incompatible with the sensitive landscape.
        - The placement of turbines still affects key receptors such as Bruce's Stone, Loch Trool, and the Southern Upland Way.
- **Use of Neutral Colours and Non-Reflective Materials:**
    - **Proposed Action:** Turbine components will feature neutral colours and non-reflective materials to minimise visual impact.
    - **Evaluation:**
        - While these measures may slightly reduce glare, they do not address the overwhelming visual dominance of turbines over the natural landscape.
- **Post-Construction Reinstatement of Temporary Works:**
    - **Proposed Action:** Removal of temporary infrastructure (e.g., crane pads, construction compounds) and re-vegetation of disturbed areas.
    - **Evaluation:**
        - Reinstatement efforts are unlikely to restore the pre-development landscape fully, particularly in areas of peatland disturbance.
        - The visual scarring from access roads and disturbed vegetation will persist for years, undermining the natural character of the area.
- **Aviation Lighting Mitigation:**
    - **Proposed Action:** Use of radar-activated lighting systems to minimise the visibility of aviation lights in the Dark Sky Park.
    - **Evaluation:**

- The effectiveness of radar-activated systems in reducing light pollution remains untested in similar sensitive environments.
- Even intermittent lighting will degrade the pristine dark sky quality, impacting stargazing activities.

2. Residual Risks

- **Landscape Character and Visual Integrity:**
  - The turbines' scale and industrial nature will permanently alter the Galloway Hills' landscape, regardless of mitigation.
  - Sensitive receptors such as Bruce's Stone and Loch Trool will continue to experience visual intrusion, undermining their cultural and historical significance.
- **Cumulative Visual Impacts:**
  - The combined effect of Glenvernoch with other existing and proposed wind farms will intensify the perception of an industrialised landscape.
  - EnergieKontor's mitigation strategies fail to address cumulative effects, leaving residents, visitors, and wildlife exposed to sustained visual degradation.
- **Dark Sky Park Degradation:**
  - Even with radar-activated lighting, aviation lights will detract from the Dark Sky Park's appeal. This residual impact is incompatible with the park's status as a globally recognised stargazing destination.
- **Construction-Phase Scarring:**
  - Temporary infrastructure and vegetation removal will leave long-term scars, particularly in sensitive peatland areas where regeneration is slow or impossible.
- **Tourism and Local Economy Risks:**
  - The visual and cultural degradation will deter visitors, reducing tourism revenue and undermining local businesses reliant on the region's scenic and tranquil appeal.

Conclusion

The mitigation measures proposed in the EIA are insufficient to address the significant landscape and visual impacts of the Glenvernoch Wind Farm. Key residual risks, including the industrialisation of the Galloway Hills, degradation of iconic landmarks, and erosion of Dark Sky Park quality, remain unaddressed. These impacts are incompatible with the site's environmental and cultural sensitivities, further underscoring the unsuitability of the development.

7. CONCLUSION AND RECOMMENDATIONS

Overview

The Glenvernoch Wind Farm proposal poses profound and irreversible risks to the landscape character, visual integrity, and cultural heritage of the Galloway Hills. Despite minor design modifications and mitigation measures, the development remains incompatible with the area's environmental and cultural sensitivities. This chapter summarises the critical findings of the objection and provides detailed recommendations to address the identified deficiencies.

Key Findings

1. **Landscape Character and Visual Intrusion**
   - The turbines, even reduced in number, will dominate the Galloway Hills' iconic landscape, permanently altering its natural character.

- The proximity to sensitive receptors, such as Bruce's Stone, Loch Trool, and the Southern Upland Way, will degrade these sites' cultural, historical, and recreational value.

2. **Dark Sky Park Degradation**

   - The introduction of aviation lighting, even with radar-activated systems, will compromise the Galloway Forest Park's designation as a Dark Sky Park. This impact is incompatible with its global recognition and its role as a tourism and conservation asset.

3. **Cumulative Impacts**

   - The Glenvernoch Wind Farm will exacerbate cumulative landscape and visual impacts from existing and proposed developments in the area. EnergieKontor's EIA fails to adequately assess or mitigate these combined effects.

4. **Economic and Tourism Risks**

   - The industrialisation of the Galloway Hills will deter visitors, reducing tourism revenue and threatening the viability of local businesses reliant on the region's natural beauty and tranquillity.

5. **Insufficient Mitigation Measures**

   - Proposed mitigation strategies, including turbine repositioning, use of non-reflective materials, and vegetation reinstatement, are inadequate to offset the project's significant visual and landscape impacts.

Recommendations

1. **Rejection of the Glenvernoch Wind Farm Proposal**

   - The development's fundamental incompatibility with the Galloway Hills' landscape and cultural heritage necessitates its outright rejection.

2. **Enhanced Landscape and Visual Impact Assessment**

   - Require a comprehensive reassessment of landscape and visual impacts, incorporating cumulative effects with other developments, worst-case scenarios, and a detailed evaluation of impacts on sensitive receptors.

3. **Stronger Protections for Dark Sky Park**

   - Enforce stricter lighting restrictions to preserve the Dark Sky Park's integrity. Any development near the park should demonstrate zero impact on its dark sky quality.

4. **Promotion of Alternative Renewable Energy Sites**

   - Encourage renewable energy developments in less sensitive locations, avoiding areas of high landscape value and cultural significance.

5. **Preservation of Cultural and Recreational Assets**

   - Recognise Bruce's Stone, Loch Trool, and the Southern Upland Way as nationally significant assets requiring heightened protection.

   - Enforce planning policies that prioritise the preservation of these landmarks' visual and cultural integrity.

6. **Integration of Local and National Policy Frameworks**

   - Ensure alignment with policies, including National Planning Framework 4 (NPF4), and the European Landscape Convention (ELC), to safeguard the Galloway Hills' unique landscape and heritage.

Final Statement

The Glenvernoch Wind Farm proposal represents an existential threat to the Galloway Hills' landscape, visual identity, and cultural heritage. The turbines' scale, placement, and industrial nature are fundamentally at odds with the area's environmental sensitivities and recreational significance.

EnergieKontor's Environmental Impact Assessment underestimates the development's cumulative impacts, fails to provide robust mitigation measures, and overlooks the long-term consequences for tourism and local economies. The introduction of aviation lighting further compromises the Galloway Forest Park's Dark Sky designation, undermining its global reputation.

Approving this proposal would set a dangerous precedent for the industrialisation of Scotland's most valued landscapes. The recommendation is for the outright rejection of the Glenvernoch Wind Farm. Any future renewable energy developments must prioritise site-appropriate solutions that respect Scotland's landscape and cultural heritage while aligning with national and international policy frameworks.

OBJECTION TO SECTION 7 (EIA) – CULTURAL HERITAGE AND ARCHAEOLOGY

CONTENTS

References:

EnergieKontor Environmental Impact Assessment (EIA), Chapter 7 – Cultural Heritage and Archaeology:
Sections 7.1–7.5 (Assessment methodology and assumptions).
Sections 7.6–7.10 (Impact evaluations and mitigation measures).
National Planning Framework 4 (NPF4):
Policies on cultural heritage and regional identity.
European Landscape Convention (ELC):
Guidelines for preserving landscapes with significant cultural and historical value.
Historic Environment Scotland (HES):
Guidance on Scheduled Ancient Monuments (SAMs) and the management of archaeological resources.
The Ancient Monuments and Archaeological Areas Act 1979:
Legal framework for the protection of scheduled monuments.
Glenvernoch Heritage Study by Hands Off Our Hills:
Detailed analysis of historical settlements, including Glenluckoch and Craigie.
Insights into the historical use of the Black Rack Ford and associated smugglers' routes.
Clachaneasy Heritage Records (Ordnance Survey Name Books for Penninghame Parish):
Historical context for the fords and footpaths in the Glenvernoch area.
Cree Valley and Galloway Forest Archaeological Surveys:
Reports on the presence and significance of archaeological resources in the Galloway Hills.
European Convention on the Protection of the Archaeological Heritage (Revised, Valletta 1992):
International guidelines on managing archaeological sites impacted by development.
Scottish Historic Environment Policy (SHEP):
Policies for balancing development with heritage conservation.
Loch Trool and Bruce's Stone Historical Documentation:
Records detailing the cultural and historical significance of key landmarks impacted by the proposal.
Cultural Heritage Consultation Responses:
Feedback from local and national heritage organisations, including RSPB and local councils.
Glenluckoch and Craigie Settlement Historical Analysis:
HOOH Study detailing the historical significance of late medieval settlements and their potential destruction from turbine placement.
Dumfries and Galloway Local Development Plan 2 (LDP2):
Policies on the preservation of regional cultural heritage and archaeological assets.

1. NON-TECHNICAL SUMMARY AND SCOPE OF OBJECTION

Overview

The Glenvernoch Wind Farm proposal presents substantial risks to the rich cultural heritage and archaeological resources of Dumfries and Galloway. This area holds significant historical value, characterised by a unique blend of **Scheduled Ancient Monuments (SAMs)**, **Listed Buildings**, **archaeologically sensitive areas**, and **historic landscapes**, many of which date back to the prehistoric, medieval, and early modern periods. Despite this, the **Environmental Impact Assessment (EIA)** prepared by EnergieKontor fails to provide a comprehensive evaluation of the direct, indirect, and cumulative impacts of the development on these invaluable assets.

The proposed development involves the construction of 13 wind turbines, each with a tip height of 200 metres, situated within a highly sensitive cultural and historical landscape. The turbines and associated infrastructure, including access roads, construction compounds, and crane pads, threaten to irreversibly damage both tangible and intangible heritage resources. Furthermore, the cumulative impacts of this proposal, when combined with nearby developments such as **Blair Hill** and **Shennanton Wind Farms**, amplify the risks of degrading the region's unique cultural identity.

Key Areas of Concern

1. Visual and Setting Impacts

- **Scheduled Ancient Monuments (SAMs):**
    - Key sites such as **Bruce's Stone**, **Glenluckoch**, and **Craigie Settlements**, as well as archaeological sites near **Clachaneasy**, face substantial visual intrusion. The turbines will dominate the surrounding landscape, diminishing the cultural and historical context that defines these assets.
    - The turbines' visibility from SAMs is not just a visual concern but also devalues their historical narrative, such as the symbolism of Bruce's Stone in Scotland's national identity.
- **Listed Buildings and Conservation Areas:**
    - Historical buildings, including farmhouses, bridges, and religious structures in Newton Stewart, Bargrennan and surrounding villages, rely on their traditional rural settings to retain their cultural significance. The turbines disrupt this setting, undermining their heritage value and diminishing their contribution to local history.
- **Cultural Landscapes:**
    - The Galloway Hills are an iconic part of Scotland's cultural and historical fabric, celebrated in local folklore, national history, and regional identity. Industrialisation through turbine placement risks irreparable harm to these landscapes, severing connections between communities and their heritage.

2. Archaeological Damage

- **Known Archaeological Sites:**
    - The proposed site is home to documented archaeological resources, including prehistoric cairns, medieval boundaries, and remains of historic farmsteads such as those at **Glenluckoch** and **Craigie**. The EIA provides insufficient safeguards to prevent these sites from being damaged during construction activities such as excavation, road-building, and turbine installation.
    - Historical paths, such as those linking **Glenluckoch**, **Clachaneasy**, and other settlements, are not adequately protected in the development plan, despite their historical significance as possible packhorse and smuggling routes.
- **Undiscovered Archaeological Remains:**
    - Dumfries and Galloway is renowned for its archaeological richness, and the proposed development site has a high probability of containing **undiscovered prehistoric and medieval remains**. However, the EIA does not

include comprehensive surveys such as **geophysical assessments** or **trial trenching**, leaving significant archaeological risks unaddressed.

3. Cumulative Effects

- **Adjacent Developments:**
    - The proposed wind farm, when considered alongside **Blair Hill** and **Shennanton**, represents a concentrated industrialisation of historically significant landscapes. The combined visual and physical impacts of these developments will overshadow and devalue the cultural heritage of the Galloway Hills.
- **Loss of Regional Identity:**
    - The proliferation of turbines in a historically and culturally sensitive area diminishes the distinct identity of Dumfries and Galloway, replacing its historic landscapes with industrial features that contradict the area's heritage value.

4. Insufficient Mitigation Measures

- **Generic and Ineffective Proposals:**
    - The mitigation strategies outlined in the EIA are vague, generic, and insufficient to address the specific needs of the Glenvernoch site. Measures such as limited visual screening or basic archaeological monitoring fail to account for the scale and significance of the risks.
- **Lack of Long-Term Protections:**
    - The EIA does not propose enforceable safeguards to ensure that archaeological sites and historical landscapes are protected during all phases of the project, including construction, operation, and decommissioning.

Scope of Objection

This objection addresses the following critical issues arising from the inadequacies of the Glenvernoch Wind Farm proposal:

1. **Failure to Fully Assess Visual and Setting Impacts**:
    - The EIA neglects to adequately evaluate how the turbines and associated infrastructure will affect the **visibility, character, and context** of Scheduled Ancient Monuments, Listed Buildings, and cultural landscapes.
2. **Insufficient Archaeological Surveys and Safeguards**:
    - The absence of geophysical surveys, trial trenching, and other fieldwork leaves potential **below-ground archaeology** vulnerable to destruction. The lack of robust monitoring and contingency plans exacerbates these risks.
3. **Cumulative Effects of Regional Wind Farm Developments**:
    - The EIA does not account for the **combined visual and physical impacts** of Glenvernoch alongside Blair Hill, Shennanton, and other proposed developments. This oversight fails to consider the broader consequences for Dumfries and Galloway's cultural and historical landscapes.
4. **Inadequate Mitigation Measures**:
    - The generic and non-site-specific mitigation measures proposed in the EIA do not reflect the scale or complexity of the risks posed to heritage assets. Without enforceable protections, these assets remain vulnerable to irreversible harm.

The overarching objective of this objection is to safeguard the rich cultural heritage of Dumfries and Galloway by ensuring that any proposed development complies with national, regional, and international standards for heritage preservation.

2. POLICY AND LEGISLATIVE CONTRAVENTION

Overview

The Glenvernoch Wind Farm proposal breaches multiple policies and legislative frameworks designed to safeguard cultural heritage and archaeological resources. These contraventions highlight the inadequacy of EnergieKontor's Environmental Impact Assessment (EIA) and the unsuitability of the project in its current form. This section details the specific breaches of national, regional, and international policies, underscoring the need for the proposal's rejection or significant revision.

Key Contravention

1. National Planning Framework 4 (NPF4)

- **Policy Context**:
    - NPF4 sets out Scotland's planning priorities, emphasising the integration of cultural heritage considerations into development proposals. It requires developments to respect and conserve cultural and historical assets, with specific provisions for protecting the setting of Scheduled Ancient Monuments, Listed Buildings, and significant cultural landscapes.
- **Contravention**:

1. **Proximity to Key Heritage Sites**:
    - The turbines are positioned near Glenluckoch, Bruce's Stone, and Clachaneasy Bridge, threatening their historical integrity and visual prominence within the cultural landscape.
2. **Insufficient Cumulative Analysis**:
    - NPF4 mandates that cumulative impacts from adjacent developments be assessed. The EIA fails to adequately consider how Glenvernoch, in conjunction with Blair Hill and Shennanton, will erode the cultural fabric of the Galloway Hills.

2. Historic Environment Policy for Scotland (HEPS)

- **Policy Context**:
    - HEPS emphasises managing changes to Scotland's historic environment to protect its cultural value for future generations. Development proposals must minimise harm and maximise public benefit through sensitive planning.
- **Contravention**:

1. **Inadequate Mitigation of Visual Impacts**:
    - The turbines dominate views from Bruce's Stone and the Galloway Hills, undermining their historical narratives and public value.
2. **Neglect of Non-Designated Heritage Assets**:
    - HEPS requires equal consideration of designated and non-designated assets. The EIA's failure to propose detailed safeguards for non-designated sites is a significant oversight.

3. Dumfries and Galloway Local Development Plan 2 (LDP2)

- **Policy Context**:

- LDP2 prioritises the protection of archaeological and historical resources, recognising their importance to the region's cultural identity and economic wellbeing. It includes provisions to conserve landscapes with high cultural significance.

- **Contravention**:

1. **Encroachment on Historical Paths**:
    - The development encroaches on historically significant paths between Glenluckoch and Clachaneasy, disrupting their cultural and archaeological value.
2. **Insufficient Surveying and Safeguards**:
    - The lack of thorough archaeological surveys leaves many potential heritage sites vulnerable to destruction during construction.

4. Ancient Monuments and Archaeological Areas Act 1979

- **Policy Context**:
    - This Act protects Scheduled Ancient Monuments (SAMs) and their settings from direct and indirect harm caused by development activities.
- **Contravention**:

1. **Adverse Setting Impacts**:
    - Turbine placement within the visibility zones of Glenluckoch and other SAMs compromises their setting and contravenes the protections afforded by this Act.
2. **Physical Damage Risk**:
    - Construction activities, including excavation for turbine bases and access roads, pose a direct risk to known and undiscovered archaeological remains.

5. European Landscape Convention (ELC)

- **Policy Context**:
    - The ELC recognises landscapes as integral to cultural and historical identity and requires careful planning to maintain their value, particularly in areas of national and international significance.
- **Contravention**:

1. **Industrialisation of a Cultural Landscape**:
    - The introduction of 200-metre turbines into the historically significant Galloway Hills conflicts with the ELC's objectives, compromising the area's cultural and aesthetic integrity.
2. **Failure to Consider Intangible Heritage**:
    - The EIA disregards the intangible cultural value of the region's tranquillity, history, and connection to Scotland's national identity.

Implications of Policy Contravention

1. **Degradation of Cultural Heritage**:

- The proposal risks causing irreparable harm to Scotland's cultural legacy, diminishing the historical and archaeological value of the Galloway Hills.

2. **Legal and Planning Non-Compliance**:
    - Approving the proposal in its current form would set a dangerous precedent, undermining Scotland's legal and policy commitments to heritage preservation.
3. **Community and Tourism Impact**:
    - The industrialisation of the landscape will reduce its appeal to residents and tourists, threatening local economies reliant on cultural and heritage tourism.

Conclusion

The Glenvernoch Wind Farm proposal contravenes numerous policies and legislative frameworks at national, regional, and international levels. These breaches highlight the inadequacies of the EIA in addressing critical heritage concerns. The Energy Consents Unit (ECU) must reject this proposal or require significant revisions to ensure compliance with Scotland's robust heritage protection standards.

3. METHODOLOGY

Overview

This section evaluates the methodology employed by EnergieKontor in their Environmental Impact Assessment (EIA) for cultural heritage and archaeology. A robust and comprehensive methodology is critical to identify, assess, and mitigate the impacts on heritage assets. However, the methodology presented in the EIA exhibits significant deficiencies, including limited fieldwork, inadequate cumulative impact analysis, and insufficient stakeholder engagement. These shortcomings compromise the credibility of the assessment and its ability to protect Dumfries and Galloway's invaluable cultural and archaeological resources.

Assessment Framework

1. Scope and Coverage

- **Strengths**:
    - The EIA acknowledges the presence of key heritage assets such as **Bruce's Stone**, **Clachaneasy Bridge**, and the **medieval settlements of Glenluckoch and Craigie**.
    - Scheduled Ancient Monuments (SAMs), Listed Buildings, and certain Conservation Areas are included in the assessment.
- **Weaknesses**:
    - **Narrow Focus**: The EIA places disproportionate emphasis on designated heritage assets, while **non-designated assets** (e.g., historical paths, potential below-ground archaeology) are underrepresented.
    - **Cumulative Impacts Ignored**: The scope fails to address the cumulative effects of the Glenvernoch Wind Farm in conjunction with adjacent developments such as **Blair Hill** and **Shennanton**, neglecting their combined impact on the cultural landscape.
    - **Construction-Phase Impacts**: The methodology lacks detailed analysis of how construction activities (e.g., excavation, vibration, access road construction) may directly or indirectly harm archaeological resources.

2. Baseline Data Collection

- **Strengths**:

- The EIA references publicly available datasets, including the **Historic Environment Scotland (HES) database**, the **Dumfries and Galloway Historic Environment Record (HER)**, and other secondary sources.

- **Weaknesses**:
  - **Limited Field Surveys**: The reliance on desk-based assessments without **geophysical surveys**, **trial trenching**, or extensive field studies leaves the full archaeological potential of the site unexamined.
  - **Undocumented Heritage Assets**: Potentially significant below-ground archaeology and unrecorded heritage features are at risk of being overlooked, given the limited baseline data.
  - **Inadequate Mapping**: The absence of detailed mapping for non-designated assets, historical pathways, and interconnected cultural landscapes undermines the depth of the baseline assessment.

3. Impact Assessment Methodology

- **Strengths**:
  - The EIA identifies potential **visual impacts** on prominent heritage assets such as Bruce's Stone and the Galloway Hills.

- **Weaknesses**:
  - **Lack of Holistic Setting Analysis**: The assessment fails to consider the cumulative setting impacts on broader cultural landscapes, focusing narrowly on individual assets.
  - **Insufficient Sensitivity Analysis**: The EIA does not evaluate the degree of sensitivity for assets such as historical pathways, nor does it analyse the impact of turbine visibility on the cultural significance of these routes.
  - **Physical Impact Oversight**: The methodology neglects to address potential construction-related damage, including ground disturbance effects on buried archaeological remains.

4. Cumulative Impact Analysis

- **Weaknesses**:
  - **Adjacent Developments Overlooked**: The EIA does not evaluate how Glenvernoch Wind Farm, Blair Hill, Shennanton, and potentially Balunton will collectively affect the visual and physical integrity of the region's cultural heritage.
  - **Fragmentation of Cultural Landscapes**: The combined effects of multiple wind farms on the historically significant Galloway Hills are not accounted for, undermining the assessment's comprehensiveness.

5. Mitigation Strategies

- **Weaknesses**:
  - **Generic Proposals**: Mitigation strategies in the EIA lack specificity and fail to address the unique challenges of the Glenvernoch site.
  - **Lack of Preventative Measures**: The EIA does not propose sufficient archaeological monitoring, geophysical surveys, or contingency plans for unexpected discoveries during construction.
  - **Residual Impacts Ignored**: Visual impacts on prominent heritage sites, such as Bruce's Stone, are inadequately addressed, with no clear plans to minimise long-term harm.

Methodological Gaps and Limitations

1. **Limited Fieldwork**:

- The absence of geophysical surveys, trial trenching, and detailed field investigations leaves critical questions unanswered regarding the site's archaeological potential.

2. **Failure to Engage Local Expertise**:
    - Insufficient consultation with local historians, archaeologists, and heritage groups limits the accuracy and depth of the assessment.
3. **Neglect of Intangible Heritage**:
    - The EIA overlooks the cultural and historical narratives tied to the region's landscapes, such as the symbolic significance of Bruce's Stone and historic pathways.
4. **Inadequate Stakeholder Consultation**:
    - Minimal engagement with local communities and heritage organisations undermines the inclusivity and validity of the assessment process.

Recommendations for Methodological Improvements

1. **Enhanced Baseline Studies**:
    - Conduct comprehensive fieldwork, including **geophysical surveys** and **trial trenching**, to identify below-ground archaeology.
    - Map non-designated heritage assets, such as pathways, historic boundaries, and unrecorded sites, to provide a more complete picture of the area's cultural significance.
2. **Improved Impact Assessments**:
    - Undertake detailed sensitivity analyses for visual and setting impacts on key heritage sites and cultural landscapes.
    - Include specific evaluations of construction-phase impacts, particularly on buried archaeology.
3. **Comprehensive Cumulative Impact Analysis**:
    - Incorporate the cumulative effects of adjacent developments into the EIA, assessing their combined impact on the Galloway Hills and Dumfries and Galloway's cultural identity.
4. **Robust Mitigation Strategies**:
    - Develop site-specific plans, including archaeological monitoring during all construction phases, contingency plans for unexpected discoveries, and measures to minimise residual visual impacts.
5. **Stakeholder Engagement**:
    - Collaborate with local historians, archaeologists, and heritage societies to enhance the assessment and ensure that all relevant assets are identified and protected.

Conclusion

The methodology adopted in EnergieKontor's EIA is inadequate for fully assessing and mitigating the impacts of the Glenvernoch Wind Farm on cultural heritage and archaeology. Significant gaps in baseline data collection, impact analysis, and mitigation planning compromise the validity of the assessment. To align with best practices, the EIA must be revised to address these deficiencies comprehensively, ensuring the protection of Dumfries and Galloway's invaluable cultural and historical resources.

4. BASELINE CONDITIONS

Overview

The Glenvernoch Wind Farm site and its surrounding areas hold exceptional cultural, historical, and archaeological significance. These include **Scheduled Ancient Monuments (SAMs)**, **Listed Buildings**, **archaeologically sensitive areas**, and **historic landscapes**. However, the baseline conditions presented in EnergieKontor's Environmental Impact Assessment (EIA) are incomplete and fail to capture the full extent of these heritage assets. This section critically evaluates the baseline conditions as described in the EIA, highlights key omissions, and identifies the broader historical context of the area.

Key Heritage Assets Identified in the EIA

1. Scheduled Ancient Monuments (SAMs)

- **Listed Sites**:
    - The EIA identifies several SAMs within the development's zone of theoretical visibility (ZTV), including **prehistoric cairns**, **standing stones**, and **fortified settlements**. These monuments represent tangible connections to the area's prehistoric and early medieval past.
- **Gaps in Assessment**:
    - The evaluation focuses narrowly on visual impacts, ignoring potential physical risks such as vibration damage or ground disturbance during construction.
    - Limited consideration is given to the **cultural context** of these monuments, including their interconnectivity within the landscape and their role in local history.

2. Listed Buildings

- **Identified Sites**:
    - The EIA recognises several Listed Buildings within Newton Stewart and its vicinity, including **historical farmhouses**, **bridges**, and **religious structures**.
- **Assessment Deficiencies**:
    - The analysis fails to address the broader impacts of changes in setting, such as how turbine visibility and construction noise might erode the historic ambience and aesthetic value of these buildings.

3. Non-Designated Heritage Assets

- **Historical Paths and Trails**:
    - Significant pathways linking **Glenluckoch**, **Clachaneasy**, and other settlements are omitted from the EIA despite their historical importance as **packhorse routes** and **smuggling paths** during the medieval and early modern periods.
- **Settlements of Glenluckoch and Craigie**:
    - The medieval farmsteads at Glenluckoch and Craigie are recognised in local historical studies but receive insufficient attention in the EIA. These sites are vulnerable to direct impacts from turbine installation and road construction.

4. Cultural Landscapes

- **Iconic Sites**:
    - The **Galloway Hills**, **Bruce's Stone**, and **Loch Trool** are deeply embedded in Scotland's cultural history, particularly in narratives surrounding **Robert the Bruce** and the **Wars of Scottish Independence**.

- These landscapes form part of an interconnected cultural and historical network that the EIA fails to adequately consider.

- **Assessment Weaknesses**:
  - While some visual impacts are acknowledged, the EIA overlooks the **intangible cultural significance** of these landscapes, including their role in local identity, folklore, and tourism.

Archaeological Potential

1. Known Archaeological Sites

- **Existing Features**:
  - The development site includes cairns, ancient boundaries, and other documented archaeological features.
- **Assessment Gaps**:
  - The EIA lacks detail on how these features will be monitored, protected, or mitigated during construction and operational phases.

2. Unknown Archaeological Features

- **Potential Discoveries**:
  - The region has a high likelihood of containing undiscovered archaeological remains due to its history of prehistoric activity, medieval farming, and early settlement.
- **Deficiencies**:
  - The absence of **geophysical surveys**, **trial trenching**, or other proactive investigations leaves significant gaps in understanding the site's full archaeological potential.

Cultural and Historical Context

1. Local and National Heritage

- **Bruce's Stone and Loch Trool**:
  - These landmarks are central to Scotland's historical narrative, commemorating pivotal moments in the Wars of Scottish Independence. Their cultural significance extends beyond their physical presence, drawing visitors seeking to connect with national heritage.
- **The Galloway Hills**:
  - The hills are steeped in history, folklore, and natural beauty, serving as a source of cultural pride and identity for local communities.

2. Intangible Heritage

- **Community Value**:
  - The historical narratives tied to the Glenvernoch area, including smuggling routes and medieval settlements, represent a rich cultural tapestry that is underrepresented in the EIA.
- **Tourism and Education**:
  - The area attracts visitors interested in exploring its historical and cultural assets. The industrialisation of the landscape risks diminishing its educational and touristic appeal.

Key Omissions in the EIA's Baseline Conditions

1. **Comprehensive Mapping**:
    - The EIA lacks detailed mapping of non-designated heritage assets, historical paths, and interconnected cultural landscapes.
2. **Intangible Cultural Heritage**:
    - Limited recognition of the intangible cultural value tied to historical narratives, community identity, and local traditions.
3. **Stakeholder Input**:
    - Insufficient engagement with local historians, heritage groups, and archaeologists to identify undocumented or overlooked heritage assets.
4. **Cumulative Impact Analysis**:
    - The EIA fails to consider how Glenvernoch's impacts combine with those of Blair Hill and Shennanton to degrade the region's cultural and archaeological resources.

Recommendations for Baseline Improvements

1. **Comprehensive Field Surveys**:
    - Conduct **geophysical investigations**, **trial trenching**, and other detailed studies to identify below-ground archaeology and undocumented heritage assets.
2. **Cultural Landscape Analysis**:
    - Expand the assessment to include the **interconnected nature of landscapes**, focusing on their role in local and national heritage.
3. **Community and Stakeholder Engagement**:
    - Collaborate with local historians, heritage societies, and community members to enrich the baseline conditions and ensure no significant assets are overlooked.
4. **Cumulative Assessment**:
    - Incorporate a thorough evaluation of the combined impacts of Glenvernoch and nearby wind farms on the region's cultural and historical character.

Conclusion

The baseline conditions presented in the EIA fail to adequately reflect the cultural, historical, and archaeological richness of the Glenvernoch Wind Farm site and its surroundings. Significant omissions in fieldwork, stakeholder engagement, and cultural context undermine the credibility of the assessment. A revised and comprehensive approach is essential to protect the region's invaluable heritage.

5. IDENTIFICATION AND EVALUATION OF KEY EFFECTS

Overview

The Glenvernoch Wind Farm proposal, as outlined in the Environmental Impact Assessment (EIA), poses substantial risks to the cultural heritage and archaeological assets of Dumfries and Galloway. The assessment of impacts on Scheduled Ancient Monuments (SAMs), Listed Buildings, and non-designated assets is inadequate, with significant gaps in the identification of

direct, indirect, and cumulative effects. This section evaluates the potential harm caused by the proposed development, highlighting the deficiencies in the EIA's analysis and the broader implications for the region's cultural and historical integrity.

Key Effects Identified

1. Visual and Setting Impacts

- **Scheduled Ancient Monuments (SAMs):**
    - **Bruce's Stone**: The turbines will dominate the viewshed of Bruce's Stone, a nationally significant monument commemorating Scotland's struggle for independence. The visual intrusion undermines its historical context and symbolic value.
    - **Clachaneasy Cairns and Fortified Sites**: The turbines' proximity to prehistoric and medieval monuments diminishes their setting, reducing their visibility as focal points within the cultural landscape.
- **Listed Buildings:**
    - The setting of Listed farmhouses and bridges in Newton Stewart and nearby villages will be significantly affected. The turbines' industrial scale and visual prominence detract from the historic rural character of these structures.
- **Cultural Landscapes:**
    - The **Galloway Hills**, a historically significant landscape, will face industrialisation, disrupting their role as a cultural and historical backdrop. The impact extends beyond individual monuments, eroding the region's broader cultural narrative.

2. Physical and Structural Impacts

- **Archaeological Sites:**
    - Construction activities, including excavation for turbine bases, crane pads, and access roads, risk damaging known and undiscovered archaeological features. This includes prehistoric cairns and medieval farmsteads at **Glenluckoch** and **Craigie**.
- **Historical Pathways:**
    - Construction may sever or destroy historic trails linking **Clachaneasy**, **Glenluckoch**, and other settlements. These paths are not only physical remnants of history but also connectors of cultural narratives.

3. Cumulative Impacts

- **Regional Industrialisation:**
    - The combined effects of Glenvernoch, Blair Hill, Shennanton, and potentially Balunton developments create a concentrated zone of visual and physical impact, degrading the cultural character of the Galloway Hills.
    - Overlapping visibility zones amplify the effects on SAMs, Listed Buildings, and cultural landscapes, reducing their significance on a regional scale.
- **Loss of Landscape Integrity:**
    - The cumulative impact of multiple turbine developments threatens to transform a historically significant rural area into an industrial landscape, undermining its cultural identity.

4. Intangible Cultural Heritage

- **Community Identity and Pride:**

- The turbines disrupt the sense of place and cultural identity tied to the Galloway Hills. Monuments such as Bruce's Stone and the interconnected landscapes are key to local and national historical narratives.
- The industrialisation of these landscapes diminishes the intangible heritage value of tranquillity, storytelling, and historical connections.

- **Tourism and Economic Impact:**
  - The degradation of heritage assets reduces their appeal to visitors, impacting local businesses reliant on cultural tourism. Bruce's Stone, Loch Trool, and the Galloway Hills are integral to the area's economy, drawing visitors seeking a connection to Scotland's past.

Evaluation of Key Effects

1. Direct Effects

- The turbines and associated infrastructure will physically alter the landscape, damaging archaeological sites and diminishing the setting of key heritage assets.
- Construction-phase activities, including heavy machinery operations and excavation, pose significant risks to subsurface archaeology.

2. Indirect Effects

- The visibility of turbines from SAMs, Listed Buildings, and cultural landscapes undermines their contextual significance, affecting public perception and appreciation of these assets.

3. Cumulative Effects

- The combined impacts of Glenvernoch and adjacent wind farms exacerbate the visual and physical degradation of the region, creating a cascading effect on cultural heritage and community identity.

4. Residual Effects

- Even with mitigation, the industrialisation of the landscape and loss of cultural significance are likely to be permanent. The EIA does not adequately address these long-term impacts, leaving key heritage assets at risk.

Deficiencies in the EIA's Analysis

1. **Insufficient Scope**:
   - The EIA fails to fully evaluate the interconnectedness of cultural landscapes, treating assets as isolated entities rather than part of a cohesive historical narrative.
2. **Lack of Detailed Surveys**:
   - The absence of geophysical surveys and trial trenching leaves significant archaeological risks unaddressed.
3. **Neglect of Cumulative Impacts**:
   - The assessment does not account for the combined effects of Glenvernoch and neighbouring developments, underestimating their collective harm to the region's heritage.
4. **Minimal Stakeholder Consultation**:
   - Limited engagement with local communities, historians, and heritage organisations undermines the credibility and inclusivity of the assessment.

Recommendations for Comprehensive Impact Evaluation

1. **Expanded Visual Impact Assessments**:
    - Conduct detailed sensitivity analyses to assess the effects of turbine visibility on SAMs, Listed Buildings, and cultural landscapes.
2. **Geophysical Surveys and Archaeological Fieldwork**:
    - Undertake comprehensive field surveys to identify below-ground archaeology and assess the full extent of potential damage.
3. **Cumulative Impact Analysis**:
    - Evaluate how Glenvernoch and adjacent developments collectively affect the region's cultural heritage, including overlapping visibility zones and landscape fragmentation.
4. **Stakeholder Collaboration**:
    - Engage with local historians, heritage groups, and community stakeholders to identify overlooked assets and ensure their protection.

Conclusion

The Glenvernoch Wind Farm proposal threatens significant and irreplaceable cultural heritage assets through direct, indirect, and cumulative effects. The EIA's failure to comprehensively identify and evaluate these impacts underscores the need for a more robust and inclusive assessment. Without significant revisions, the proposal risks irreparable harm to Dumfries and Galloway's cultural identity, historical narrative, and economic wellbeing.

6. MITIGATION MEASURES AND RESIDUAL RISKS

Overview

The mitigation measures proposed in EnergieKontor's Environmental Impact Assessment (EIA) are insufficient to address the significant risks posed by the Glenvernoch Wind Farm to cultural heritage and archaeological resources. Generic and non-site-specific strategies fail to account for the unique historical and cultural significance of the area. This section critically evaluates the proposed mitigation measures, identifies gaps, and outlines residual risks that remain unaddressed.

Proposed Mitigation Measures in the EIA

1. Visual and Setting Impacts

- **Proposed Measures**:
    - Limited visual screening through tree planting or land shaping to reduce the prominence of turbines in the viewshed.
    - Use of muted turbine colours to minimise visual intrusion.
- **Assessment**:
    - These measures are inadequate for mitigating the impact of 200-metre turbines on key heritage sites such as Bruce's Stone and the Galloway Hills. The sheer scale of the turbines makes screening ineffective, and colour adjustments do not address visibility from high-elevation viewpoints.
    - No specific measures are proposed to mitigate cumulative visual impacts with adjacent developments such as Blair Hill and Shennanton.

2. Physical and Structural Impacts

- **Proposed Measures**:

- Pre-construction archaeological surveys to identify known features.
- Monitoring of excavation activities to detect and record subsurface archaeology.

- **Assessment**:
  - While pre-construction surveys are a step in the right direction, the EIA lacks detail on methodologies such as **geophysical surveys** or **trial trenching**, which are essential for identifying below-ground remains.
  - Reactive monitoring during excavation is insufficient to protect heritage assets from unanticipated discoveries, as it does not prevent initial damage.

3. Cumulative Impacts

- **Proposed Measures**:
  - The EIA does not propose specific mitigation strategies for cumulative impacts from Glenvernoch and adjacent wind farms.
- **Assessment**:
  - This omission represents a major shortcoming. The cumulative industrialisation of the Galloway Hills requires regional strategies to manage overlapping visibility zones, shared infrastructure impacts, and landscape fragmentation.

4. Residual Visual and Landscape Impacts

- **Proposed Measures**:
  - Minimal residual impact acknowledgment, with no robust proposals for long-term visual mitigation.
- **Assessment**:
  - The EIA assumes that residual visual impacts are inevitable, offering no creative solutions such as rewilding, compensatory conservation efforts, or enhanced public access to offset cultural losses.

Residual Risks

1. **Unaddressed Archaeological Damage**:
   - Without thorough field surveys, the risk of damaging undiscovered archaeological resources remains high. Monitoring alone does not prevent irreversible harm to buried remains during construction.
2. **Permanent Landscape Transformation**:
   - The visual dominance of turbines and associated infrastructure will permanently alter the character of the Galloway Hills and the settings of key heritage sites. This transformation is unlikely to be mitigated by tree planting or colour adjustments.
3. **Cumulative Impacts Ignored**:
   - The failure to address cumulative effects with nearby developments compounds the degradation of the region's cultural landscape, with no strategies to limit or offset these broader impacts.
4. **Loss of Intangible Heritage**:
   - The turbines disrupt the cultural narrative and community identity tied to the region's landscapes and landmarks. This intangible loss is neither acknowledged nor mitigated in the EIA.
5. **Tourism and Economic Risks**:

- Residual visual impacts on heritage assets such as Bruce's Stone and the Galloway Hills reduce their appeal to visitors, threatening local businesses reliant on heritage tourism.

Recommendations for Enhanced Mitigation Measures

1. **Comprehensive Archaeological Surveys**:
    - Conduct detailed **geophysical investigations**, **trial trenching**, and community-led surveys to identify and map below-ground archaeology.
    - Implement a pre-emptive rescue excavation programme for areas of high archaeological potential.
2. **Enhanced Visual Mitigation**:
    - Explore creative solutions such as **underground infrastructure placement** where possible, **innovative turbine design**, or **adaptive reuse** of existing structures to minimise landscape intrusion.
    - Develop long-term strategies for rewilding or compensatory habitat creation to offset visual and ecological impacts.
3. **Cumulative Impact Strategies**:
    - Collaborate with developers of adjacent wind farms to create a unified mitigation plan that addresses overlapping visual, physical, and ecological effects.
    - Propose regional compensatory measures, such as the establishment of protected heritage zones or funding for local conservation projects.
4. **Intangible Heritage Preservation**:
    - Incorporate community-led initiatives to document and preserve oral histories, local folklore, and cultural narratives tied to the Galloway Hills.
    - Fund educational programmes or interpretative installations that highlight the region's history, ensuring its legacy endures despite landscape changes.
5. **Economic Offsets**:
    - Develop community benefit schemes to support heritage tourism and cultural projects, providing financial compensation for lost economic opportunities due to the project's impacts.

Conclusion

The mitigation measures proposed in the EIA are inadequate to address the scale and complexity of impacts posed by the Glenvernoch Wind Farm. Key risks, including archaeological damage, cumulative visual impacts, and intangible heritage losses, remain unaddressed. To safeguard Dumfries and Galloway's cultural and historical legacy, significant enhancements to the mitigation strategy are required, including comprehensive surveys, innovative visual solutions, and regional collaboration.

7. CONCLUSION AND RECOMMENDATIONS

Overview

The Glenvernoch Wind Farm proposal represents a significant and unacceptable threat to the cultural heritage, archaeological assets, and historical landscapes of Dumfries and Galloway. The Environmental Impact Assessment (EIA) submitted by EnergieKontor fails to comprehensively assess the risks, address cumulative impacts, or propose adequate mitigation strategies. Approval of this development in its current form would result in irreversible harm to the region's unique cultural identity, its historic assets, and the communities that rely on them for economic, social, and cultural wellbeing.

This section provides a clear and detailed recommendation for the rejection of the proposal by the Energy Consents Unit (ECU), supported by evidence from preceding sections.

Key Findings

1. **Non-Compliance with Policy and Legislation**:
    - The proposal contravenes multiple legislative frameworks, including the **National Planning Framework 4 (NPF4)**, and the **Ancient Monuments and Archaeological Areas Act 1979**.
    - It fails to meet the requirements of international agreements, such as the **European Landscape Convention (ELC)**, and neglects local policies under the **Dumfries and Galloway Local Development Plan 2 (LDP2)**.
2. **Irreversible Visual and Setting Impacts**:
    - The turbines will dominate viewsheds of Scheduled Ancient Monuments (SAMs) like **Bruce's Stone**, historic paths, and Listed Buildings, permanently altering their settings and reducing their cultural significance.
    - The industrialisation of the **Galloway Hills** threatens their role as a cohesive cultural landscape, diminishing their aesthetic and historical integrity.
3. **Physical and Archaeological Damage**:
    - Construction activities pose a high risk of damaging or destroying known and undiscovered archaeological resources, including prehistoric cairns, medieval settlements, and historical paths.
    - The EIA's reliance on limited surveys and reactive monitoring is inadequate to protect these assets.
4. **Cumulative Impacts**:
    - The proposal does not adequately address the cumulative effects of Glenvernoch in conjunction with adjacent developments such as Blair Hill and Shennanton wind farms.
    - Combined impacts exacerbate visual intrusion, landscape fragmentation, and cultural heritage degradation on a regional scale.
5. **Inadequate Mitigation Measures**:
    - The generic mitigation strategies proposed in the EIA lack specificity, fail to address cumulative impacts, and provide no enforceable safeguards for long-term protection.
6. **Loss of Intangible Heritage and Economic Value**:
    - The turbines disrupt the cultural narratives and community identity tied to the Galloway Hills and landmarks like Bruce's Stone.
    - Reduced appeal to visitors threatens the local economy, which relies heavily on cultural tourism linked to the region's historical and archaeological assets.

Recommendations

1. Rejection of the Proposal

- The Energy Consents Unit (ECU) should reject the Glenvernoch Wind Farm application in its current form due to:
    - Significant non-compliance with legislative and policy frameworks.
    - The irreversible harm it poses to Scheduled Ancient Monuments, Listed Buildings, and cultural landscapes.
    - The failure to mitigate cumulative impacts with adjacent developments.

- Insufficient protection for archaeological resources.

2. Mandatory Revision Requirements

Should the developer seek to resubmit or revise the proposal, the following requirements must be imposed:

1. **Comprehensive Impact Assessments**:
    - Conduct detailed **geophysical surveys**, **trial trenching**, and **archaeological monitoring** to ensure all known and undiscovered heritage assets are identified and safeguarded.
    - Perform cumulative impact analyses that account for the combined effects of Glenvernoch, Blair Hill, and Shennanton wind farms.
2. **Enhanced Mitigation Measures**:
    - Propose site-specific mitigation strategies, including archaeological monitoring during construction, compensatory conservation efforts, and visual impact reductions through innovative design.
    - Develop enforceable long-term management plans to safeguard heritage assets during all phases of the project.
3. **Stakeholder Engagement and Transparency**:
    - Collaborate with local heritage organisations, archaeologists, and community groups to ensure a holistic approach to cultural heritage protection.
    - Incorporate public consultation feedback into the planning and mitigation processes.
4. **Regional Conservation Commitments**:
    - Establish a regional fund or conservation programme to offset the cultural and visual impacts of wind farm developments, supporting heritage preservation and community initiatives.

3. Alternative Development Strategies

- Encourage the developer to explore alternative turbine placements or smaller-scale projects that minimise intrusion on sensitive cultural landscapes and heritage sites, the Galloway Hills are deemed as not a suitable locations for turbines this scale, and as such scooping within the Galloway Hills should be prohibited.

Conclusion

The Glenvernoch Wind Farm proposal, as it stands, is incompatible with Scotland's robust commitment to cultural heritage preservation and sustainable development. The Energy Consents Unit (ECU) has a responsibility to protect Dumfries and Galloway's unique historical legacy by rejecting this application or requiring substantial revisions to ensure compliance with all relevant legislation and policies.

By safeguarding the region's cultural and archaeological assets, the ECU will uphold Scotland's international reputation for heritage protection and support the long-term wellbeing of its communities and landscapes.

OBJECTION TO SECTION 8 (EIA) – ORNITHOLOGY

CONTENTS

References:

1. EnergieKontor EIA, Chapter 8 – Ornithological Assessment (Sections 8.1–8.12).
2. Wildlife and Countryside Act 1981.
3. EU Birds Directive (Directive 2009/147/EC).
4. UK Biodiversity Action Plan (UKBAP) (1994).
5. NatureScot Guidance on Assessing the Impact of Wind Farms on Birds (2020).
6. RSPB Report on Scotland's Birds of Conservation Concern (2023).
7. HANDS OFF OUR HILLS Ornithological Report by LANE Research Team.
8. Cumulative Impact Assessment for Kilgallioch Wind Farm (2018).
9. NatureScot Peatland Restoration Guidelines (2019).

1. NON-TECHNICAL SUMMARY AND SCOPE OF OBJECTION

Overview

The Glenvernoch Wind Farm proposal poses significant risks to avian biodiversity in the Galloway Hills, a region renowned for its rich ornithological heritage. The Environmental Impact Assessment (EIA) by EnergieKontor fails to adequately assess or mitigate the adverse impacts on bird species of conservation concern, including species protected under national and international legislation.

The objection identifies key deficiencies in the EIA's methodology, baseline data collection, and proposed mitigation measures. It also highlights the risks to breeding, migratory, and overwintering birds, as well as cumulative impacts from nearby wind farm developments.

Key Areas of Concern

1. **Protected Bird Species and Habitats**
    - Potential displacement, collision risks, and habitat fragmentation for species listed under Annex I of the EU Birds Directive, such as hen harrier, golden eagle, and merlin.
    - Significant risks to red-listed species, including curlew and lapwing, which are already in decline across Scotland.
2. **Inadequate Assessment and Data Collection**
    - Insufficient ornithological surveys, particularly for nocturnal and migratory species.
    - Failure to evaluate cumulative impacts with nearby wind farms, such as Kilgallioch and proposed developments like Blair Hill.
3. **Cumulative Impacts**
    - Overlapping risks to bird populations from multiple developments in the region, creating a significant cumulative threat.
4. **Insufficient Mitigation Measures**
    - Lack of specific and enforceable measures to mitigate displacement, habitat loss, and collision risks for key species.

Scope of Objection

This objection calls for:

1. A comprehensive reassessment of the ornithological impacts, including baseline surveys and cumulative impact analysis.
2. Robust and enforceable mitigation strategies tailored to the needs of affected species.
3. Rejection of the proposal in its current form due to its failure to align with legal and policy frameworks aimed at protecting avian biodiversity.

2. POLICY AND LEGISLATIVE CONTRAVENTION

Overview

The Glenvernoch Wind Farm proposal breaches multiple national and international policies and legislative frameworks designed to protect avian biodiversity. The Environmental Impact Assessment (EIA) by EnergieKontor fails to demonstrate compliance with these requirements, particularly in mitigating risks to protected bird species and habitats.

Key Contravention

1. **EU Birds Directive (2009/147/EC)**
    - **Policy Context**: The Birds Directive requires Member States to ensure the protection of wild birds, particularly those listed in Annex I, by preserving their habitats and preventing activities that could harm populations.
    - **Contravention**:
        - The EIA inadequately addresses risks to Annex I species such as hen harrier, golden eagle, and merlin.
        - The proposal's turbine placement poses collision risks and displacement effects, with no robust mitigation measures provided.
2. **Wildlife and Countryside Act 1981 (as amended)**
    - **Policy Context**: This Act provides legal protection to wild birds, their nests, and habitats in Scotland, making it an offence to harm or disturb protected species.
    - **Contravention**:
        - Disturbance and displacement risks to breeding birds such as curlew and lapwing are not sufficiently mitigated.
        - Failure to prevent potential damage to critical nesting sites for Schedule 1 species.
3. **National Planning Framework 4 (NPF4)**
    - **Policy Context**: NPF4 prioritises biodiversity enhancement and sustainable development, requiring wind energy proposals to avoid significant impacts on protected species and their habitats.
    - **Contravention**:
        - The proposal does not align with NPF4's biodiversity commitments due to its insufficient evaluation of ornithological risks.
        - Inadequate consideration of cumulative impacts undermines the Framework's goal of protecting Scotland's natural heritage.
4. **Dumfries and Galloway Local Development Plan 2 (LDP2)**
    - **Policy Context**: LDP2 prioritises the protection of biodiversity and requires developments to avoid significant impacts on natural heritage assets.
    - **Contravention**:
        - The proposal threatens key bird habitats, contravening policies aimed at preserving local biodiversity.
        - The cumulative impacts of multiple wind farms in the region are not adequately assessed, breaching LDP2's biodiversity safeguards.
5. **Convention on the Conservation of Migratory Species of Wild Animals (CMS)**

- **Policy Context**: CMS commits parties to protect migratory species and their habitats, particularly in flyways and critical stopover areas.
- **Contravention**:
  - Insufficient assessment of risks to migratory birds passing through the site, particularly during nocturnal migration.

Policy Implications

The Glenvernoch Wind Farm proposal's failure to comply with these policies and legislative frameworks jeopardises its viability. The risks to protected bird species and habitats directly contravene Scotland's commitments to biodiversity conservation and sustainable development.

3. METHODOLOGY

Overview

The methodology used to evaluate the ornithological impacts of the Glenvernoch Wind Farm proposal is fundamentally flawed and lacks the robustness required for such a sensitive development. EnergieKontor's Environmental Impact Assessment (EIA) fails to meet the necessary standards for baseline data collection, impact evaluation, and mitigation planning. This section critiques the methodology employed, highlighting key deficiencies and recommending improvements.

Data Sources Used by EnergieKontor

1. **Baseline Surveys (EIA, Section 8.2)**
   - Breeding bird surveys, wintering bird counts, and vantage point (VP) surveys were conducted.
   - Species of interest include golden eagle, hen harrier, curlew, lapwing, and merlin.
2. **Collision Risk Modelling (EIA, Section 8.5)**
   - Used to estimate turbine collision risks for key species.
   - Based on flight height, turbine dimensions, and bird activity data.
3. **Desk-Based Review**
   - Consultations with NatureScot, RSPB Scotland, and the Dumfries and Galloway Biodiversity Action Plan.
4. **Cumulative Impact Assessment (EIA, Section 8.9)**
   - Considered the potential overlapping impacts of other wind farm developments in the region, including Blair Hill and Shennanton.

Assessment Criteria Applied in This Objection

1. **Baseline Data Collection**
   - Evaluation of survey methodologies and the adequacy of data on bird populations and activity.
2. **Collision Risk Modelling**
   - Examination of assumptions, accuracy, and data inputs used in the modelling process.
3. **Cumulative Impact Analysis**
   - Review of how the EIA addresses combined impacts with existing and proposed wind farms in the area.
4. **Mitigation Measures**

- Analysis of proposed measures to minimise risks to protected bird species and their effectiveness.

Deficiencies in EnergieKontor's Methodology

1. **Inadequate Survey Coverage**
    - The baseline surveys failed to adequately cover the entire development area, particularly during key breeding and migration periods.
    - Insufficient survey effort was applied to nocturnal migratory species, which are highly vulnerable to turbine collisions.
2. **Poor Collision Risk Modelling**
    - Assumptions in the collision risk model fail to account for variations in flight behaviour during adverse weather conditions or nocturnal migrations.
    - Incomplete data on flight activity, particularly for species like golden eagle and hen harrier, compromises the accuracy of the model.
3. **Cumulative Impact Assessment Gaps**
    - The EIA does not provide a comprehensive evaluation of how Glenvernoch's impacts will interact with existing developments like Kilgallioch and proposed sites such as Blair Hill and Shennanton.
    - No detailed analysis of how cumulative impacts may exacerbate displacement, collision risks, or habitat fragmentation.
4. **Reliance on Outdated Data Sources**
    - Some references and datasets used in the desk-based review are outdated, failing to reflect current bird population dynamics and conservation priorities.
5. **Lack of Stakeholder Collaboration**
    - While consultations with NatureScot and RSPB Scotland were noted, there is no evidence that their recommendations have been fully integrated into the EIA.

Recommendations for Improvement

1. **Expanded Survey Coverage**
    - Conduct additional surveys during breeding, wintering, and migration seasons to capture a complete picture of bird activity.
    - Incorporate nocturnal monitoring methods, such as radar tracking, to assess risks to migratory species.
2. **Enhanced Collision Risk Modelling**
    - Use updated flight activity data and incorporate scenarios for adverse weather and nocturnal behaviour.
    - Validate model predictions through peer review and sensitivity testing.
3. **Comprehensive Cumulative Impact Assessment**
    - Integrate data from all existing and proposed wind farms in the region to evaluate the combined effects on bird populations.
4. **Stronger Collaboration with Stakeholders**

- Actively incorporate feedback from NatureScot, RSPB Scotland, and local conservation groups to address identified gaps in the assessment.

5. **Transparent Reporting**
    - Provide detailed explanations of methodologies, data inputs, and assumptions to ensure the assessment is robust and defensible.

4. BASELINE CONDITIONS

Overview

The baseline conditions outlined in EnergieKontor's Environmental Impact Assessment (EIA) fail to provide a comprehensive understanding of the ornithological context of the Glenvernoch Wind Farm site. The region is a critical habitat for a variety of bird species, including those of conservation concern, yet the data presented is insufficient to assess the full scope of potential impacts. This section evaluates the baseline conditions, highlighting the site's importance for bird populations and the shortcomings in the EIA's data collection and reporting.

Key Ornithological Features of the Site

1. **Designated Areas**
    - **RSPB Wood of Cree**: Scotland's largest ancient woodland, located near the site, supports diverse bird species including redstarts, pied flycatchers, and wood warblers.
    - **Galloway Hills Regional Scenic Area**: Offers critical habitats for upland species like golden eagle and peregrine falcon.
    - **River Cree Basin**: Provides feeding and nesting grounds for wading birds, including curlew and lapwing.
2. **Protected and Priority Species**
    - **Golden Eagle** (Schedule 1): Regularly observed in the area, with flight paths intersecting the development site.
    - **Hen Harrier** (Schedule 1): Utilises the site for foraging, particularly during winter.
    - **Curlew** (Red List): Known to nest in surrounding peatlands.
    - **Merlin** (Schedule 1): Vulnerable to turbine-related habitat fragmentation.
    - **Barn Owl** (Schedule 1): Frequently sighted in the region, particularly along site boundaries.
3. **Important Habitats**
    - **Peatlands**: Serve as critical nesting grounds for waders like curlew and snipe.
    - **Woodland Edges**: Provide shelter and feeding grounds for a range of passerine species.
    - **Open Moorland**: Essential for raptors and upland birds, which are sensitive to habitat disturbance.

EIA Deficiencies in Baseline Conditions

1. **Incomplete Survey Data**
    - Surveys failed to adequately monitor key periods such as nocturnal migration and early breeding seasons.
    - Limited data on nocturnal migratory birds, despite the high collision risk during night flights.
2. **Underrepresentation of Key Species**
    - Insufficient data on species like barn owl, merlin, and hen harrier, which are known to frequent the area.

- Failure to capture accurate population estimates for curlew and lapwing, both of which are declining at a national level.

3. **Gaps in Habitat Assessment**
    - No comprehensive mapping of nesting and feeding habitats within the development site.
    - Overlooked potential displacement effects on birds dependent on peatlands and open moorland.
4. **Cumulative Baseline Gaps**
    - Lack of integration of data from surrounding wind farms, such as Kilgallioch, and other proposed developments in the region.

Ecological Sensitivity of the Site

1. **Significance for Upland Raptors**
    - The Galloway Hills are one of Scotland's key landscapes for raptors, providing suitable nesting and foraging grounds for golden eagles and hen harriers.
    - Disturbance and habitat loss could have far-reaching impacts on regional raptor populations.
2. **Dependence of Wading Birds on Peatlands**
    - Species like curlew and lapwing rely on undisturbed peatlands for breeding. Any disruption could lead to population declines.
3. **Connectivity to Wider Ecosystems**
    - The site forms part of a larger ecological network, linking upland and lowland habitats. Disruption to this connectivity could have cascading effects on local biodiversity.

Recommendations for Baseline Data Collection

1. **Extended Survey Periods**
    - Conduct surveys during all critical periods, including nocturnal migrations and early breeding seasons.
    - Use radar technology to track nocturnal bird movements.
2. **Species-Specific Studies**
    - Focused studies on golden eagle, hen harrier, curlew, and other priority species to better understand their habitat use and movement patterns.
3. **Detailed Habitat Mapping**
    - Comprehensive mapping of nesting and feeding habitats within and around the development site.
4. **Cumulative Data Integration**
    - Include data from nearby wind farms and proposed developments to assess regional cumulative impacts.

5. IDENTIFICATION AND EVALUATION OF KEY EFFECTS

Overview

The Glenvernoch Wind Farm poses significant risks to local and regional bird populations through habitat disruption, collision risks, and displacement. Despite these potential impacts, EnergieKontor's Environmental Impact Assessment (EIA) fails to

provide a robust evaluation of the likely effects on ornithology. This section outlines the key impacts identified and evaluates the deficiencies in the EIA's assessment, focusing on the potential consequences for bird species and their habitats.

Key Identified Effects

1. **Collision Risks**
    - **Turbine Blades**: Birds flying within the rotor-swept area are at risk of collision, with high-risk species including golden eagle, hen harrier, and merlin.
    - **Night-Time Collisions**: Migratory birds are particularly vulnerable during nocturnal flights, especially given the lack of lighting mitigation measures.

EIA Deficiencies:

- The assessment underestimates collision risk for priority species like golden eagles, which are known to use the site for foraging.
- No radar-based studies to quantify nocturnal migratory movements.

2. **Habitat Loss and Fragmentation**
    - **Peatlands and Moorlands**: Construction activities will result in the loss of critical nesting and foraging habitats for curlew, lapwing, and other ground-nesting birds.
    - **Woodland Edges**: Habitat fragmentation along forest edges will disrupt passerine species such as pied flycatchers and wood warblers.

EIA Deficiencies:

- Habitat loss calculations exclude the indirect effects of displacement caused by noise and human activity.
- Fragmentation impacts on species reliant on large, continuous habitats are not addressed.

3. **Displacement and Disturbance**
    - **Noise and Vibration**: Construction noise and turbine operation will displace sensitive species, particularly during the breeding season.
    - **Human Activity**: Increased human presence during construction and maintenance phases will exacerbate displacement effects for raptors and waders.

EIA Deficiencies:

- No consideration of displacement distances for sensitive species like hen harrier and curlew.
- Overlooks the cumulative disturbance from nearby wind farms, such as Kilgallioch.

4. **Barrier Effects**
    - **Flight Path Disruption**: The wind farm's location may obstruct established flight paths for golden eagle and hen harrier, reducing access to key foraging areas.
    - **Cumulative Barrier Effect**: When combined with nearby wind farms, the turbines could create a network of obstacles that hinder regional bird movements.

EIA Deficiencies:

- Lack of modelling for barrier effects on raptors and migratory birds.

- No assessment of alternative foraging routes or their suitability.

5. **Cumulative Impacts**
    - **Existing and Proposed Wind Farms**: The interaction of Glenvernoch with nearby wind farms, including Kilgallioch and proposed developments like Blair Hill, will amplify risks to bird populations.
    - **Regional Bird Populations**: The cumulative impact could lead to declines in golden eagle, hen harrier, and curlew populations, among others.

EIA Deficiencies:

- Fails to integrate data from other wind farm projects in the region.
- Overlooks the additive impact of habitat loss, displacement, and collision risks.

Species-Specific Impacts

1. **Golden Eagle**
    - **Collision Risk**: High due to frequent low-altitude foraging flights.
    - **Displacement**: Noise and human activity could reduce prey availability, forcing eagles to relocate.
2. **Hen Harrier**
    - **Habitat Loss**: Open moorlands used for hunting will be fragmented by turbine and access road construction.
    - **Collision Risk**: Flight paths intersecting the site increase the likelihood of fatal collisions.
3. **Curlew**
    - **Breeding Habitat Loss**: Peatland disturbance will directly reduce nesting success.
    - **Displacement**: Construction noise will drive curlews away from established nesting sites.
4. **Merlin**
    - **Prey Availability**: Habitat fragmentation could reduce the abundance of small birds and mammals.
    - **Collision Risk**: Small size and agile flight patterns do not preclude risks of turbine strikes.

Evaluation of EIA Deficiencies

- **Underestimation of Collision Risks**: EnergieKontor's assessment relies on outdated collision risk models that do not reflect current species behaviour or flight patterns.
- **Inadequate Habitat Mapping**: The EIA fails to provide detailed maps showing critical nesting and foraging habitats within the site.
- **Neglect of Indirect Impacts**: Indirect effects such as prey displacement, altered foraging patterns, and increased predation risks are overlooked.
- **Absence of Cumulative Impact Analysis**: The EIA does not address how Glenvernoch will exacerbate existing pressures on regional bird populations.

6. MITIGATION MEASURES AND RESIDUAL RISKS

Overview

EnergieKontor's Environmental Impact Assessment (EIA) proposes several mitigation measures aimed at reducing the impacts of the Glenvernoch Wind Farm on bird species. However, these measures are largely insufficient, poorly defined, and fail to address key risks, including collision mortality, habitat loss, and displacement. This section evaluates the effectiveness of the proposed measures and identifies the residual risks that remain unresolved.

Proposed Mitigation Measures

1. **Pre-Construction Surveys**
    - EnergieKontor proposes conducting surveys to identify active nests and significant habitats prior to construction.
    - **Limitations**:
        - Surveys are time-limited and do not account for seasonal variations or shifts in bird activity.
        - No provision for long-term monitoring to assess the effectiveness of mitigation measures.
2. **Micro-Siting of Turbines**
    - Minor adjustments to turbine placement are suggested to avoid critical habitats.
    - **Limitations**:
        - Micro-siting options are restricted due to terrain and site layout, offering minimal flexibility.
        - Key habitats, such as foraging grounds for golden eagle and hen harrier, remain within the turbine zone.
3. **Seasonal Restrictions on Construction Activities**
    - Construction work will be restricted during key breeding seasons for priority species.
    - **Limitations**:
        - No enforcement mechanism is proposed to ensure compliance with seasonal restrictions.
        - Maintenance activities during operational phases could still disrupt breeding birds.
4. **Habitat Restoration and Enhancement**
    - EnergieKontor proposes restoring disturbed peatland habitats post-construction and enhancing surrounding areas to support displaced bird populations.
    - **Limitations**:
        - Habitat restoration cannot replicate the ecological complexity of undisturbed peatlands.
        - Enhancement efforts do not compensate for permanent habitat loss or fragmentation.
5. **Collision Risk Mitigation**
    - Measures include increasing turbine visibility to birds through UV paint or reflective coatings.
    - **Limitations**:
        - UV paint effectiveness is not universally proven and may vary among species.
        - No additional measures, such as radar-triggered turbine shut-offs, are proposed.

Residual Risks

1. **Collision Mortality**
    - **Golden Eagle and Hen Harrier**: Despite proposed mitigation, the risk of turbine strikes remains high, particularly for raptors that forage or migrate through the site.
    - **Migratory Birds**: The absence of radar-based systems increases the likelihood of nocturnal collisions during migratory seasons.
2. **Habitat Loss and Fragmentation**
    - **Peatlands and Moorlands**: Permanent loss of nesting and foraging habitats for species like curlew and lapwing is unavoidable.
    - **Cumulative Fragmentation**: When combined with nearby wind farms, the region's habitats become increasingly fragmented, reducing their suitability for sensitive species.
3. **Displacement and Disturbance**
    - **Noise and Vibration**: Construction and operational noise will displace breeding and foraging birds, particularly during the nesting season.
    - **Human Activity**: Maintenance and monitoring activities will perpetuate disturbance throughout the operational lifespan of the turbines.
4. **Cumulative Impacts**
    - **Regional Bird Populations**: The additive effects of Glenvernoch, Kilgallioch, and proposed wind farms like Blair Hill will intensify pressures on already vulnerable bird populations.

Critical Gaps in Mitigation Strategy

- **Absence of Long-Term Monitoring**: The EIA does not include a robust monitoring programme to evaluate the success of mitigation measures or identify emerging risks.
- **Inadequate Spatial Buffers**: The proposed buffers around critical habitats are insufficient to prevent displacement and disturbance.
- **No Adaptive Management Framework**: The lack of an adaptive management plan limits the ability to respond to unforeseen impacts or changing conditions.

7. CONCLUSION AND RECOMMENDATIONS

Overview

The Glenvernoch Wind Farm proposal presents significant risks to ornithological interests in the region, particularly to vulnerable and protected bird species. While EnergieKontor's Environmental Impact Assessment (EIA) acknowledges some of these risks, the proposed mitigation measures are insufficient, inadequately detailed, and fail to address critical gaps. The project's location within key habitats, combined with the cumulative impacts of existing and proposed wind farms, threatens to cause irreversible harm to local and migratory bird populations.

Conclusion

1. **Impact on Protected Bird Species**
    - Golden eagles, hen harriers, and black grouse face significant risks from habitat loss, displacement, and collision mortality. These impacts contravene statutory protections under the Wildlife and Countryside Act 1981 and EU Birds Directive.
2. **Habitat Loss and Fragmentation**
    - The permanent loss of Class 1 and Class 2 peatlands, critical to bird species like curlew and lapwing, contravenes conservation objectives in the Peatland Code and the UK Biodiversity Action Plan.
3. **Cumulative Impacts**
    - The combined effects of Glenvernoch with Kilgallioch and other proposed wind farms exacerbate pressures on bird populations, compounding habitat fragmentation, displacement, and collision risks. This oversight in cumulative assessment highlights a major flaw in the EIA.
4. **Mitigation Deficiencies**
    - Proposed mitigation measures lack enforceable mechanisms, long-term monitoring, and adaptive management strategies, making them inadequate to prevent significant adverse effects.

Recommendations

1. **Reject the Glenvernoch Wind Farm Proposal in Its Current Form**
    - Given the significant unresolved risks to ornithological interests, the proposal should be rejected unless substantial revisions are made to address these deficiencies.
2. **Comprehensive Ornithological Monitoring**
    - Implement a robust, long-term monitoring programme to evaluate the impacts on bird populations and the effectiveness of mitigation measures. This should include pre-construction, operational, and post-decommissioning phases.
3. **Enhanced Mitigation Measures**
    - Introduce radar-triggered turbine shut-off systems to reduce collision risks for nocturnal and migratory birds.
    - Expand spatial buffers around key habitats to minimise disturbance and displacement.
    - Develop detailed habitat restoration plans with measurable targets to compensate for permanent losses.
4. **Cumulative Impact Analysis**

- Conduct a comprehensive cumulative impact assessment to evaluate the additive effects of Glenvernoch and neighbouring wind farms on bird populations, with a focus on key species such as golden eagle and hen harrier.

5. **Adopt an Adaptive Management Framework**

    - Establish a responsive management system to address unforeseen impacts, incorporating regular data reviews and stakeholder input to refine mitigation strategies.

6. **Collaboration with Conservation Organisations**

    - Engage with organisations such as the RSPB and local wildlife groups to ensure mitigation plans align with best practices and conservation priorities.

Final Statement

The Glenvernoch Wind Farm proposal, in its current form, poses unacceptable risks to ornithological interests, contravening legal protections and policy objectives designed to safeguard bird species and their habitats. Without substantial revisions to the mitigation strategy, long-term monitoring, and a comprehensive cumulative impact assessment, the project cannot align with Scotland's commitments to biodiversity conservation and sustainable development. It is imperative that these deficiencies are addressed to ensure the protection of vulnerable bird populations and the preservation of the region's ecological integrity.

OBJECTION TO SECTION 9 (EIA) – ECOLOGY

CONTENTS

References

1. Scottish Government. (2023). National Planning Framework 4 (NPF4).
2. IUCN. (2017). Peatland Programme and The Peatland Code.
3. UK Parliament. (1981). Wildlife and Countryside Act 1981
4. Scottish Government. (2017). Environmental Impact Assessment (Scotland) Regulations 2017.
5. Dumfries and Galloway Council. (2019). Dumfries and Galloway Local Development Plan 2 (LDP2).
6. European Commission. (2000). Water Framework Directive (2000/60/EC).
7. RSPB Scotland. (2023). RSPB Wood of Cree - Nature Reserve Information.
8. EnergieKontor UK Ltd. (2023). Glenvernoch Wind Farm Environmental Impact Assessment Report - Chapter 9: Ecology.

1. NON-TECHNICAL SUMMARY AND SCOPE OF OBJECTION

Overview

This chapter examines the ecological impacts of the proposed Glenvernoch Wind Farm, focusing on the significant risks to sensitive habitats, protected species, and biodiversity within the development site and surrounding areas. EnergieKontor's Environmental Impact Assessment (EIA) (Sections 9.1–9.14) inadequately evaluates these risks and provides insufficient mitigation strategies.

Key concerns include the disruption of sensitive peatland ecosystems, the fragmentation of habitats, and the potential harm to species of high conservation value. This objection highlights the shortcomings in the EIA's ecological assessment and the project's failure to comply with legal and policy requirements.

Key Areas of Concern

1. **Peatland Ecosystems**
    - The site includes Class 1 and Class 2 peatlands, protected due to their role in carbon sequestration, water regulation, and biodiversity support.
    - Construction activities, such as excavation for turbine foundations and access roads, threaten to disrupt these vital ecosystems.
2. **Protected Species and Habitats**
    - The site is home to legally protected species, including otters, badgers, and several bat species.
    - Priority habitats identified under the UK Biodiversity Action Plan (UKBAP) are present, including wet heath, blanket bog, and semi-natural woodlands.
3. **Cumulative Impacts**
    - The cumulative effects of Glenvernoch, Kilgallioch, and proposed developments at Blair Hill and Shennanton amplify ecological risks.
    - EnergieKontor's EIA fails to assess how combined impacts will affect regional biodiversity and habitat connectivity.

Scope of Objection

This objection argues that the Glenvernoch Wind Farm proposal is fundamentally incompatible with the ecological sensitivities of the site and its surroundings. To ensure compliance with environmental regulations and the protection of biodiversity, the following actions are necessary:

1. **Comprehensive Habitat and Species Surveys:** Conduct detailed surveys to establish an accurate ecological baseline, including seasonal variations.
2. **Revised Site Design:** Avoid turbine placement on Class 1 and Class 2 peatlands and within critical habitats for protected species.
3. **Enhanced Mitigation Strategies:** Develop robust and enforceable measures to minimise ecological harm, including habitat restoration and long-term monitoring plans.
4. **Cumulative Impact Analysis:** Include an in-depth assessment of how Glenvernoch will interact with existing and proposed developments in the region.

Without these measures, the Glenvernoch Wind Farm poses unacceptable risks to the ecological integrity of the Galloway Hills.

2. POLICY AND LEGISLATIVE CONTRAVENTION

Overview

The Glenvernoch Wind Farm proposal fails to comply with numerous policy and legislative frameworks designed to protect Scotland's ecological heritage, landscapes, and communities. EnergieKontor's Environmental Impact Assessment (EIA) inadequately addresses critical areas of concern, including the protection of peatlands, biodiversity, and hydrological systems. This section identifies the primary contravention associated with the project and emphasises the incompatibility of the proposal with national, regional, and international regulations.

Key Contravention

1. **National Planning Framework 4 (NPF4)**
    - **Policy Context:** NPF4 prioritises the protection of peatlands, biodiversity, and sustainable development. It mandates that renewable energy projects avoid sensitive environments and align with Scotland's carbon reduction goals.
    - **Contravention:**
        - Excavation of protected peatlands undermines Scotland's carbon reduction commitments.
        - The project's visual and ecological impacts on key cultural and tourism assets, such as Loch Trool and the Southern Upland Way, conflict with NPF4's emphasis on maintaining the value of natural heritage sites.
2. **The Peatland Code**
    - **Policy Context:** The Peatland Code prohibits excavation or disturbance of peatlands due to their role in carbon sequestration, flood prevention, and biodiversity support.
    - **Contravention:**
        - Turbines 12 and 5 are sited on Class 1 and Class 2 peatlands, while Turbine 10 is dangerously close to Class 1 peat. The project offers no adequate mitigation or justification for these placements.
3. **Wildlife and Countryside Act 1981**
    - **Policy Context:** This Act protects habitats and species from harm caused by human activities. It requires developments to assess and mitigate risks to biodiversity.
    - **Contravention:**
        - The proximity of turbines to the RSPB Wood of Cree increases the risk of harm to protected species, including pied flycatchers, wood warblers, and redstarts. The EIA fails to provide adequate mitigation strategies for these risks.
4. **Environmental Impact Assessment (Scotland) Regulations 2017**
    - **Policy Context:** EIA regulations mandate comprehensive assessments of a development's impacts on the environment, including cumulative effects.
    - **Contravention:**
        - The EIA fails to adequately evaluate cumulative ecological impacts from Glenvernoch and neighbouring wind farm proposals, such as Blair Hill and Shennanton.
        - Baseline data for hydrological impacts and biodiversity are incomplete, violating the requirement for robust environmental assessments.

5. **Dumfries and Galloway Local Development Plan (LDP)**

    - **Policy Context:** The LDP prioritises the protection of regional landscapes, tourism assets, and biodiversity, ensuring that developments contribute positively to the local environment and economy.

    - **Contravention:**

        - The project undermines the integrity of the Galloway Hills and its designation as a Regional Scenic Area, conflicting with LDP objectives.

        - The industrialisation of this landscape threatens the local tourism economy, which relies on the unspoiled beauty and ecological richness of the region.

6. **Water Framework Directive (2000/60/EC)**

    - **Policy Context:** This directive ensures the protection and sustainable management of water resources, including rivers, wetlands, and groundwater.

    - **Contravention:**

        - The project risks sediment runoff and hydrological disruption, impacting watercourses such as the River Cree and River Bladnoch. The EIA does not adequately address these risks or propose effective mitigation measures.

Policy Implications

1. **Environmental Non-Compliance**

    - The destruction of protected peatlands, disruption of habitats, and degradation of watercourses contradict Scotland's commitments to biodiversity conservation and sustainable development.

2. **Socioeconomic Consequences**

    - The project threatens cultural and tourism assets, such as Loch Trool and the Southern Upland Way, undermining local economies that depend on these resources.

3. **Undermining Public Trust**

    - Approving a development that so clearly contravenes policy and legislation risks eroding public confidence in the planning system and Scotland's environmental stewardship.

Conclusion

The Glenvernoch Wind Farm proposal fails to comply with critical policies and legislative frameworks, including NPF4, and the Peatland Code. These contravention highlight the unsuitability of the project for this sensitive and ecologically significant landscape. A robust reassessment of the proposal is necessary to ensure compliance and alignment with Scotland's environmental and planning goals.

3. METHODOLOGY

Overview

This section evaluates the methods used in EnergieKontor's Environmental Impact Assessment (EIA) for assessing ecological impacts associated with the Glenvernoch Wind Farm. While the EIA outlines various survey techniques and mitigation strategies, it suffers from methodological shortcomings that undermine its validity and reliability. These deficiencies include insufficient baseline data, flawed risk assessments, and a failure to account for cumulative impacts.

Assessment Criteria

The methodology is evaluated against the following key criteria:

1. **Baseline Data Collection**
    - Adequacy of surveys for priority habitats and protected species.
    - Consistency with established ecological survey guidelines and protocols.
2. **Impact Assessment Techniques**
    - Accuracy in identifying and quantifying direct, indirect, and cumulative impacts on habitats and species.
    - Consideration of seasonal variations and critical lifecycle stages of species.
3. **Compliance with Policy and Legal Requirements**
    - Alignment of methods with the Peatland Code, and biodiversity protection frameworks.
    - Inclusion of mitigation hierarchy principles: avoid, reduce, mitigate, and compensate.
4. **Mitigation and Monitoring Plans**
    - Robustness and enforceability of proposed measures to avoid or mitigate impacts.
    - Plans for ongoing monitoring and adaptive management.

Key Methodological Issues

1. **Baseline Data Collection**
    - **Deficient Habitat Surveys:**
        - Surveys for peatland, woodland, and aquatic habitats lack sufficient detail, particularly regarding the spatial extent of impacts on Class 1 and Class 2 peatlands (Sections 9.3–9.5).
    - **Inadequate Species Monitoring:**
        - Surveys for key protected species, including otters, bats, red squirrels, and badgers, were either incomplete or conducted outside optimal periods. The EIA acknowledges data gaps, undermining the validity of its conclusions.
2. **Impact Assessment Techniques**
    - **Flawed Habitat Impact Analysis:**
        - The EIA fails to accurately model hydrological impacts on sensitive peatland and aquatic ecosystems, including potential downstream effects on the River Cree and River Bladnoch.
    - **Species-Specific Risks Underestimated:**
        - Risks to bats, particularly collision fatalities, are underestimated due to insufficient post-construction monitoring plans.
        - Impacts on nesting and foraging habitats for protected bird species, including hen harriers and short-eared owls, are inadequately addressed (Sections 9.6–9.9).
3. **Cumulative Impact Assessments**
    - **Limited Scope:**

- The EIA does not adequately consider cumulative ecological impacts from Glenvernoch and nearby proposed developments such as Blair Hill, Shennanton, and Balunton wind farms.

- **Fragmentation Risks Overlooked:**
  - Habitat fragmentation and its cascading effects on species connectivity and genetic diversity are not addressed.

4. **Mitigation and Monitoring Plans**
   - **Generic Mitigation Measures:**
     - The proposed mitigation strategies are overly broad, lacking site-specific details and enforceable commitments. For instance, peatland restoration measures are vague and unsupported by detailed plans or funding mechanisms (Section 9.12).
   - **Inadequate Monitoring Protocols:**
     - Post-construction monitoring for species and habitats is limited, with no provisions for adaptive management in response to unforeseen impacts.

Methodological Gaps

1. **Failure to Integrate Stakeholder Input:**
   - Local conservation groups and land managers have raised concerns about gaps in baseline data and monitoring plans, yet these are not reflected in the EIA.
2. **Insufficient Transparency:**
   - The lack of detailed methodologies for critical assessments, such as hydrological modelling and habitat fragmentation analysis, reduces the credibility of the EIA.

Conclusion

EnergieKontor's methodological approach in the EIA for Glenvernoch Wind Farm falls short of established best practices and legal requirements. Key gaps in baseline data, impact assessments, and mitigation plans render the EIA an unreliable basis for decision-making. Without significant methodological improvements, the ecological risks associated with the development remain unquantified and unmitigated.

4. BASELINE CONDITIONS

Overview

The Glenvernoch Wind Farm site and its surrounding areas encompass a mosaic of ecologically sensitive habitats, including Class 1 and Class 2 peatlands, ancient woodlands, and aquatic ecosystems connected to the River Cree and River Bladnoch catchments. These habitats support a wide range of flora and fauna, some of which are protected under UK and international laws. The Environmental Impact Assessment (EIA) by EnergieKontor provides a baseline for assessing the site's ecological value, but it lacks depth and accuracy in key areas. This section outlines the existing conditions, highlights omissions in the EIA, and evaluates the implications for biodiversity and habitat preservation.

Key Baseline Features

1. **Peatlands**
    - **Presence of Class 1 and Class 2 Peat:**
        - Turbine 12 is sited directly on Class 1 peatland, with Turbine 5 located on Class 2 peatland. Turbine 10 is dangerously close to Class 1 peatland, increasing risks of indirect impacts.
        - These peatlands are of high conservation value due to their role in carbon sequestration, water regulation, and supporting unique biodiversity.
    - **Hydrological Sensitivity:**
        - The peatlands serve as natural water regulators for downstream ecosystems, including the River Cree and River Bladnoch. Disturbance during construction could cause hydrological disruption, leading to peat desiccation, sedimentation, and water quality degradation.
2. **Woodland and Aquatic Habitats**
    - **Proximity to RSPB Wood of Cree:**
        - Scotland's largest ancient woodland lies near the proposed site, supporting diverse bird species such as pied flycatchers, wood warblers, and redstarts.
        - The woodland is part of the River Cree's catchment, making it vulnerable to hydrological and sedimentation impacts from construction activities.
    - **Aquatic Ecosystems:**
        - The River Cree and River Bladnoch, both located downstream, are critical habitats for aquatic species, including Atlantic salmon and freshwater pearl mussels. These rivers are highly sensitive to changes in water quality and flow caused by site runoff and sedimentation.
3. **Species Diversity**
    - **Mammals:**
        - Protected species such as otters, badgers, and red squirrels are known to inhabit the area. These species rely on the integrity of peatlands, woodlands, and riparian corridors for shelter and foraging.
    - **Bats:**
        - The site includes key foraging and commuting routes for bat species, some of which are protected under the Conservation (Natural Habitats) Regulations 1994.
    - **Birds:**
        - Hen harriers, short-eared owls, and golden eagles, species of high conservation concern, use the site and its surroundings for nesting and hunting. Disturbances during construction and operation pose significant risks to these populations.
4. **Tourism and Recreational Value**
    - The Southern Upland Way and Loch Trool are nearby, attracting visitors for their scenic beauty and biodiversity. These features depend on the preservation of the region's natural landscapes and ecosystems.

Deficiencies in the EIA

1. **Incomplete Habitat Surveys**

- Surveys for peatlands, woodlands, and aquatic habitats lack detail regarding their spatial extent, connectivity, and ecological functions (Sections 9.3–9.6).
- Seasonal variations in habitat use by wildlife are insufficiently addressed.

2. **Underreported Species Data**
   - Species surveys, particularly for bats and breeding birds, were conducted during suboptimal periods, leading to underrepresentation of key species (Sections 9.7–9.8).
3. **Cumulative Impacts**
   - The EIA fails to evaluate cumulative ecological impacts from Glenvernoch and nearby wind farms, including habitat fragmentation, hydrological changes, and increased predation risks.
4. **Hydrological Oversight**
   - The role of peatlands and woodlands in maintaining water quality and flow for the River Cree and River Bladnoch is inadequately assessed, despite their downstream sensitivity.

Implications for Baseline Conditions

1. **Peatland Degradation**
   - Excavation and construction on peatlands will disrupt their ecological functions, releasing stored carbon and altering hydrological patterns. This threatens downstream ecosystems and the broader carbon balance.
2. **Species Displacement and Mortality**
   - Construction and operation activities will lead to habitat loss, increased human disturbance, and risks of direct mortality for species such as otters, badgers, and birds of prey.
3. **Tourism and Recreational Impacts**
   - Degradation of scenic and ecological values will reduce the appeal of tourism hotspots like the Southern Upland Way and Loch Trool, harming the local economy.

Conclusion

The baseline conditions at the Glenvernoch site highlight its ecological sensitivity and the critical role it plays in regional biodiversity, hydrology, and cultural heritage. The deficiencies in the EIA's baseline assessments leave key habitats and species underrepresented, resulting in an incomplete understanding of the project's ecological implications. A more comprehensive and robust baseline assessment is essential to accurately evaluate the impacts of the proposed development.

5. IDENTIFICATION AND EVALUATION OF KEY EFFECTS

Overview

The Glenvernoch Wind Farm proposal poses significant ecological risks to peatlands, woodlands, aquatic systems, and associated wildlife. EnergieKontor's Environmental Impact Assessment (EIA) inadequately identifies and evaluates these effects, particularly regarding habitat degradation, species displacement, and cumulative impacts from nearby wind farm developments. This section provides a detailed assessment of the potential effects on biodiversity and ecosystems.

1. Peatland Degradation

1. **Direct Disturbance**

- **Turbine Placement:** Turbines 12 and 5 are directly sited on Class 1 and Class 2 peatlands, respectively, while Turbine 10 is perilously close to Class 1 peat. Excavation for turbine foundations and access roads will irreversibly damage these peatlands.
- **Carbon Emissions:** Peat disturbance releases stored carbon, negating the purported climate benefits of renewable energy generation.

2. **Hydrological Disruption**
   - Peatlands play a critical role in regulating water flow and quality. Excavation and drainage systems risk altering these functions, increasing sedimentation and causing flooding downstream, particularly in the River Cree and River Bladnoch catchments.
3. **EIA Deficiencies**
   - The EIA underestimates the extent of peatland damage and fails to provide robust mitigation measures for carbon emissions or hydrological impacts (Sections 9.4–9.7).

2. Woodland and Aquatic Habitat Disturbance

1. **Impact on RSPB Wood of Cree**
   - Noise, vibration, and sedimentation from construction threaten sensitive habitats within the RSPB Wood of Cree, reducing its ecological value for breeding and foraging species.
2. **Aquatic Ecosystems**
   - **River Cree and River Bladnoch:** Increased sedimentation and chemical runoff from construction activities risk degrading water quality, threatening aquatic species such as Atlantic salmon and freshwater pearl mussels.
3. **EIA Deficiencies**
   - The EIA fails to adequately model runoff and sedimentation impacts on downstream watercourses, despite their ecological and hydrological sensitivity (Sections 9.7–9.9).

3. Species-Specific Impacts

1. **Bats**
   - The proximity of turbines to key foraging routes increases collision risks for bat species, violating the Conservation (Natural Habitats) Regulations 1994. Noise and habitat disruption further exacerbate the risk of population declines.
2. **Birds of Prey and Breeding Birds**
   - Hen harriers, short-eared owls, and golden eagles are highly vulnerable to disturbance and collision risks. Nesting birds in the RSPB Wood of Cree face habitat loss and reduced reproductive success.
3. **Mammals**
   - Construction noise and habitat fragmentation will displace otters, badgers, and red squirrels, leading to reduced foraging opportunities and increased mortality risks.
4. **EIA Deficiencies**
   - Surveys for bats and breeding birds were conducted outside optimal periods, leading to underreported species data and underestimated impacts (Sections 9.6–9.8).

4. Cumulative Impacts

1. **Combined Habitat Loss**
    - The proximity of Glenvernoch to Blair Hill and Shennanton developments amplifies the risk of habitat fragmentation and reduced biodiversity.
2. **Hydrological and Carbon Impacts**
    - Multiple developments in the region compound peatland degradation, water quality risks, and carbon emissions.
3. **Tourism and Community Effects**
    - The cumulative visual and ecological degradation from multiple wind farms diminishes the value of local tourism hotspots such as the Southern Upland Way and Loch Trool.
4. **EIA Deficiencies**
    - The EIA does not address cumulative impacts adequately, failing to provide a comprehensive picture of regional ecological risks (Sections 9.9–9.10).

5. Tourism and Recreation Impacts

1. **Degraded Scenic and Ecological Value**
    - The industrialisation of the landscape undermines the appeal of the Southern Upland Way, Loch Trool, and surrounding areas, deterring eco-tourism and recreational visitors.
2. **Economic Consequences**
    - Reduced tourism activity will harm local businesses reliant on visitor spending, with long-term economic implications for communities in Dumfries and Galloway.

Conclusion

The Glenvernoch Wind Farm poses significant ecological and Socioeconomic risks that are insufficiently addressed in EnergieKontor's EIA. Peatland degradation, habitat loss, species displacement, and cumulative impacts collectively threaten the region's biodiversity, hydrology, and community wellbeing. The failure to adequately identify and evaluate these effects underscores the unsuitability of the proposed development.

6. MITIGATION MEASURES AND RESIDUAL RISKS

Overview

EnergieKontor's Environmental Impact Assessment (EIA) outlines a range of mitigation measures aimed at addressing the ecological impacts of the Glenvernoch Wind Farm. However, these measures are insufficiently detailed, lack enforceability, and fail to fully mitigate key risks. This section evaluates the proposed measures, identifies their limitations, and highlights the residual risks that remain unaddressed.

1. Peatland Mitigation

1. **Proposed Measures**
    - Micro-siting turbines to avoid deeper peat deposits.
    - Developing a Peatland Management Plan (PMP) to restore areas disturbed by construction.
    - Implementing peat re-use schemes to minimise waste and disruption.
2. **Limitations**

- Micro-siting cannot avoid all impacts, as turbines 12 and 5 are directly sited on Class 1 and Class 2 peatlands, respectively. Turbine 10 is within metres of Class 1 peat, leaving high conservation value areas vulnerable.
- Restoration efforts cannot replicate the ecological and carbon-sequestration functions of intact peatlands. The restoration process is slow, and carbon emissions during excavation are immediate.

3. **Residual Risks**
   - Significant carbon emissions from disturbed peat remain unaddressed.
   - Hydrological disruption risks persist, with downstream flooding and water quality degradation likely.

2. Woodland and Aquatic Habitat Mitigation

1. **Proposed Measures**
   - Construction setbacks to reduce noise and sedimentation impacts on the RSPB Wood of Cree and nearby aquatic systems.
   - Pre-construction surveys to avoid sensitive habitats during peak breeding seasons.
   - Erosion control measures to prevent runoff into watercourses.
2. **Limitations**
   - Construction setbacks are insufficient to prevent noise and vibration impacts on the RSPB Wood of Cree.
   - Pre-construction surveys provide a snapshot and fail to account for dynamic changes in species distribution.
   - Erosion control measures lack specifics and do not address long-term sedimentation risks during operation.
3. **Residual Risks**
   - Persistent sedimentation and water quality degradation in the River Cree and River Bladnoch.
   - Long-term habitat disturbance for woodland and aquatic species, reducing biodiversity.

3. Species-Specific Mitigation

1. **Proposed Measures**
   - Installation of bat-friendly turbines with feathering technology to reduce collision risks.
   - Seasonal restrictions on construction to avoid disturbing nesting birds and mammals.
   - Habitat enhancement initiatives, including creating artificial nesting sites for displaced birds.
2. **Limitations**
   - Bat-friendly turbines reduce but do not eliminate collision risks, particularly for species reliant on foraging routes near turbines.
   - Seasonal restrictions do not address year-round habitat fragmentation and displacement for species such as otters and red squirrels.
   - Habitat enhancement initiatives cannot fully compensate for the loss of natural habitats.
3. **Residual Risks**
   - Continued collision risks for bats and birds, particularly near the RSPB Wood of Cree.

- Habitat loss and fragmentation leading to population declines for protected species.

4. Cumulative Impact Mitigation

1. **Proposed Measures**
    - Coordination with developers of neighbouring wind farms to minimise overlapping impacts.
    - Regional habitat enhancement schemes to offset cumulative ecological damage.
2. **Limitations**
    - Coordination measures lack enforceability and specifics, relying on voluntary compliance by other developers.
    - Habitat enhancement schemes do not address site-specific impacts or ensure ecological connectivity.
3. **Residual Risks**
    - Amplified habitat loss, hydrological disruption, and species displacement from overlapping developments.
    - Cumulative carbon emissions from peatland disturbance across multiple sites.

5. Tourism and Recreation Mitigation

1. **Proposed Measures**
    - Landscape screening to minimise visual impacts on key tourism sites such as Loch Trool and the Southern Upland Way.
    - Community engagement initiatives to address concerns about tourism impacts.
2. **Limitations**
    - Landscape screening cannot conceal turbines from elevated viewpoints or long-distance vistas.
    - Community engagement does not mitigate the actual degradation of scenic and ecological tourism assets.
3. **Residual Risks**
    - Diminished tourism appeal of the Southern Upland Way, Loch Trool, and other iconic sites.
    - Long-term economic losses for local businesses reliant on tourism.

Conclusion

The mitigation measures proposed in EnergieKontor's EIA are inadequate to fully address the ecological and Socioeconomic impacts of the Glenvernoch Wind Farm. Significant residual risks remain, including peatland degradation, habitat loss, species displacement, and tourism impacts. These deficiencies highlight the need for more robust and enforceable mitigation strategies tailored to the unique challenges of this sensitive landscape.

7. CONCLUSION AND RECOMMENDATIONS

Overview

The Glenvernoch Wind Farm proposal presents significant ecological risks that cannot be fully mitigated under the measures outlined in EnergieKontor's Environmental Impact Assessment (EIA). The project threatens peatlands of the highest conservation value, disrupts sensitive habitats, and undermines biodiversity, particularly within and near the RSPB Wood of Cree. Additionally, the cumulative ecological impacts from other proposed and existing wind farms in the region amplify these concerns. This chapter summarises the key issues and provides actionable recommendations to address these risks.

Key Risks and Findings

1. **Peatland Damage**
    - Turbines 12 and 5 are sited on Class 1 and Class 2 peatlands, respectively, with Turbine 10 located dangerously close to Class 1 peat. These sites are critical carbon sinks and biodiversity hotspots.
    - Excavation and construction activities will irreparably harm peatlands, releasing significant carbon emissions and disrupting hydrological systems.
2. **Habitat Loss and Fragmentation**
    - The proximity of turbines to the RSPB Wood of Cree threatens key species, including red squirrels, otters, and rare bird populations.
    - Construction and operational activities will fragment habitats, reducing their viability for resident and migratory species.
3. **Hydrological Disruption**
    - Excavation and sediment runoff will degrade water quality in the River Cree and River Bladnoch, with downstream impacts on aquatic ecosystems and flood risks for communities.
4. **Cumulative Impacts**
    - The combined ecological pressures from Glenvernoch and other regional wind farms, including Blair Hill and Shennanton, will amplify habitat degradation, species displacement, and peatland damage.
5. **Tourism and Socioeconomic Impacts**
    - The degradation of scenic and ecological assets, such as the Southern Upland Way and Loch Trool, will deter visitors, resulting in economic losses for local businesses and communities.

Policy Contravention

1. **National Planning Framework 4 (NPF4)**
    - The project conflicts with NPF4's emphasis on protecting natural carbon stores and biodiversity, as well as promoting sustainable development.
2. **The Peatland Code**
    - Excavation of Class 1 and Class 2 peatlands contravenes the Peatland Code, undermining Scotland's commitments to carbon reduction and climate change mitigation.
3. **Wildlife and Countryside Act 1981**
    - The proximity of turbines to the RSPB Wood of Cree risks harm to protected species, contravening habitat protection laws.
4. **Dumfries and Galloway Local Development Plan (LDP)**
    - The project conflicts with LDP priorities to protect landscapes, habitats, and tourism assets.

Recommendations

1. **Reject the Glenvernoch Wind Farm Proposal in Its Current Form**
    - The proposal's ecological and Socioeconomic impacts render it incompatible with Scotland's environmental and planning policies. Rejection is necessary to safeguard peatlands, habitats, and local communities.
2. **Comprehensive Environmental Reassessment**

- Conduct an independent review of the EIA to address gaps in peatland assessment, hydrological analysis, and species impact modelling.

3. **Strengthen Mitigation Measures**
    - Develop enforceable mitigation strategies, including:
        - Prohibition of turbine placement on Class 1 and Class 2 peatlands.
        - Enhanced habitat restoration plans with measurable biodiversity outcomes.
        - Hydrological safeguards to prevent sediment runoff and water quality degradation.
4. **Cumulative Impact Analysis**
    - Require a transparent evaluation of cumulative effects from Glenvernoch and other regional developments, with enforceable measures to minimise overlapping impacts.
5. **Protect Tourism and Community Assets**
    - Prioritise the preservation of scenic and ecological assets, such as Loch Trool and the Southern Upland Way, to maintain their value for tourism and local economies.
6. **Alternative Renewable Energy Strategies**
    - Encourage site selection for wind farms that avoids sensitive landscapes and ecosystems, aligning renewable energy development with Scotland's conservation goals.

Final Statement

The Glenvernoch Wind Farm poses significant and irreparable risks to peatlands, habitats, hydrological systems, and Socioeconomic assets in Dumfries and Galloway. By failing to comply with key policy and legislative frameworks, the proposal undermines Scotland's commitments to sustainable development, biodiversity conservation, and climate change mitigation.

Rejection of this proposal is the only viable option to protect the region's ecological and cultural heritage. Any future iterations must demonstrate full compliance with environmental policies, address cumulative impacts, and provide robust protections for sensitive landscapes and communities. Only through responsible and site-appropriate renewable energy development can Scotland achieve its sustainability objectives while preserving its invaluable natural assets.

OBJECTION TO SECTION 10 (EIA) – NOISE

CONTENTS

References

EnergieKontor EIA Chapter 10: Noise and Vibration

Assessment methodology and assumptions (Sections 10.1–10.3).

Noise level predictions and receptor analysis (Sections 10.5–10.8).

Proposed mitigation measures and residual risks (Sections 10.9–10.11).

World Health Organization (WHO): Environmental Noise Guidelines for the European Region (2018)

Recommendations for night-time noise thresholds in rural areas.

Control of Major Accident Hazards (COMAH) Regulations (2015)

Requirements for managing noise impacts from industrial developments, including wind farms.

National Planning Framework 4 (NPF4): Scottish Government

Sustainable development policies, including noise and health impact guidelines.

ETSU-R-97:

Outdated noise standard used in the EIA, allowing higher noise thresholds than modern guidelines.

Proposed Updates to Noise Standards (WSP Report, 2023)

Recommendations for replacing ETSU-R-97 with modern standards that address amplitude modulation (AM) and low-frequency noise.

Kilgallioch Wind Farm Operational Data & Proposed Wind Farm Developments

Baseline noise and cumulative impacts from the existing wind farm.

Blair Hill, Shennanton, and Balunton planning documents, highlighting cumulative noise impact potential.

Scientific Studies on Noise and Health:

Research on the impacts of amplitude modulation (AM) and low-frequency noise on health and wellbeing.

Dumfries and Galloway Noise Monitoring Data:

Local monitoring results for sensitive receptors in rural and residential areas.

Community Feedback:

Reports and consultations from residents in Newton Stewart, Bargrennan and Glentrool regarding existing wind farm impacts and concerns over the Glenvernoch proposal.

European Landscape Convention (ELC):

Policy guidance on the preservation of tranquillity and cultural landscapes, with considerations for noise impacts.

Construction Noise Guidelines:

Scottish Government guidance on managing construction noise and its impacts on residential communities.

Galloway Forest Park Visitor Data:

Tourism and recreational use of Glentrool and the Cree Valley, highlighting sensitivity to noise impacts.

1. NON-TECHNICAL SUMMARY AND SCOPE OF OBJECTION

Overview

The noise impacts associated with the Glenvernoch Wind Farm have not been adequately assessed or addressed in EnergieKontor's Environmental Impact Assessment (EIA). This objection outlines significant deficiencies in the methodology, baseline data, cumulative impact analysis, and proposed mitigation measures. These deficiencies lead to an underestimation of noise impacts on local communities and the natural environment. The EIA's reliance on the outdated ETSU-R-97 standard for noise assessment compounds the issue, as this standard is widely recognised as unsuitable for modern wind turbine developments.

Key Areas of Concern

1. **Outdated Noise Guidance**
    - The EIA relies on ETSU-R-97, a standard that has been heavily criticised for its inability to address amplitude modulation (AM), low-frequency noise, and modern turbine designs.
    - Recent reviews, such as the WSP report (2023), highlight the inadequacies of ETSU-R-97, including its failure to consider health impacts from prolonged exposure to AM and infrasonic noise.
2. **Health and Wellbeing Risks**
    - Noise levels predicted under ETSU-R-97 are significantly higher than World Health Organization (WHO) recommendations, particularly at night. This discrepancy poses serious risks of sleep disturbances and stress, and issues for residents in Newton Stewart, Bargrennan and Glentrool.
    - The cumulative impact of Glenvernoch and existing/proposed wind farms, such as Kilgallioch, Blair Hill, and Shennanton, has not been adequately considered, further exacerbating potential health impacts.
3. **Cumulative Noise Impacts**
    - The EIA's cumulative noise analysis excludes nearby proposed developments, such as Balunton, and focuses only on Kilgallioch and its extension. This omission underestimates the true scale of noise exposure in the affected area.
4. **Baseline Noise Levels and Monitoring Gaps**
    - The noise assessment uses background noise levels from limited monitoring locations, which fail to represent conditions at sensitive receptors such as isolated rural properties and lodges in the Cree Valley.
    - Properties closest to the proposed development have been excluded from baseline surveys, further reducing the reliability of the data.
5. **Construction Noise Impacts**
    - The EIA dismisses construction noise impacts as "temporary and negligible," despite a construction period of at least 18 months. This timeframe cannot be considered short-term for affected residents, and mitigation measures are vague and unenforceable.

Scope of Objection

This objection highlights critical failings in the assessment of noise impacts from the Glenvernoch Wind Farm. It calls for:

1. **A Revised Noise Assessment:**

- Adoption of updated and robust noise standards that reflect modern turbine designs and current scientific understanding, such as those recommended by the WSP report.

2. **Comprehensive Cumulative Impact Analysis:**
    - Inclusion of all relevant wind farms, including proposed developments, to accurately assess cumulative noise exposure.
3. **Improved Baseline Data Collection:**
    - Expansion of noise monitoring to include all noise-sensitive properties and areas, with particular attention to those in the Cree Valley and close to the proposed turbines.
4. **Stricter Mitigation Measures:**
    - Enforceable measures to ensure noise levels remain within acceptable limits, with specific protocols for addressing amplitude modulation and low-frequency noise.

The current EIA's reliance on outdated standards and insufficient analysis poses unacceptable risks to the health and wellbeing of local communities. Until these deficiencies are addressed, the Glenvernoch Wind Farm proposal should not proceed.

2. POLICY AND LEGISLATIVE CONTRAVENTION

Overview

The Glenvernoch Wind Farm proposal fails to meet the requirements of key policies and legislative frameworks designed to protect public health and ensure sustainable development. The reliance on outdated noise guidance, insufficient assessment of cumulative impacts, and failure to adopt modern standards represent significant breaches of national and international policy objectives. This section identifies the specific contravention in the EIA and highlights their implications for residents in Newton Stewart, Bargrennan and Glentrool.

Key Contravention

1. **World Health Organization (WHO) Environmental Noise Guidelines (2018)**
    - **Policy Context:** WHO guidelines recommend stricter noise limits for rural areas to minimise health impacts such as sleep disturbance, and stress. Night-time noise should not exceed 40 dB to prevent adverse health effects.
    - **Contravention:**
        - The EIA adopts the outdated ETSU-R-97 standard, which allows noise levels up to 43 dB at night, exceeding WHO recommendations.
        - Cumulative impacts from existing and proposed wind farms are excluded, resulting in an underestimation of total noise exposure, further breaching WHO thresholds.
2. **National Planning Framework 4 (NPF4)**
    - **Policy Context:** NPF4 emphasises sustainable development and the protection of rural communities from harmful environmental impacts. It requires a robust cumulative impact assessment and mitigation measures that prioritise public health and wellbeing.
    - **Contravention:**
        - The EIA fails to provide a comprehensive cumulative impact assessment, excluding proposed wind farms such as Blair Hill, Shennanton, and Balunton.

- The reliance on ETSU-R-97 fails to align with NPF4's requirement for modern, evidence-based assessment methodologies.

3. **Control of Pollution Act 1974**
    - **Policy Context:** This Act requires developers to mitigate noise impacts from construction activities, ensuring that noise does not exceed acceptable levels for prolonged periods.
    - **Contravention:**
        - The EIA dismisses construction noise as "temporary and negligible," despite the construction period lasting up to 18 months. No detailed mitigation strategy has been provided, contravening the Act's requirements for noise control during development.
4. **European Landscape Convention (ELC)**
    - **Policy Context:** The ELC seeks to protect landscapes that contribute to cultural heritage and public wellbeing. Excessive noise can degrade the tranquillity of rural areas and diminish their value to residents and visitors.
    - **Contravention:**
        - The EIA fails to assess how noise impacts will degrade the tranquillity of Newton Stewart, Bargrennan, Glentrool, and the Cree Valley, which are integral to the cultural and environmental identity of Dumfries and Galloway.
5. **Proposed Changes to Noise Standards (2023, WSP Report)**
    - **Policy Context:** Recent reports by WSP and other bodies recommend replacing ETSU-R-97 with modern, evidence-based noise assessment standards that account for AM and cumulative impacts.
    - **Contravention:**
        - The EIA disregards these recommendations, relying on outdated methodologies that fail to address known deficiencies.

Policy Implications

By failing to comply with these policies and legislative frameworks, the Glenvernoch Wind Farm proposal poses unacceptable risks to the health, wellbeing, and quality of life of residents in Newton Stewart, Bargrennan and Glentrool. The reliance on ETSU-R-97 and insufficient cumulative impact assessments undermine the integrity of the planning process and contradict Scotland's commitments to sustainable development and public health protection.

Conclusion

EnergieKontor's EIA for the Glenvernoch Wind Farm breaches critical policies and legislative requirements, including WHO guidelines, NPF4 and the Control of Pollution Act. These contravention highlight the inadequacy of the proposal and the need for a complete reassessment using modern noise standards and comprehensive cumulative impact analyses. Without such revisions, the project is fundamentally incompatible with Scotland's planning and public health objectives.

3. METHODOLOGY

Overview

This section evaluates the methodology used in EnergieKontor's Environmental Impact Assessment (EIA) for noise impacts associated with the Glenvernoch Wind Farm. The analysis highlights significant shortcomings in the approach, including reliance on outdated standards, insufficient baseline data, and a lack of cumulative impact assessment. These deficiencies undermine the

validity of the noise assessment and fail to provide an accurate representation of the potential impacts on residents in Newton Stewart, Bargrennan and Glentrool.

Data Sources

1. **EnergieKontor EIA Chapter 10 – Noise:**
    - Assessment methodology and assumptions (Sections 10.1–10.3).
    - Noise level predictions and receptor analysis (Sections 10.5–10.8).
    - Proposed mitigation measures and residual effects (Sections 10.9–10.11).
2. **National and International Guidelines:**
    - **ETSU-R-97:** Outdated standard referenced in the EIA for noise assessment, allowing higher thresholds than those recommended by modern guidance.
    - **World Health Organization (WHO) Environmental Noise Guidelines (2018):** Best practice for setting night-time noise thresholds to protect public health.
    - **Proposed Updates to Noise Standards (WSP Report 2023):** Recommendations for replacing ETSU-R-97 with modern standards that address amplitude modulation (AM) and cumulative impacts.
3. **Local Context and Community Feedback:**
    - Noise complaints and concerns raised by residents in Newton Stewart, Bargrennan and Glentrool.
    - Observations of the existing Kilgallioch wind farm's operational impacts on local communities.
4. **Scientific Literature and Technical Studies:**
    - Studies on the health impacts of amplitude modulation and low-frequency noise.
    - Case studies on cumulative noise impacts in areas with multiple wind farms.

Methodology Critique

1. **Reliance on ETSU-R-97**
    - The EIA uses ETSU-R-97, which:
        - Allows higher night-time noise limits (43 dB) than WHO recommendations (40 dB), ignoring evidence of sleep disturbance and health risks.
        - Does not address modern turbine designs, which produce higher levels of amplitude modulation and low-frequency noise.
    - Recent reports, including the WSP study, recommend moving away from ETSU-R-97 in favour of standards that reflect current scientific understanding.
2. **Insufficient Baseline Noise Data**
    - Monitoring locations are limited and fail to represent noise-sensitive properties near Newton Stewart, Bargrennan and Glentrool.
    - Background noise measurements are not comprehensive, excluding key receptors such as lodges in the Cree Valley.
3. **Cumulative Impact Analysis**

- The EIA does not adequately model cumulative noise impacts from the Glenvernoch Wind Farm in combination with:
    - Existing Kilgallioch wind farm.
    - Proposed developments at Blair Hill, Shennanton, and Balunton.
- This omission underestimates the total noise exposure experienced by local communities.

4. **Exclusion of Amplitude Modulation (AM) and Low-Frequency Noise**
    - Amplitude modulation, a common feature of modern turbines, is not evaluated in the EIA. AM is known to cause significant annoyance and sleep disruption, even at lower decibel levels.
    - Low-frequency noise and infrasound, which travel further and can penetrate buildings, are similarly ignored, despite growing evidence of their health impacts.
5. **Construction Noise Impacts**
    - The EIA dismisses construction noise as temporary without providing detailed mitigation measures.
    - An 18-month construction period cannot be considered negligible for residents subjected to sustained disruption.

Limitations in EnergieKontor's Methodology

1. **Outdated Standards:**
    - The reliance on ETSU-R-97 fails to reflect modern turbine characteristics and scientific advancements.
2. **Inadequate Receptor Coverage:**
    - Monitoring excludes many properties closest to the proposed turbines, leading to an incomplete understanding of baseline noise levels.
3. **Lack of Cumulative Analysis:**
    - Failure to include cumulative impacts from existing and proposed wind farms underestimates the true scale of noise exposure.
4. **Exclusion of Critical Noise Features:**
    - The omission of amplitude modulation and low-frequency noise undermines the assessment's validity.

Conclusion

The methodology used in the EIA is fundamentally flawed due to its reliance on outdated standards, insufficient baseline data, and lack of cumulative impact assessment. These deficiencies fail to provide an accurate representation of the noise impacts on Newton Stewart, Bargrennan, Glentrool, and the surrounding areas.

This objection calls for:

- Adoption of modern noise standards that address amplitude modulation and low-frequency noise.
- Comprehensive baseline noise monitoring at all sensitive receptors.
- Inclusion of cumulative impacts from all existing and proposed wind farms in the region.

Without these revisions, the EIA's conclusions cannot be considered reliable or robust.

4. BASELINE CONDITIONS

Overview

The baseline conditions provided in the Glenvernoch Wind Farm Environmental Impact Assessment (EIA) fail to accurately reflect the noise environment of the affected areas, particularly Newton Stewart, Bargrennan, Glentrool, and the Cree Valley. These locations are characterised by low ambient noise levels typical of rural settings, which make residents more susceptible to disturbance from additional noise sources such as wind turbines. The EIA's assessment is limited by insufficient monitoring locations, exclusion of sensitive receptors, and inadequate representation of worst-case scenarios.

Key Characteristics of the Baseline Environment

1. **Ambient Noise Levels in Rural Areas:**
    - **Typical Conditions:** Newton Stewart, Bargrennan and Glentrool are characterised by low background noise levels, primarily dominated by natural sounds such as wind in vegetation and wildlife.
    - **Implications:** These low ambient levels increase the perceptibility of turbine noise, particularly during quiet night-time conditions when the WHO-recommended threshold for night noise is 40 dB.
2. **Noise-Sensitive Receptors:**
    - **Residential Properties:** Key receptors include isolated rural homes, lodges, and communities within Newton Stewart, Bargrennan and Glentrool. Many of these receptors are situated within close proximity to the proposed turbine locations.
    - **Excluded Receptors:** The EIA fails to include baseline monitoring for some properties that are closest to the turbines, such as those in Glentrool and along access routes for construction vehicles.
3. **Existing Noise Sources:**
    - **Kilgallioch Wind Farm:** Noise from the operational Kilgallioch wind farm already contributes to the baseline noise environment. The Glenvernoch EIA fails to account for the potential interaction between existing turbine noise and the proposed development.
    - **Other Sources:** Minor contributions from distant road traffic and occasional agricultural activities are the only other notable noise sources.

Issues with Baseline Noise Monitoring

1. **Limited Monitoring Locations:**
    - The EIA uses a small number of monitoring stations that do not adequately represent the range of noise conditions experienced by affected residents. Key receptors in Newton Stewart, Bargrennan and Glentrool are either excluded or inadequately assessed.
2. **Inadequate Time Periods for Monitoring:**
    - Noise data was collected over limited time periods, failing to capture variations caused by seasonal weather patterns or worst-case conditions when turbine noise would be most intrusive.
3. **Lack of Contextual Noise Analysis:**
    - The EIA does not differentiate between day and night baseline conditions, which is critical for assessing compliance with WHO guidelines on night-time noise exposure.
4. **Exclusion of Key Features of Turbine Noise:**

- No assessment of amplitude modulation (AM) or low-frequency noise, which are significant contributors to perceived disturbance in low-noise environments like Newton Stewart, Bargrennan and Glentrool.

Cumulative Noise Considerations

1. **Existing Developments:**
    - The Kilgallioch wind farm already impacts baseline noise levels in the area. However, its contribution is not adequately analysed or integrated into the cumulative baseline.
2. **Proposed Developments:**
    - Wind farms at Blair Hill, Shennanton, and Balunton are excluded from the baseline assessment, despite their proximity and the potential for overlapping noise impacts.

Impact of Construction Noise on Baseline Conditions

1. **Temporary Noise Increases:**
    - Construction activities, including heavy vehicle movements and turbine assembly, will introduce significant noise into areas where baseline levels are otherwise very low.
    - The EIA's dismissal of construction noise as negligible overlooks the prolonged 18-month construction period, which cannot reasonably be considered a temporary impact for affected residents.
2. **Disruption to Sensitive Receptors:**
    - Residents and visitors to Glentrool, a gateway to the Galloway Forest Park, will experience elevated noise levels during construction, impacting tranquillity and visitor experience.

Conclusion

The baseline conditions presented in the EIA are incomplete and fail to account for the unique characteristics of the noise environment in Newton Stewart, Bargrennan and Glentrool. By excluding key receptors and cumulative contributions from existing and proposed developments, the assessment underestimates the potential impact of the Glenvernoch Wind Farm.

This objection calls for:

- Expanded noise monitoring that includes all noise-sensitive receptors, particularly those in Glentrool, Bargrennan and Newton Stewart.
- Inclusion of cumulative noise contributions from Kilgallioch and proposed developments at Blair Hill, Shennanton, and Balunton.
- Assessment of worst-case scenarios, including amplitude modulation and low-frequency noise impacts.

The lack of a comprehensive baseline analysis significantly undermines the validity of the EIA's findings.

5. IDENTIFICATION AND EVALUATION OF KEY EFFECTS

Overview

The Glenvernoch Wind Farm Environmental Impact Assessment (EIA) underestimates the significant noise impacts of the proposed development on local residents, particularly those in Newton Stewart, Bargrennan and Glentrool. This section evaluates the projected noise impacts, highlighting deficiencies in the EIA's analysis and discussing their implications for public health, wellbeing, and the natural environment. Key concerns include operational noise, amplitude modulation (AM), low-frequency noise, construction noise, and cumulative impacts.

1. Operational Noise

Predicted Noise Levels:

- The EIA predicts operational noise levels consistent with ETSU-R-97, allowing up to 43 dB at night, significantly higher than the World Health Organization (WHO) guideline of 40 dB for rural areas.
- Noise levels at properties in Newton Stewart, Bargrennan and Glentrool are expected to approach these limits, but the assessment fails to account for periods of elevated turbine noise during high wind conditions or when wind shear increases turbine sound propagation.

Health Implications:

- Prolonged exposure to operational noise above 40 dB is linked to:
    - Sleep disturbances.
    - Increased stress and anxiety.

Deficiencies in the EIA:

- The EIA does not model noise levels during worst-case scenarios, such as strong wind shear or high turbine activity at night.
- Low-frequency noise and amplitude modulation (AM), which significantly contribute to perceived disturbance, are not included in the assessment.

2. Amplitude Modulation (AM) and Low-Frequency Noise

Amplitude Modulation:

- AM refers to fluctuations in turbine noise, creating a "thumping" or "swishing" effect. It is widely regarded as a primary cause of annoyance among residents near wind farms.
- The EIA fails to address AM impacts despite their recognition as a significant issue in modern turbine design.

Low-Frequency Noise:

- Low-frequency noise and infrasound, which are inaudible to the human ear but have physiological impacts, are excluded from the assessment.
- These frequencies are known to penetrate buildings and contribute to sleep disturbances and stress in noise-sensitive populations.

3. Construction Noise

Predicted Impacts:

- Construction activities, including heavy machinery operation and turbine assembly, will generate significant noise levels over an extended 18-month period.
- Access routes used by construction vehicles will introduce additional noise to sensitive areas in Glentrool, Bargrennan and Newton Stewart.

Deficiencies in the EIA:

- The EIA dismisses construction noise as "temporary and negligible," ignoring the prolonged construction period and its cumulative impact on local tranquillity.

- Mitigation measures, such as restricted working hours, are vaguely defined and lack enforceability.

4. Cumulative Noise Impacts

Interaction with Existing and Proposed Developments:

- The Glenvernoch Wind Farm's noise impacts will combine with those from the existing Kilgallioch wind farm and proposed developments at Blair Hill, Shennanton, and Balunton.
- The EIA's failure to model cumulative noise impacts underestimates the total noise exposure for residents in Newton Stewart, Bargrennan and Glentrool.

Deficiencies in the EIA:

- No comprehensive analysis of overlapping noise zones or interaction between turbines.
- Absence of cumulative health impact modelling, which is essential for understanding long-term effects on affected communities.

5. Impacts on Sensitive Receptors

Residential Areas:

- Properties in Newton Stewart, Bargrennan and Glentrool are closest to the proposed turbines, making them most vulnerable to operational and construction noise.
- The EIA excludes some of these receptors from its analysis, further underestimating the potential impacts.

Ecological and Recreational Areas:

- Glentrool, as a gateway to the Galloway Forest Park, is a significant recreational area for visitors seeking tranquillity. Elevated noise levels during construction and operation will detract from its appeal, impacting tourism and local businesses.

6. Quality of Life Impacts

Increased Annoyance and Stress:

- Noise annoyance is a recognised health impact, contributing to stress, anxiety, and reduced quality of life for residents exposed to prolonged noise levels above recommended thresholds.

Sleep Disruption:

- Night-time noise from turbines, particularly with AM or low-frequency components, is likely to disrupt sleep patterns, leading to long-term health implications for affected populations.

Conclusion

The Glenvernoch Wind Farm's noise impacts, as presented in the EIA, are significantly underestimated due to methodological deficiencies and omissions. Key issues include the exclusion of AM and low-frequency noise, failure to model cumulative impacts, and insufficient attention to sensitive receptors.

This objection identifies critical deficiencies and calls for:

- A revised noise assessment that includes AM, low-frequency noise, and cumulative impacts.
- Robust modelling of worst-case scenarios, particularly during night-time conditions.
- Enforceable mitigation measures to limit noise impacts on local communities and sensitive areas.

6. MITIGATION MEASURES AND RESIDUAL RISKS

Overview

The mitigation measures proposed in the Glenvernoch Wind Farm Environmental Impact Assessment (EIA) are insufficient to address the significant noise impacts on local communities and sensitive receptors. The measures fail to address key issues such as amplitude modulation (AM), low-frequency noise, and cumulative noise impacts from existing and proposed wind farms. This section evaluates the proposed mitigation strategies, identifies residual risks, and highlights critical deficiencies that undermine their effectiveness.

Proposed Mitigation Measures

1. **Operational Noise Control**
    - **Proposed Measures:**
        - Adherence to ETSU-R-97 noise limits, including a 43 dB night-time limit.
        - Placement of turbines to maximise distance from residential properties.
    - **Limitations:**
        - ETSU-R-97 limits are outdated and fail to align with the World Health Organization (WHO) night-time noise threshold of 40 dB.
        - No measures are proposed to address amplitude modulation (AM) or low-frequency noise, which are significant contributors to annoyance and sleep disturbance.
2. **Construction Noise Management**
    - **Proposed Measures:**
        - Restriction of working hours for construction activities to minimise disruption.
        - Use of noise-reducing equipment during construction.
    - **Limitations:**
        - The proposed restrictions are vaguely defined and lack enforceable mechanisms.
        - Construction traffic noise on access routes, particularly near Glentrool, is not adequately mitigated.
3. **Cumulative Noise Mitigation**
    - **Proposed Measures:**
        - Collaboration with neighbouring wind farm developers to manage cumulative noise impacts.
    - **Limitations:**
        - No specific plans or agreements with developers of proposed wind farms such as Blair Hill, Shennanton, or Balunton have been outlined.
        - The absence of cumulative noise modelling makes it impossible to assess the effectiveness of this approach.
4. **Noise Monitoring and Compliance**

- **Proposed Measures:**
  - Post-construction noise monitoring to ensure compliance with ETSU-R-97 limits.
- **Limitations:**
  - Monitoring does not account for amplitude modulation or low-frequency noise.
  - Reliance on ETSU-R-97 limits undermines the validity of monitoring efforts, as these limits are less stringent than modern standards.

Residual Risks

1. **Amplitude Modulation and Low-Frequency Noise**
   - **Unmitigated Risks:**
     - Amplitude modulation (AM) is not addressed in the proposed measures, leaving residents vulnerable to the disruptive "thumping" effect associated with modern turbines.
     - Low-frequency noise and infrasound, which are linked to sleep disturbances and stress, remain unaddressed.
2. **Night-Time Noise Impacts**
   - **Unmitigated Risks:**
     - Night-time noise levels exceeding 40 dB will disrupt sleep and contribute to long-term health issues such as hypertension and stress.
3. **Cumulative Noise Impacts**
   - **Unmitigated Risks:**
     - The combined effects of Glenvernoch with existing and proposed wind farms, including Kilgallioch, Blair Hill, and Shennanton, are not assessed or mitigated, leading to an underestimation of total noise exposure.
4. **Construction Noise Disruption**
   - **Unmitigated Risks:**
     - Prolonged construction noise over the 18-month period will cause significant disruption to residents and visitors, particularly in Glentrool and along access routes.
     - The lack of enforceable mitigation measures increases the likelihood of prolonged community disturbance.
5. **Impacts on Sensitive Receptors**
   - **Unmitigated Risks:**
     - Key receptors in Newton Stewart, Bargrennan and Glentrool remain at risk of excessive noise exposure due to inadequate baseline data and mitigation planning.

Conclusion

The mitigation measures proposed in the EIA are inadequate and fail to address critical noise impacts associated with the Glenvernoch Wind Farm. Key gaps include the lack of measures for amplitude modulation, low-frequency noise, and cumulative impacts. Construction noise mitigation is vague and unenforceable, leaving communities exposed to prolonged disruption.

This objection calls for:

1. **Adoption of Modern Standards:** Implement stricter noise limits in line with WHO recommendations and modern turbine noise standards that address AM and low-frequency noise.
2. **Comprehensive Cumulative Impact Mitigation:** Develop enforceable agreements with neighbouring wind farm developers to manage overlapping noise impacts.
3. **Improved Noise Monitoring and Mitigation:** Include real-time monitoring for AM and low-frequency noise, with clear protocols for turbine shut-offs during excessive noise periods.
4. **Stricter Construction Noise Management:** Enforce specific working hours, noise-reducing equipment, and traffic restrictions to minimise disruption during the extended construction period.

Without these measures, the Glenvernoch Wind Farm poses unacceptable risks to public health, wellbeing, and quality of life for residents in Newton Stewart, Bargrennan and Glentrool.

7. CONCLUSION AND RECOMMENDATIONS

Conclusion

The Glenvernoch Wind Farm proposal presents significant and unacceptable noise impacts on the residents of Newton Stewart, Glentrool, Bargrennan, and surrounding areas. The Environmental Impact Assessment (EIA) fails to adequately address these impacts due to its reliance on outdated standards, insufficient baseline data, and the omission of key factors such as amplitude modulation (AM), low-frequency noise, and cumulative impacts from other developments. These deficiencies pose serious risks to public health, wellbeing, and community quality of life.

Key findings include:

1. **Operational Noise:**
    - Predicted noise levels exceed World Health Organization (WHO) recommendations, particularly at night, leading to risks of sleep disturbances and long-term health effects such as hypertension.
2. **Amplitude Modulation (AM) and Low-Frequency Noise:**
    - The EIA fails to address AM and low-frequency noise, both of which are known to cause significant annoyance, stress, and physiological impacts.
3. **Cumulative Noise Impacts:**
    - The EIA excludes proposed wind farms such as Blair Hill, Shennanton, and Balunton from its cumulative impact analysis, underestimating the total noise exposure for local communities.
4. **Construction Noise:**
    - The prolonged 18-month construction period will expose residents and visitors to significant noise disruption, with mitigation measures described as “temporary” and insufficiently detailed.
5. **Sensitive Receptors:**
    - Noise-sensitive receptors in Bargrennan, Newton Stewart, Glentrool, and the Cree Valley are either excluded or inadequately represented in the baseline assessments, further undermining the validity of the analysis.

These deficiencies highlight the inadequacy of the proposed mitigation measures and the need for substantial revisions to the EIA.

Recommendations

1. **Reject the Glenvernoch Wind Farm Proposal in Its Current Form:**
    - The proposal does not meet the standards required to protect public health, wellbeing, and quality of life. Approval should be withheld until the identified deficiencies are addressed.
2. **Adopt Modern Noise Standards:**
    - Replace reliance on ETSU-R-97 with modern noise standards that account for amplitude modulation (AM), low-frequency noise, and cumulative impacts, as recommended in recent studies such as the WSP report.
3. **Comprehensive Cumulative Impact Assessment:**
    - Include all existing and proposed wind farms, including Kilgallioch, Blair Hill, Shennanton, and Balunton, in the cumulative noise analysis to accurately assess total exposure levels.
4. **Expand Baseline Noise Monitoring:**
    - Conduct noise monitoring at all sensitive receptors, including isolated properties in Glentrool and lodges in the Cree Valley, to provide a complete and accurate baseline assessment.
5. **Robust Mitigation Measures:**
    - Implement enforceable noise limits in line with WHO recommendations, with specific protocols for turbine shut-offs during periods of excessive noise.
    - Develop a detailed plan to address construction noise, including enforceable restrictions on working hours, noise-reducing equipment, and construction traffic management.
6. **Real-Time Noise Monitoring:**
    - Install real-time monitoring systems to detect amplitude modulation and low-frequency noise, with clear mechanisms for responding to exceedances.
7. **Strengthen Community Protections:**
    - Establish a transparent complaints mechanism with binding resolution processes to address community concerns about noise impacts promptly.
    - Provide compensation to residents for prolonged disruption caused by construction and operational noise.

Final Statement

The Glenvernoch Wind Farm, as proposed, fails to adequately assess or mitigate its noise impacts, placing undue risk on the health and wellbeing of residents in Newton Stewart, Bargrennan and Glentrool. The reliance on outdated standards, insufficient cumulative impact analysis, and vague mitigation measures render the project fundamentally incompatible with Scotland's planning policies and public health objectives.

Substantial revisions are necessary to address these deficiencies, including the adoption of modern noise standards, comprehensive baseline assessments, and enforceable mitigation measures. Until such revisions are made, the project should not proceed.

OBJECTION TO SECTION 11 (EIA) – TRAFFIC AND TRANSPORT

CONTENTS

References:

1. **ENERGIEKONTOR EIA CHAPTER 11:**
   Traffic volumes (Table 11-6) and accident data (Table 11-7).
   Congestion at Garroch Roundabout (Section 11.19).
   Risks from rural diversion routes like the A712 and A713 (Sections 11.28–11.31).
   Cumulative impacts of wind farms (Sections 11.113–11.122).

2. **TRANSPORT SCOTLAND:**
   National Traffic Data System (NTDS): Traffic volumes for the A75 and A714.
   CrashMap: Accident records for high-risk roads and junctions.

3. **POLICY AND LEGISLATION:**
   National Planning Framework 4 (NPF4): Sustainable transport and infrastructure policies.
   Design Manual for Roads and Bridges (DMRB): Road suitability guidelines.
   Road Traffic Regulation Act 1984: Traffic management and safety requirements.
   Scottish Transport Assessment Guidance (STAG): Evaluation standards for transport impacts.
   Control of Pollution Act 1974: Mitigation for noise and air pollution.
   Dumfries and Galloway traffic reports and emergency response case studies.

1. NON-TECHNICAL SUMMARY AND SCOPE OF OBJECTION

Overview

This section addresses the significant traffic and transport impacts associated with the proposed Glenvernoch Wind Farm in Dumfries and Galloway. EnergieKontor's Environmental Impact Assessment (EIA) fails to adequately address critical risks to public safety, regional infrastructure, and community well-being. This analysis highlights the shortcomings of the proposed mitigation measures and their inability to prevent unacceptable residual impacts.

Key Areas of Concern

1. **Emergency Response Delays**

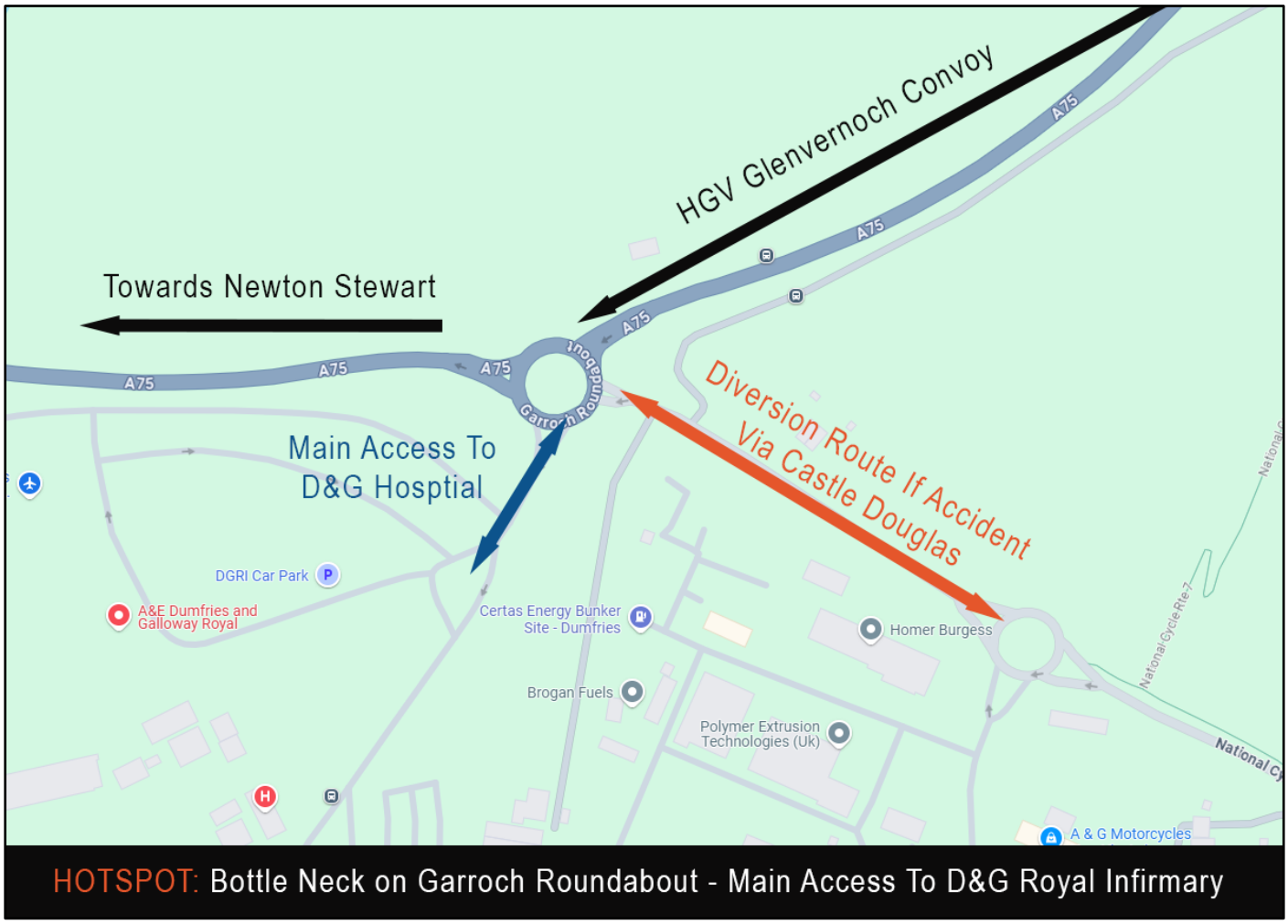

FIGURE 11.1 HIGHLIGHTS A CRITICAL RISK ASSOCIATED WITH THE MAIN ROUNDABOUT PROVIDING ACCESS TO DUMFRIES & GALLOWAY ROYAL INFIRMARY

- **Congestion on Key Routes:** Increased HGV traffic on the A75 and Garroch Roundabout will significantly delay ambulances, fire services, and police, putting public health and safety at risk.
- **Impact on Rural Communities:** Emergency response times will be prolonged in life-threatening situations, worsened by gridlock caused by HGV convoys and traffic diversions onto unsuitable rural roads.

2. **Congestion and Critical Junctions**

- **Garroch Roundabout:** A critical access point to Dumfries and Galloway Royal Infirmary, this junction will experience severe traffic congestion, delaying emergency vehicles and disrupting local traffic flow.

FIGURE 11.2: SHOWS TWISTED DIVERSION ROUTE VIA CASTLE DOUGLAS ON A745 & A711 TO D&G ROYAL INFIRMARY IF A75 IS CLOSED ADDING ON AVERAGE *5 ADDITIONAL MINUTES TO EMERGENCY RESPONSE TIMES (*PERFECT DRIVING CONDITIONS)

- **Impact on the A711:** Diversions through the A711 will exacerbate congestion in communities like Beeswing, Dalbeattie, and Castle Douglas, affecting residents and local businesses.

3. **Risks from Unsafe Diversion Routes**

- **Suitability of Rural Roads:** Increased traffic on unsuitable rural roads, such as the A712, A713, A711, and A714, will create significant safety hazards.
  - **Key Risks Include:**
    - **Diversion from A77 Closures:** Closure of the A77, a major trunk road to Ayrshire, will divert significant traffic onto the A75 through Newton Stewart and the A714, which passes directly by the proposed Glenvernoch Wind Farm site. This diversion will exacerbate congestion and safety risks on roads already under strain from construction-related HGV movements.
    - **Head-on Collisions on Narrow Roads:** The A714, in particular, features narrow, winding sections unsuitable for high traffic volumes, increasing the likelihood of accidents.
    - **Safety Risks Along the A75 and A714:** Increased traffic volumes will heighten accident risks, create prolonged delays, and further degrade infrastructure in the region.

FIGURE 11.3: SHOWS TWISTED DIVERSION ROUTE VIA CASTLE DOUGLAS ON A745 & A711 TO D&G ROYAL INFIRMARY IF A75 IS CLOSED THESE ROADS ARE NOT SUITABLE FOR A LARGE INCREASE IN TRAFFIC VOLUME OR HGVs

4. **Breakdown and Gridlock Scenarios**

   - **Convoy Breakdowns:** Abnormal load movements risk convoy breakdowns, causing prolonged blockages on key routes and forcing traffic diversions onto unsuitable roads.

   - **Rural Infrastructure Limitations:** Rural roads lack the capacity and infrastructure to handle sudden surges in diverted traffic, increasing the likelihood of gridlock and collisions.

5. **Cumulative Traffic Impacts**

   - **Concurrent Construction Projects:** Overlapping construction schedules for Glenvernoch, Blair Hill, and Shennanton wind farms will result in sustained surges in traffic on the A75 and surrounding routes.

   - **Amplified Regional Impacts:** Increased HGV movements will exacerbate congestion, accelerate road degradation, and intensify environmental impacts across the region.

6. **Health, Environmental, and Economic Consequences**

   - **Quality of Life:** Prolonged HGV traffic will cause noise, vibration, and air pollution, adversely affecting residents in villages like Springholm, Crocketford, and Crossmichael.

- **Economic Disruption:** Traffic delays will hinder ferry operations at Cairnryan, a vital economic link, undermining regional trade and tourism.

- **Impact on Local Businesses:** Delays and restricted access will disrupt businesses reliant on timely logistics and customer traffic, compounding broader economic challenges for the region.

Conclusion

EnergieKontor's EIA fails to address the profound traffic and transport impacts posed by the Glenvernoch Wind Farm. Key risks to public safety, rural road infrastructure, and regional economic stability remain inadequately mitigated, particularly with the additional stress caused by potential diversions from A77 closures. These shortcomings highlight the unsuitability of the current proposal for approval.

2. POLICY AND LEGISLATIVE CONTRAVENTION

Overview

The Glenvernoch Wind Farm proposal contravenes several key policies and legislative frameworks designed to safeguard public safety, promote sustainable development, and protect community well-being. This section details specific contravention and inadequacies in the proposal, with references to EnergieKontor's Environmental Impact Assessment (EIA) where applicable. The failure to account for diversion impacts, such as those resulting from an A77 closure, further compounds the proposal's non-compliance with critical policies.

Relevant Policies and Legislative Frameworks

1. **National Planning Framework 4 (NPF4)**
   Violation:
   NPF4 prioritises sustainable development and infrastructure resilience, with a strong emphasis on protecting communities. The proposal contravenes this by:

   - Introducing substantial risks to emergency response times and public safety due to increased HGV congestion at critical bottlenecks like the Garroch Roundabout and along the A75 (EnergieKontor, Section 11.19).

   - Failing to adequately assess the impacts of diversion traffic on rural roads, such as the A712, A713, and A714, which are unsuitable for HGVs and higher traffic volumes, particularly during A77 closures. These diversions exacerbate congestion and create additional hazards along already strained routes (EnergieKontor, Section 11.31).

2. **Road Traffic Regulation Act 1984**
   Violation:
   The Act requires measures to ensure road safety and maintain efficient traffic flow. The proposal:

   - Projects an up to 46% increase in HGV traffic on the A75 during peak construction months, exceeding safety thresholds for rural roads (EnergieKontor, Table 11-11).

   - Neglects the risks posed by narrow, winding roads such as the A712 and A714, where head-on collisions are expected to rise due to unsuitable traffic diversions, including those caused by A77 closures.

3. **Scottish Transport Assessment Guidance (STAG)**
   Violation:
   STAG mandates a comprehensive assessment of transport impacts, particularly in sensitive and rural areas. EnergieKontor's EIA fails to:

   - Provide sufficient analysis of cumulative traffic impacts from concurrent developments, including Blair Hill and Shennanton wind farms (EnergieKontor, Sections 11.113–11.122).

- Address the economic and safety consequences of increased diversionary traffic along the A75 and A714 during A77 closures, which would create prolonged delays for ferry traffic at Cairnryan, a critical trade and transport hub for the region.

4. **Control of Pollution Act 1974**
   Violation:
   The Act requires measures to control noise and air pollution from traffic. The proposal:

   - Underestimates the prolonged exposure of communities such as Springholm, Crocketford, and Crossmichael to increased noise and vibration from sustained HGV traffic (EnergieKontor, Sections 11.96–11.104).
   - Fails to account for the cumulative pollution impacts on sensitive receptors like schools and health facilities located along major routes, particularly during peak construction traffic and A77 diversions.

5. **Design Manual for Roads and Bridges (DMRB)**
   Violation:
   The DMRB provides technical guidelines for assessing the suitability of roads for increased traffic. The proposal:

   - Ignores the risks posed by using unsuitable roads, such as the A712, A713, and A714, for diverted traffic during A77 closures (EnergieKontor, Section 11.28).
   - Fails to propose adequate structural improvements to rural roads to accommodate abnormal loads or increased HGV traffic volumes.

Policy Implications

The Glenvernoch Wind Farm proposal undermines Scotland's commitments to sustainable transport, public safety, and environmental protection. EnergieKontor's EIA demonstrates clear non-compliance with essential legal and policy requirements, including NPF4, the Road Traffic Regulation Act, STAG, and the Control of Pollution Act. The proposal's failure to account for critical diversion scenarios, such as an A77 closure, further exacerbates the risks to regional infrastructure and public safety.

The absence of sufficient mitigation measures and the failure to account for these critical transport and community impacts demand either substantial revisions to the proposal or its outright rejection.

3. METHODOLOGY

Overview

This objection evaluates EnergieKontor's Environmental Impact Assessment (EIA) for the Glenvernoch Wind Farm through a detailed analysis of publicly available data, policy guidelines, and industry standards. The objective is to identify critical deficiencies in the assessment, particularly concerning public safety, cumulative impacts, and the hazards associated with diversion routes. Specific attention is given to scenarios such as A77 closures, which would significantly alter traffic patterns and exacerbate the risks along key diversion routes like the A75 and A714.

Data Sources

1. **EnergieKontor EIA Report: Chapter 11 – Traffic and Transportation**
   Key References Include:

   - Baseline Traffic Data and Projected Increases (Sections 11.47–11.61, Table 11-6).
   - Impacts of Construction Traffic on Rural Roads and Junctions (Sections 11.19–11.28).
   - Cumulative Effects from Overlapping Developments (Sections 11.113–11.122).

2. **Transport Scotland Traffic Data**

   - Traffic flow statistics for critical routes, including the A75, A714, A712, and A713.

- Historical accident data sourced from CrashMap to identify collision hotspots.

3. **Legislative and Policy Frameworks**
    - National Planning Framework 4 (NPF4).
    - Road Traffic Act 1984.
    - Scottish Transport Assessment Guidance (STAG).

Assessment Criteria

1. **Emergency Response Delays**
    - Evaluates the impact of increased HGV traffic on response times for ambulances, fire services, and police, focusing on:
        - Critical routes such as the A75 and Garroch Roundabout (EnergieKontor, Section 11.19).
        - Delays caused by traffic bottlenecks, abnormal load convoy movements, and diversion scenarios such as A77 closures, which force additional traffic onto the A75 and A714.
2. **Traffic Flow and Safety**
    - Compares EnergieKontor's baseline traffic data with historical trends to assess accuracy.
    - Examines accident risks on diversion routes, including the A712, A713, A711, and A714, focusing on:
        - Collision hotspots and the likelihood of increased accidents due to higher traffic volumes, particularly during A77 diversions.
        - Risks associated with narrow roads, blind bends, and insufficient infrastructure to accommodate diverted vehicles and HGVs.
3. **Cumulative Traffic Impacts**
    - Assesses the compounded effects of concurrent wind farm developments, including Glenvernoch, Blair Hill, and Shennanton, on regional transport networks.
    - Evaluates the additional impact of diversion traffic from A77 closures, which would place further strain on the A75 and A714, increasing congestion and road wear.
4. **Diversion Hazards and Infrastructure Suitability**
    - Evaluates risks associated with diverting traffic onto unsuitable roads, particularly:
        - The A712's winding, narrow structure and limited passing opportunities.
        - The A714's proximity to the Glenvernoch site and its unsuitability for handling the increased volume of diverted vehicles and HGVs during A77 closures.
    - Considers the safety hazards posed by diverted traffic on already-congested sections of the A75 and at critical bottlenecks like Newton Stewart.
5. **Environmental and Community Impacts**
    - Assesses noise and air pollution impacts on rural communities from both construction-related traffic and diversion scenarios.

- Evaluates the long-term social and economic toll of prolonged traffic disruptions, particularly during peak construction and diversion periods.

Limitations in EnergieKontor's Methodology

1. **Emergency Response Risks**
    - EnergieKontor's EIA does not analyse the impact of traffic congestion on emergency response times, particularly on critical routes such as the A75 and Garroch Roundabout (EnergieKontor, Section 11.69).
    - No consideration is given to the added delays caused by diverted traffic from A77 closures, which could obstruct emergency vehicle access on the A75 and A714.
2. **Diversion Hazards**
    - Narrow rural roads such as the A712, A713, and A714 are not adequately evaluated for safety or suitability, despite being likely diversion routes during construction or A77 closures (EnergieKontor, Section 11.20).
3. **Cumulative Impacts**
    - The EIA fails to sufficiently address overlapping construction traffic from Glenvernoch, Blair Hill, and Shennanton developments (EnergieKontor, Section 11.113).
    - It also neglects the cumulative impact of diverted traffic from A77 closures, further underestimating the strain on regional infrastructure.
4. **Environmental Impacts**
    - The EIA underestimates the health risks posed by prolonged exposure to increased noise and air pollution in affected communities (EnergieKontor, Sections 11.96–11.104).
    - The compounding effects of construction and diverted traffic on air quality and noise levels remain unaddressed.

Conclusion

This objection's methodology reveals critical deficiencies in EnergieKontor's traffic and transport assessment for the Glenvernoch Wind Farm. By neglecting key areas such as emergency response delays, diversion hazards, cumulative impacts, and environmental health risks, the EIA fails to provide an accurate or comprehensive evaluation of the proposal's impact. The failure to account for diversion scenarios such as A77 closures highlights a lack of due diligence in assessing regional transport resilience. These omissions underscore the inadequacy of the proposed mitigation measures and the need for a more rigorous assessment before the project can be considered viable.

4. BASELINE CONDITIONS

Overview

Dumfries and Galloway's transport network is characterized by fragile infrastructure that is ill-suited to accommodate the significant traffic increases projected by the Glenvernoch Wind Farm proposal. This section evaluates existing traffic volumes, road characteristics, accident data, and the capacity of key routes to handle the additional HGV movements associated with the development. It also considers the impacts of diversion scenarios, such as A75 closures, which would further stress the region's transport infrastructure. References to EnergieKontor's Environmental Impact Assessment (EIA) and independent data are included where applicable to highlight critical gaps in their analysis.

Traffic Volumes and Characteristics

1. **A75**

- **Role:** The A75 is a critical trunk road, connecting Dumfries and Galloway to Northern Ireland via the Cairnryan ferry ports and linking to England through the A74. It also serves as a primary route for local and regional traffic.
- **Current Usage (EnergieKontor, Table 11-6):**
  - Average Daily Traffic (ADT): Approximately 4,000–5,000 vehicles, with HGVs comprising 32–35% of traffic on key sections.
- **Constraints:**
  - Regular congestion during peak hours, particularly at key junctions such as the Garroch Roundabout.
  - Lack of bypasses for villages like Springholm and Crocketford forces all traffic, including HGVs, through residential areas, creating safety and congestion risks.
  - During A75 closures, official diversions can lead to significantly longer routes, sometimes up to 96 miles, causing driver frustration and potential use of unsuitable minor roads as shortcuts.

2. **A714**
   - **Current Usage (EnergieKontor, Table 11-6):**
     - ADT: 1,202 vehicles, with 24.1% being HGVs.
   - **Constraints:**
     - Narrow road widths and limited pedestrian infrastructure increase safety risks, particularly for local residents and vulnerable road users.
     - The A714 serves as a diversion route during certain A77 closures, carrying additional traffic from the A75 through Newton Stewart, passing directly by the Glenvernoch site. This increased volume exacerbates existing limitations and creates significant safety concerns.
3. **Diversion Routes (A712, A713, A711)**
   - **A712:** A narrow, winding road with limited visibility and passing points, making it unsuitable for HGVs or abnormal loads.
   - **A713:** Features blind bends and limited passing opportunities, running through rural villages like Crossmichael and Parton. Increased traffic will amplify accident risks and disrupt local communities.
   - **A711:** This road passes through Beeswing, Dalbeattie, and Castle Douglas. Increased traffic will exacerbate congestion and heighten safety risks in residential areas.

Historical Accident Data

4. **Accident Rates (EnergieKontor, Table 11-7):**
   - **A75 (2019–2024):** EnergieKontor reports only two fatal accidents; however, FOI data from Transport Scotland confirms 138 accidents over this period, including seven fatalities.
   - **A714 and U52W:**
     - **A714:** Three slight, five serious, and one fatal accident.
     - **U52W:** Two slight accidents.
5. **Collision Hotspots:**

- **Springholm and Crocketford:** High pedestrian activity and narrow carriageways present significant safety risks.
- **Diversion Routes (A712 and A714):** These roads are particularly prone to head-on collisions due to their narrow, winding nature and limited passing areas. Increased traffic, especially during diversions, heightens the risk of accidents along these constrained routes.

Infrastructure Limitations

1. **Capacity Issues:**
   - The A75 is already operating near capacity during peak hours, leaving no room to accommodate the substantial increases in traffic projected by the EIA. Closures on the A75 lead to official diversions that significantly increase travel distances, causing driver frustration and potential use of unsuitable minor roads as shortcuts.
   - Diversion routes such as the A712, A713, and A714 are fundamentally unsuitable for sustained HGV traffic, posing significant risks of road damage and accidents.
2. **Emergency Response:**
   - Congestion at key junctions like the Garroch Roundabout, near Dumfries and Galloway Royal Infirmary, will delay emergency vehicle access, endangering lives.
   - Rural communities reliant on emergency services already face prolonged response times, which will worsen with increased traffic volumes and diversionary pressures from A75 closures.
3. **Road Maintenance:**
   - Sustained HGV movements will accelerate road wear, particularly on the A75 and A714. Local authorities may struggle to manage increased maintenance costs without adequate compensation from developers.
   - The additional traffic load from diverted vehicles during A75 closures will exacerbate infrastructure degradation, leading to further financial strain.

Environmental and Community Sensitivity

1. **Noise and Air Quality:**
   - Villages along the A75, such as Springholm and Crocketford, currently experience moderate noise and air pollution levels. The addition of 16,000 HGV trips during construction, combined with traffic diversions, will significantly exacerbate these conditions.
2. **Tourism and Local Businesses:**
   - Increased congestion and safety risks on scenic routes such as the A712 and A714 will deter tourists, negatively impacting local businesses and the regional economy.
   - Diversions caused by A75 or A77 closures may disrupt access to key tourist destinations, such as Glentrool and Galloway Forest Park, diminishing visitor experience and harming local enterprises reliant on tourism.
   - Delays on key routes, including the A75, will harm local businesses dependent on timely deliveries and consistent customer access.

Conclusion

The baseline conditions in Dumfries and Galloway highlight an overstretched and fragile transport network, with no capacity to handle the additional burdens imposed by the Glenvernoch Wind Farm proposal. The introduction of diverted traffic from A75 and A77 closures further compounds these risks, significantly increasing congestion, accident potential, and infrastructure degradation along the A75, A714, and surrounding minor roads.

EnergieKontor's reporting of accident data is demonstrably inaccurate. Transport Scotland's data for 2019–2024 confirms 138 accidents on the A75, including seven fatalities—far exceeding the two fatalities claimed in their EIA **(Source: https://www.gov.scot/publications/foi-202400406406/).**

These discrepancies, combined with the inadequacies of the proposed mitigation measures and failure to address diversion scenarios, underscore the need for a comprehensive reassessment of the proposal. In its current form, the Glenvernoch Wind Farm poses unacceptable risks to the safety, infrastructure, and economy of Dumfries and Galloway.

Year	Fatal Incidents
2019	2
2020	1
2021	2
2022	1
2023	1
2024*	0
Total	7

* Up to and Including 01/01/2024

Year	Injury Causing Incidents
2019	25
2020	24
2021	24
2022	24
2023	41
2024*	0
Total	138

* Up to and Including 01/01/2024

FIGURE 11.4: FOI DATA ACCIDENTS A75 BETWEEN 2019 UP TO 2024

5. IDENTIFICATION AND EVALUATION OF KEY EFFECTS

Overview

This section assesses the projected impacts of the Glenvernoch Wind Farm on traffic and transport across Dumfries and Galloway, focusing on critical issues such as delayed emergency response times, heightened risks on unsuitable diversion routes, cumulative traffic impacts from overlapping developments, and the added pressures from potential A77 and A75 diversions. References to EnergieKontor's Environmental Impact Assessment (EIA) are included to highlight key deficiencies in their analysis.

1. Emergency Response Delays

Impact on the A75
The A75 is the primary route for ambulances to Dumfries and Galloway Royal Infirmary. Increased HGV traffic, particularly at bottlenecks such as the Garroch Roundabout, will:

- Delay emergency response times during life-threatening situations.
- Hinder the transfer of critically ill patients requiring onward travel to Glasgow or Edinburgh.

Emergency Services in Rural Areas
Villages such as New Galloway and Newton Stewart depend on emergency services traveling significant distances. Congestion on the A75 and diversion routes, including the A714, will:

- Further delay fire and rescue services during emergencies.
- Increase risks to public safety in isolated areas, particularly during periods of heightened traffic from A77 diversions.

Breakdown and Convoy Delays
Abnormal load convoys are prone to breakdowns, which can block key routes for extended periods (EnergieKontor, Section 11.111). Forced traffic diversions onto unsuitable roads, such as the A712, will exacerbate delays for emergency vehicles.

2. Diversion Hazards

Key Routes Impacted

- **A714 (Newton Stewart to Girvan):**
    - During A77 closures, diverted traffic will significantly increase volumes on the A714. This road is ill-equipped to handle large numbers of HGVs and diverted vehicles due to its narrow and winding nature.

- Increased traffic poses safety risks for local residents and road users, particularly near the Glenvernoch site, where construction traffic will already be active.

- **A713 (New Galloway, Crossmichael, Parton):**
  - The A713's sharp bends and limited passing points make it unsuitable for HGVs. Increased diversion traffic will:
    - Heighten accident risks.
    - Disrupt rural communities reliant on the route for daily travel.

- **A712 (Newton Stewart to New Galloway):**
  - This narrow, winding road lacks capacity for additional traffic, creating risks of:
    - Head-on collisions due to poor visibility and insufficient passing areas.
    - Increased danger for tourists and local drivers unfamiliar with the route's challenges.

Accident Potential
Historical collision data (EnergieKontor, Table 11-7) highlights the inherent risks on these roads. Increased diversion traffic, including from A77 closures, will amplify these dangers, endangering both residents and visitors.

3. Ferry Traffic Delays

Critical Role of the A75
The A75 is a vital corridor for freight and passenger traffic to and from Cairnryan. Increased HGV movements and diverted traffic during A77 closures will:

- Delay freight deliveries, disrupting ferry schedules.
- Cause economic losses for ferry operators and dependent businesses.

Economic Repercussions
Traffic delays on the A75 will:

- Deter investment in the region.
- Raise costs for businesses reliant on timely logistics, impacting the wider regional economy.

4. Cumulative Impacts

Concurrent Developments
Overlapping construction schedules for Glenvernoch, Blair Hill, and Shennanton wind farms will:

- Multiply HGV movements along the A75 and adjacent roads.
- Create sustained congestion and bottlenecks, particularly at key junctions like the Garroch Roundabout.

Infrastructure Strain
The combined impact of these developments, exacerbated by diversion scenarios, will accelerate road wear and maintenance needs, placing additional financial pressure on local authorities.

5. Environmental and Community Impacts

Noise and Air Pollution
Increased HGV traffic will:

- Significantly raise noise levels in rural areas such as Newton Stewart and along the A714.

- Worsen air quality, posing long-term health risks to residents (EnergieKontor, Sections 11.96–11.104).

Tourism Impact

- Disruptions on scenic routes such as the A714 and A712 will deter tourists, negatively affecting local businesses and damaging Dumfries and Galloway's reputation as a tranquil destination.
- Diversion traffic will increase congestion around tourism hotspots, including Galloway Forest Park and Glentrool, diminishing the visitor experience.

Conclusion

The projected traffic and transport impacts of the Glenvernoch Wind Farm are severe and far-reaching. EnergieKontor's EIA significantly underestimates these issues, particularly in terms of emergency response delays, diversion route hazards, cumulative impacts, and additional pressures from A77 diversions. These risks require substantial revisions to the proposal or its outright rejection to safeguard the infrastructure, communities, and economy of Dumfries and Galloway.

6. MITIGATION MEASURES AND RESIDUAL RISKS

Overview

EnergieKontor's Environmental Impact Assessment (EIA) outlines mitigation measures to address the significant traffic impacts associated with the Glenvernoch Wind Farm. While these measures provide a framework for managing certain disruptions, they fail to adequately address critical issues such as emergency response delays, safety hazards on diversion routes, and the cumulative impacts of multiple developments in the region. Additionally, the EIA does not consider the impacts of traffic diversions caused by A77 or A75 closures, which would further strain local infrastructure. This section evaluates the proposed mitigation measures and highlights unresolved risks.

Proposed Mitigation Measures

1. **Construction Traffic Management Plan (CTMP)**
    - **Key Features (EnergieKontor, Section 11.69):**
        - Designated routes for Heavy Goods Vehicles (HGVs), including the A75 and A714, to limit impacts on local roads.
        - Restrictions on HGV movements during peak hours to alleviate congestion.
        - Advance notifications to local communities regarding construction schedules and abnormal load movements.
2. **Abnormal Load Movements**
    - **Proposed Measures (EnergieKontor, Section 11.111):**
        - Temporary road widening and junction modifications to accommodate abnormal loads.
        - Use of police escorts to enhance safety and minimise disruption.
3. **Community Engagement**
    - Notifications to residents and businesses about expected traffic disruptions.
    - Establishment of a dedicated complaints and feedback mechanism for community concerns.
4. **Road Maintenance Contributions**

- Commitments to repair road damage caused by construction vehicles, subject to agreement with local authorities.

Evaluation of Mitigation Measures

1. **Construction Traffic Management Plan (CTMP)**
    - **Strengths:**
        - Designated routes and timing restrictions provide some control over traffic flow and reduce congestion during peak hours.
    - **Weaknesses:**
        - The CTMP does not address critical bottlenecks such as the Garroch Roundabout, where delays are expected to persist despite scheduling measures (EnergieKontor, Section 11.19).
        - No contingency plans are included to manage additional traffic loads caused by A77 or A75 closures, leaving local infrastructure vulnerable to significant disruption.
        - There is no prioritisation mechanism for emergency vehicles, creating significant risks to public safety during construction.
2. **Abnormal Load Movements**
    - **Strengths:**
        - Police escorts enhance safety during abnormal load movements.
    - **Weaknesses:**
        - Proposed road modifications are insufficient for narrow and winding routes such as the A714, where abnormal loads and diverted traffic will increase the risk of accidents and gridlock.
        - Diversions onto unsuitable rural roads, such as the A712 and A714 during A77 closures, are not accounted for in the mitigation strategy.
3. **Community Engagement**
    - **Strengths:**
        - Notification systems provide residents and businesses with advance warning, enabling them to plan around disruptions.
    - **Weaknesses:**
        - Notifications alone do not mitigate the actual risks posed by increased traffic, delays, or road safety concerns.
        - Residents along diversion routes, such as the A714, are not adequately consulted about the potential impacts of A77 closures or construction traffic.
4. **Road Maintenance Contributions**
    - **Strengths:**
        - Acknowledges the need to address damage caused by heavy construction vehicles.
    - **Weaknesses:**

- Commitments lack detail regarding timelines, funding, and scope, potentially leaving local authorities to bear the costs in the interim.
- Increased wear and tear from diversion traffic, particularly during A77 or A75 closures, is not sufficiently addressed.

Residual Risks

1. **Emergency Response Delays**
    - Increased congestion on the A75, A714, and diversion routes will continue to impede emergency vehicles, posing significant risks to public safety, particularly in rural communities with limited alternative routes.
2. **Diversion Hazards**
    - The A714 and A712 are ill-equipped to handle increased traffic volumes. These narrow and winding roads are highly vulnerable to accidents, particularly when used as diversion routes for heavy construction vehicles and abnormal loads during A77 closures.
3. **Cumulative Impacts**
    - The combined traffic from Glenvernoch, Blair Hill, and Shennanton developments will:
        - Overwhelm regional transport infrastructure, particularly on the A75, A714, and surrounding roads.
        - Exacerbate congestion and road safety risks, which the current CTMP does not sufficiently address.
4. **Economic and Environmental Consequences**
    - Prolonged noise and air pollution in affected communities will degrade residents' health and quality of life.
    - Traffic delays on the A75 and A714 will disrupt ferry traffic to and from Cairnryan, undermining regional trade and tourism.

Conclusion

EnergieKontor's proposed mitigation measures for managing traffic impacts from the Glenvernoch Wind Farm are inadequate. Critical risks, including emergency response delays, road safety hazards, cumulative impacts, and economic disruptions, remain unresolved. The failure to address the impacts of diversion traffic during A77 or A75 closures highlights a significant gap in the EIA's assessment.

A more comprehensive and enforceable traffic management strategy is essential to address these issues and minimise the development's adverse effects on local communities and regional infrastructure. This strategy must include contingency plans for diversion scenarios and detailed commitments to road maintenance and safety improvements.

7. CONCLUSION AND RECOMMENDATIONS

Conclusion

The Glenvernoch Wind Farm proposal presents significant and unacceptable risks to traffic, transport, public safety, and the well-being of communities in Dumfries and Galloway. While EnergieKontor has proposed mitigation measures, they fail to adequately address critical impacts on emergency response, rural roads, and the regional transport network. The proposal is further undermined by its omission of potential impacts from traffic diversions during A77 or A75 closures, compounding already severe challenges.

Key Risks

1. **Emergency Response Delays:**

- Increased HGV traffic on the A75 and bottlenecks at key junctions, such as the Garroch Roundabout, will obstruct emergency vehicles, endangering lives in rural communities.
- Diversions onto unsuitable rural roads, such as the A714 and A712, will exacerbate delays for emergency services.

2. **Diversion Hazards:**
   - Unsuitable rural roads, including the A714 and A712, will face increased traffic volumes during A77 diversions, raising accident risks, particularly near the proposed wind farm site and in tourist areas.
3. **Cumulative Impacts:**
   - Overlapping construction schedules with Blair Hill and Shennanton wind farms will exacerbate congestion, road degradation, and safety hazards. The EIA fails to adequately account for these impacts, as well as additional pressures from A77 closures.
4. **Environmental and Community Impacts:**
   - Prolonged HGV traffic will generate noise and air pollution, degrading quality of life in affected communities such as Newton Stewart and along the A714.
   - Delays on the A75 and A714 will disrupt ferry traffic at Cairnryan, negatively impacting tourism, regional trade, and local businesses reliant on logistics.
5. **Policy and Legislative Contravention:**
   - The proposal contravenes multiple policies, including the National Planning Framework 4, Scottish Transport Assessment Guidance, and the Control of Pollution Act, highlighting its inadequacies.

Recommendations

1. **Reject the Glenvernoch Wind Farm Proposal:**
   - The proposal fails to meet the standards for sustainable and safe development. Without significant revisions, it poses an unacceptable threat to Dumfries and Galloway's infrastructure, communities, and economy.
2. **Conduct a Comprehensive Traffic Impact Study:**
   - Require an independent, detailed study to:
     - Quantify emergency response delays and public safety risks.
     - Assess the suitability of diversion routes and propose necessary upgrades, particularly for the A714 and A712.
     - Incorporate cumulative impacts from Glenvernoch and other regional developments, as well as diversion scenarios from A77 and A75 closures.
3. **Develop a Regional Traffic Management Plan:**
   - Collaborate with Transport Scotland, local authorities, and developers to create a coordinated strategy for managing construction traffic, including:
     - Priority access for emergency vehicles on critical routes like the A75 and A714.
     - Real-time traffic monitoring systems to minimise delays and congestion.
     - Long-term solutions, such as bypasses for vulnerable villages like Springholm and Crocketford.

4. **Strengthen Mitigation Measures:**
    - Impose enforceable conditions requiring:
        - Specific commitments to repair road damage and compensate local authorities for increased maintenance costs.
        - Measures to prioritise ferry traffic and mitigate delays at Cairnryan.
        - Detailed plans for managing convoy breakdowns and addressing diversionary impacts.
5. **Protect Communities and the Environment:**
    - Implement safeguards for local residents, including:
        - Noise and air quality monitoring in villages along the A75, A714, and A712.
        - Improved safety infrastructure for pedestrians and cyclists, particularly near Newton Stewart and the Glenvernoch site.
        - Enhanced communication channels to address community concerns promptly and transparently.

Final Statement

The Glenvernoch Wind Farm proposal poses profound and far-reaching risks to Dumfries and Galloway's infrastructure, communities, and economy. EnergieKontor's Environmental Impact Assessment (EIA) fails to adequately address or mitigate critical traffic and transport impacts, including emergency response delays, hazardous diversion routes, cumulative traffic effects from overlapping developments, and the degradation of rural roads and local infrastructure.

The deficiencies within the EIA highlight a lack of due diligence and demonstrate a failure to comply with key policy and legislative frameworks designed to ensure public safety, sustainable development, and environmental protection. The failure to account for A77 and A75 diversion scenarios further underscores the inadequacy of the assessment and mitigation measures.

The proposed development would overwhelm the already fragile regional transport network, particularly along the A75, A714, and A712, creating significant hazards for residents, visitors, and businesses. Increased HGV traffic, poorly planned diversions, and convoy movements associated with abnormal loads will amplify congestion, delay emergency services, and exacerbate the risks of road accidents.

Additionally, the cumulative impacts of concurrent developments such as Blair Hill and Shennanton wind farms further strain the transport infrastructure, compounding the region's challenges. The economic repercussions of this proposal are equally concerning. Disruptions to ferry operations at Cairnryan will undermine trade and tourism, while noise, air pollution, and congestion will degrade the quality of life for residents and deter visitors. Local businesses reliant on timely logistics and customer access will suffer, amplifying the broader economic challenges faced by the region.

Given the scale and severity of these risks, coupled with the inadequacies in the EIA and proposed mitigation measures, the Glenvernoch Wind Farm cannot be considered a viable or responsible development. The cumulative effect of these deficiencies leaves no option but to recommend the outright rejection of this proposal in full. Only through substantial revisions and a comprehensive reassessment could any future iteration of this project potentially meet the standards required for safe, sustainable, and responsible development.

OBJECTION TO SECTION 12 (EIA) – HYDROLOGY, GEOLOGY AND HYDROGEOLOGY

CONTENTS

References:

1. EnergieKontor. Environmental Impact Assessment Report, Volume 1, Chapter 12 – Hydrology, Geology, and Hydrogeology. Sections 12.1–12.10.
2. Scottish Government. National Planning Framework 4 (NPF4). Published 2023.
3. Peatland Code. Version 2.0. Published by IUCN UK Peatland Programme.
4. Water Environment (Controlled Activities) (Scotland) Regulations 2011. SEPA Guidance.
5. Dumfries and Galloway Local Development Plan 2 (LDP2). Adopted 2019.
6. Joint Nature Conservation Committee (JNCC). "The Role of Peatlands in Climate Regulation." Published 2019.
7. SEPA. "Guidance on Assessing Flood Risk and Drainage in Planning." Published 2018.
8. SNH. Carbon and Peatland Map 2016. Published by NatureScot.
9. Scottish Environment Protection Agency (SEPA). "Environmental Monitoring Guidance for Wind Farm Developments." Published 2020.

1. NON-TECHNICAL SUMMARY AND SCOPE OF OBJECTION

Overview

The Glenvernoch Wind Farm proposal threatens to disrupt the hydrological, geological, and hydrogeological integrity of the site and surrounding areas.

The key concerns include:

1. **Impact on Critical Watersheds**:
    - The site spans two vital watersheds—the River Cree and River Bladnoch—encompassing multiple watercourses, including the Garchew Burn, Castle Stewart Burn, and Glassoch Burn. These systems are integral to local ecology, private water supplies, and downstream flood mitigation.
    - Increased sedimentation and contamination from construction runoff could degrade water quality and disrupt natural drainage patterns.
2. **Private Water Supply Contamination**:
    - Numerous properties, including farms and homes, rely on private water supplies sourced from springs, wells, and natural catchments. The disturbance of rock fissures, peatlands, and hydrological systems poses a high risk of contamination, potentially compromising long-established and reliable water sources.
3. **Radon Contamination Risks**:
    - The Glenvernoch site is underlain by radon-emitting shale and greywacke rocks, with UKHSA maps indicating radon levels ranging from 1% to over 30% across the site. Construction activities risk mobilising radon into groundwater, exposing local residents to increased health risks through private water supplies.
4. **Flooding Risks**:
    - The alteration of natural drainage patterns and disturbance of peatlands could exacerbate flooding in downstream communities, including Newton Stewart, which has a documented history of severe flood events.
5. **Ecosystem Disruption**:
    - The proposed development threatens sensitive ecosystems dependent on peatlands and watercourses, potentially leading to habitat loss and ecological degradation.

Scope of Objection

This section addresses the following:

1. The failure to adequately assess and mitigate the risks to private water supplies, including radon contamination.
2. The disruption of hydrological systems feeding critical watersheds and the associated ecological consequences.
3. The exacerbation of flooding risks for downstream communities due to altered drainage patterns and peatland disturbance.
4. The lack of compliance with Scottish planning policies and environmental regulations aimed at protecting water resources, geology, and public health.

2. POLICY AND LEGISLATIVE CONTRAVENTION

Overview

The Glenvernoch Wind Farm proposal contravenes several key Scottish policies and legislative frameworks aimed at protecting hydrology, geology, and hydrogeology. The specific contraventions are outlined below:

2.1 National Planning Framework 4 (NPF4)

- **Policy 2: Climate Adaptation and Mitigation**:
  The proposal fails to minimise environmental risks associated with hydrological disruption and radon contamination. NPF4 emphasises the importance of safeguarding natural drainage systems and mitigating flood risks, neither of which are adequately addressed in the Environmental Impact Assessment (EIA).
    - **Contravention**: Disturbance of peatlands and natural water systems increases flood risks and compromises carbon storage.
- **Policy 5: Soils**:
  The proposed development would irreversibly disturb Class 1 and Class 2 peatlands, which are recognised as nationally important carbon-rich soils. These soils also serve as natural hydrological regulators, and their disturbance risks water contamination and degradation.
    - **Contravention**: The EIA does not provide robust peatland preservation or restoration strategies, nor does it address the risks of contamination from radon-bearing rocks.

2.2 Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017

- The regulations mandate that environmental impacts on watercourses, private water supplies, and geology be fully assessed and mitigated. The EIA lacks sufficient detail on:
    1. The potential for radon contamination of private water supplies due to disruption of shale and greywacke formations.
    2. Cumulative hydrological impacts, including downstream flooding risks.
    3. Specific mitigation measures for sedimentation and contamination of critical watercourses.
    - **Contravention**: The EIA is non-compliant with statutory requirements to provide robust and site-specific assessments.

2.3 Private Water Supplies (Scotland) Regulations 2017

- These regulations protect private water supplies from contamination, particularly in rural areas where alternative water sources are unavailable.
    - **Contravention**: The proposal fails to demonstrate that private water supplies will remain uncontaminated, particularly those at risk of radon leaching or sediment pollution from construction runoff.

2.4 Dumfries and Galloway Local Development Plan 2 (LDP2)

- **Policy IN7: Flooding and Development**:
  Developments must avoid exacerbating flood risks and ensure downstream properties are not adversely affected.
    - **Contravention**: The proposal neglects the risk of increased flooding in Newton Stewart and other vulnerable areas, contradicting IN7 requirements.
- **Policy NE11: Protection of Water Environment**:
  Developments must preserve the ecological integrity of watercourses and avoid contamination of water supplies.

- **Contravention**: The risks to the Garchew Burn, Castle Stewart Burn, and Glassoch Burn ecosystems, as well as radon contamination of private water supplies, remain inadequately addressed.

Summary of Legislative Contraventions

The Glenvernoch Wind Farm proposal is fundamentally at odds with Scotland's statutory and policy frameworks. It endangers hydrological systems, private water supplies, and peatland ecosystems while failing to provide adequate mitigation. Approval would undermine commitments to environmental protection and sustainable development.

3. METHODOLOGY

Overview

The methodology for assessing the hydrological, geological, and hydrogeological impacts of the Glenvernoch Wind Farm proposal must adhere to the following principles and best practices. However, the Environmental Impact Assessment (EIA) submitted by EnergieKontor fails to meet these standards, leaving significant gaps in the analysis:

3.1 Hydrological Assessment:

- **Key Requirement**: A robust hydrological study should map all watercourses, assess their connectivity, and evaluate potential impacts on water flow, quality, and flooding risks.
    - **Issues Identified**: The EIA fails to account for critical water systems, including the Garchew Burn, Castle Stewart Burn, and Glassoch Burn, as well as the hydrological connections between the site and private water supplies. It also overlooks the potential for sedimentation and chemical contamination due to construction runoff.

3.2 Geological Assessment:

- **Key Requirement**: Detailed geological surveys must identify the composition of underlying rock formations and assess the risks of disturbance, particularly where radon-emitting rocks are present.
    - **Issues Identified**: The EIA does not adequately characterise the site's geology, which includes shale and greywacke rocks with known radon emissions. This omission is critical given the elevated radon levels across the site and their potential to contaminate groundwater.

3.3 Hydrogeological Assessment:

- **Key Requirement**: Hydrogeological studies should investigate the connectivity of aquifers, rock fissures, and other subsurface features to assess risks to private water supplies and groundwater systems.
    - **Issues Identified**: The EIA lacks a thorough analysis of subsurface water flow and the potential for contamination from radon, sediment, or construction-related pollutants. The risks to private water supplies fed by springs and wells in the vicinity remain unexplored.

3.4 Radon Risk Assessment:

- **Key Requirement**: A radon risk assessment should include detailed mapping of radon-emitting zones, modelling of potential pathways into water supplies, and identification of mitigation measures.
    - **Issues Identified**: The EIA does not address radon risks adequately, despite the site's elevated radon potential (ranging from 1% to over 30% in different grid squares). No mitigation measures are proposed to protect private water supplies from radon contamination.

3.5 Cumulative Impact Analysis:

- **Key Requirement**: The assessment must evaluate cumulative impacts of this proposal alongside other developments in the region, particularly regarding hydrological and ecological systems.

- **Issues Identified**: The cumulative impacts of hydrological disruption and peatland degradation from neighbouring wind farms, such as Blair Hill and Shennanton, are not addressed in the EIA.

3.6 Stakeholder Engagement:

- **Key Requirement**: Meaningful consultation with local communities and stakeholders, particularly those reliant on private water supplies, should inform the assessment process.
    - **Issues Identified**: The EIA lacks evidence of consultation with affected residents or consideration of their reliance on private water sources, many of which are at risk of contamination.

Summary of Methodological Deficiencies

The methodology employed in the EIA is inadequate and non-compliant with best practices and statutory requirements. The absence of detailed hydrological, geological, hydrogeological, and radon risk assessments undermines the reliability of the conclusions. Without addressing these deficiencies, the Glenvernoch Wind Farm proposal poses unacceptable risks to the local environment, communities, and water systems.

4. BASELINE CONDITIONS

Overview

The baseline conditions at the Glenvernoch Wind Farm site encompass critical hydrological, geological, and hydrogeological features that form the foundation for assessing the potential impacts of the proposed development. This section outlines the key characteristics of the site, identifying its sensitivity and highlighting gaps in the Environmental Impact Assessment (EIA).

4.1 Hydrological Systems

- The site spans two watersheds:
    - **River Cree Catchment**: Includes the Garchew Burn, Castle Stewart Burn, and their associated tributaries. These watercourses support local ecosystems and feed downstream into the Cree Estuary.
    - **River Bladnoch Catchment**: Includes the Glassoch Burn and Loch Ochiltree, which discharge into the Bladnoch SAC (Special Area of Conservation), a site designated for its ecological importance.
- The watercourses and their associated wetlands are vital for maintaining biodiversity, water quality, and flood resilience in the region.
- **EIA Omissions**: The assessment fails to adequately map the hydrological connectivity between the site and these watercourses, nor does it consider the cumulative impact of sedimentation and pollution on downstream ecosystems.

4.2 Geological Features

- The site is underlain by Ordovician-age shale and greywacke rocks, known for their potential to emit radon gas. These formations also influence the permeability and drainage characteristics of the site.
- Class 1 and Class 2 peatlands, identified as nationally important carbon-rich soils, overlay parts of the site. These peatlands play a critical role in carbon sequestration and water regulation.
- **EIA Omissions**: The geological survey lacks detailed mapping of radon-emitting zones and fails to consider the implications of disturbing these formations during construction.

4.3 Hydrogeological Characteristics

- The site contains interconnected aquifers, rock fissures, and drainage networks that feed private water supplies in nearby properties, farms, and communities.

- Private water supplies are primarily drawn from springs and wells that rely on the stability and cleanliness of these systems.
- **EIA Omissions**: There is no comprehensive analysis of the risks posed by construction activities to these hydrogeological features, particularly regarding contamination from radon, sediment, or construction pollutants.

4.4 Radon Potential

- UKHSA radon maps indicate variable radon potential across the site:
    - **Southern Site**: Elevated radon potential of 3–5%.
    - **Northeastern Site**: Maximum radon potential exceeds 30%.
    - **Central Site**: Radon potential ranges from 1–3%.
- Radon contamination risks are particularly concerning for private water supplies sourced from groundwater in radon-affected zones.
- **EIA Omissions**: The EIA does not evaluate how radon released during construction could impact water quality or the health of local residents.

4.5 Flood Risks

- Historical flooding events in Newton Stewart and surrounding areas highlight the vulnerability of downstream communities. Disruption to peatlands and natural drainage systems could exacerbate flooding.
- SEPA's flood risk data indicates a growing risk of residential and non-residential properties being affected due to climate change.
- **EIA Omissions**: The baseline flood risk assessment fails to address how changes in drainage patterns and peatland disturbance might increase flood frequency and severity.

Summary of Baseline Conditions

The Glenvernoch site comprises hydrological systems, geological formations, and hydrogeological features of significant environmental and community importance. The EIA inadequately characterises these baseline conditions, particularly regarding radon contamination risks, hydrological connectivity, and flood vulnerabilities. A more robust baseline analysis is essential to evaluate the true impact of the proposed development.

5. IDENTIFICATION AND EVALUATION OF KEY EFFECTS

Overview

This section evaluates the potential impacts of the Glenvernoch Wind Farm proposal on the hydrological, geological, and hydrogeological systems, highlighting specific risks to watercourses, private water supplies, and peatlands, as well as the implications of radon contamination.

5.1 Impact on Hydrological Systems

1. **Watercourse Disruption**:
    - Construction activities, including road building, crane pad installations, and turbine foundations, will disrupt natural drainage patterns. This is likely to increase sedimentation in the Garchew Burn, Castle Stewart Burn, and Glassoch Burn, impacting water quality and aquatic ecosystems.
    - **Evaluation**: Sedimentation risks are significant for the Bladnoch SAC and Cree catchment areas, both of which support species of ecological importance.

2. **Altered Water Flow**:
    - Peatland degradation and compaction from heavy machinery may alter water flow regimes, reducing the capacity of wetlands to regulate floodwaters and affecting downstream communities.
    - **Evaluation**: The increased risk of flooding in Newton Stewart and surrounding areas is a critical concern.

5.2 Risks to Private Water Supplies

1. **Contamination from Construction Runoff**:
    - Pollutants such as sediment, fuel, and chemicals from construction activities could infiltrate rock fissures, contaminating private water supplies used by homes and farms.
    - **Evaluation**: The potential for long-term disruption to private water supplies is high, particularly in areas relying on shallow aquifers or springs.
2. **Radon Contamination**:
    - Disturbance of shale and greywacke formations during excavation and construction could release radon into groundwater. Residents relying on private water supplies could be exposed to radon through drinking water and household activities such as bathing and cooking.
    - **Evaluation**: With radon potential exceeding 30% in parts of the site, the risk to human health is substantial and has been inadequately addressed by the developer.

5.3 Peatland Degradation

1. **Carbon Emissions**:
    - Disturbance of Class 1 and Class 2 peatlands will release stored carbon, undermining Scotland's climate goals.
    - **Evaluation**: The loss of these carbon sinks negates the purported environmental benefits of the wind farm.
2. **Hydrological Regulation**:
    - Peatlands act as natural sponges, regulating water flow and mitigating flood risks. Their degradation will exacerbate water management challenges in the region.
    - **Evaluation**: The loss of peatland functionality will amplify flooding risks and reduce water quality.

5.4 Flood Risks

1. **Increased Downstream Flooding**:
    - The alteration of drainage patterns and loss of water retention capacity in peatlands will exacerbate flooding risks in Newton Stewart and Minnigaff, areas already vulnerable to flood events.
    - **Evaluation**: Flooding will impact residential and non-residential properties, increasing economic damages and disrupting local communities.
2. **Inadequate Mitigation Plans**:
    - The developer's EIA lacks robust flood mitigation strategies, relying instead on generic assurances.
    - **Evaluation**: The absence of site-specific flood risk assessments and mitigation measures is a significant oversight.

5.5 Radon Contamination

1. **Leaching into Watercourses**:
    - Elevated radon levels in the site's geology pose a risk of contamination to both surface and groundwater systems, particularly during construction activities that disturb the subsurface.
    - **Evaluation**: Radon exposure via private water supplies has serious health implications, particularly for residents in high-risk zones.
2. **Long-Term Health Impacts**:
    - Continuous exposure to radon-contaminated water increases the risk of cancers and other health conditions for residents reliant on private supplies.
    - **Evaluation**: The developer's failure to address this risk in the EIA represents a critical omission.

Summary of Key Effects

The Glenvernoch Wind Farm proposal poses severe risks to hydrological systems, private water supplies, peatlands, and public health. Key effects include water contamination, peatland degradation, increased flooding, and radon exposure, all of which have been inadequately assessed in the developer's EIA. The project's impacts contravene Scottish environmental and planning policies, making its approval unjustifiable.

6. MITIGATION MEASURES AND RESIDUAL RISKS

Overview

The mitigation measures proposed in the Environmental Impact Assessment (EIA) for the Glenvernoch Wind Farm are inadequate to address the significant hydrological, geological, and hydrogeological risks posed by the development. This section evaluates the shortcomings in mitigation strategies and identifies residual risks that would persist even with the implementation of enhanced measures.

6.1 Mitigation for Hydrological Impacts

1. **Sedimentation and Watercourse Protection**:
    - Proposed Measures: Sediment control structures, such as silt fences and settlement ponds, are included in the EIA.
    - **Assessment**: These measures are generic and insufficiently tailored to the site's complex hydrology. Critical omissions include a lack of site-specific strategies for managing sedimentation in the Garchew Burn, Castle Stewart Burn, and Glassoch Burn.
    - **Residual Risks**: Increased sedimentation and degradation of water quality in the River Cree and Bladnoch SAC remain likely, affecting ecosystems and downstream water users.
2. **Flood Risk Management**:
    - Proposed Measures: The EIA provides no robust flood mitigation plan, relying on vague assurances of compliance with SEPA guidelines.
    - **Assessment**: The absence of a detailed Flood Risk Assessment (FRA) undermines the credibility of these claims.
    - **Residual Risks**: Altered drainage patterns and reduced peatland retention capacity will exacerbate downstream flooding, particularly in Newton Stewart.

6.2 Mitigation for Private Water Supply Risks

1. **Contamination Control**:
    - Proposed Measures: The EIA briefly mentions pollution control measures but lacks specifics on protecting private water supplies during construction.
    - **Assessment**: No safeguards are provided against contamination from construction runoff, chemical spills, or sediment infiltration into aquifers and rock fissures.
    - **Residual Risks**: High potential for contamination of private water supplies remains, particularly for properties reliant on wells and springs near the site.
2. **Radon Contamination Mitigation**:
    - Proposed Measures: The EIA does not acknowledge or propose mitigation for radon contamination risks.
    - **Assessment**: The failure to address radon exposure through water supplies represents a significant oversight, particularly given the high radon potential in parts of the site.
    - **Residual Risks**: Residents reliant on private water sources in radon-affected areas face long-term health risks from radon exposure.

6.3 Mitigation for Peatland Degradation

1. **Peatland Preservation**:
    - Proposed Measures: The EIA mentions minimal peat extraction and restoration, but these plans lack detail and measurable outcomes.
    - **Assessment**: Peatland restoration strategies fail to account for the scale of disturbance from turbine foundations, access roads, and construction activities.
    - **Residual Risks**: Irreversible loss of carbon-rich peatlands, increased carbon emissions, and diminished hydrological regulation.

6.4 Mitigation for Radon Risks

1. **Radon-Specific Safeguards**:
    - Proposed Measures: None provided in the EIA.
    - **Assessment**: The absence of radon-specific mitigation strategies, such as groundwater testing, filtration systems, or radon monitoring in private water supplies, is a critical omission.
    - **Residual Risks**: Persistent health risks for residents due to radon exposure in water supplies, with no recourse for monitoring or mitigation.

6.5 Cumulative Impacts and Mitigation Gaps

1. **Cumulative Hydrological and Geological Effects**:
    - Proposed Measures: The EIA does not address cumulative impacts of hydrological disruption from Glenvernoch and adjacent wind farms (e.g., Blair Hill, Shennanton).
    - **Assessment**: The lack of cumulative impact analysis leaves significant gaps in the assessment of overall risks.
    - **Residual Risks**: Amplified disruption to watercourses, peatlands, and private water supplies due to overlapping developments.

Summary of Mitigation Shortcomings

The mitigation measures proposed for the Glenvernoch Wind Farm are insufficient, leaving numerous residual risks unaddressed:

- Hydrological: Persistent sedimentation, flood risks, and water quality degradation.
- Private Water Supplies: Uncontrolled contamination risks, particularly from radon.
- Peatlands: Irreversible carbon loss and hydrological degradation.
- Radon: No mitigation for health risks associated with radon exposure.

The inadequacy of proposed measures renders the development incompatible with Scotland's environmental and planning standards.

7. CONCLUSION AND RECOMMENDATIONS

Overview

The Glenvernoch Wind Farm proposal presents significant risks to hydrological, geological, and hydrogeological systems that cannot be mitigated to an acceptable level under the current plan. These risks extend to private water supplies, peatlands, and local ecosystems, with potential long-term impacts on public health, flood resilience, and carbon storage.

7.1 Key Findings

1. **Hydrological Disruption**:
    - The proposed development will disrupt critical watercourses, including the Garchew Burn, Castle Stewart Burn, and Glassoch Burn, leading to increased sedimentation and water quality degradation.
    - Altered drainage patterns will exacerbate downstream flooding risks in vulnerable communities such as Newton Stewart.
2. **Risks to Private Water Supplies**:
    - Contamination from sediment, chemical spills, and radon poses a direct threat to private water supplies that are vital for local residents and businesses.
    - The absence of specific mitigation measures leaves these risks unaddressed.
3. **Peatland Degradation**:
    - Disturbance of Class 1 and Class 2 peatlands will result in irreversible carbon loss, increased carbon emissions, and diminished hydrological regulation.
    - The failure to protect these nationally significant soils contravenes Scotland's climate and environmental policies.
4. **Radon Contamination**:
    - Elevated radon levels across the site present a serious health risk, particularly for residents relying on private water supplies sourced from affected groundwater.
    - The lack of radon-specific risk assessment or mitigation highlights a critical oversight in the Environmental Impact Assessment (EIA).

5. **Inadequate Mitigation**:
    - The mitigation measures proposed by the developer are generic, insufficiently detailed, and fail to address site-specific risks. Residual risks remain significant and unresolved.

7.2 Recommendations

1. **Reject the Proposal**:
    - The Glenvernoch Wind Farm application should be refused on the grounds of unacceptable environmental and hydrological risks, as well as non-compliance with Scottish planning policies and legislative frameworks.
2. **Comprehensive Radon Assessment**:
    - Any future proposals for this site must include a detailed radon risk assessment, covering potential contamination of groundwater and private water supplies, with specific mitigation strategies.
3. **Enhanced Hydrological Studies**:
    - Future applications must conduct thorough hydrological studies to map watercourse connectivity, evaluate flood risks, and assess the cumulative impacts of overlapping developments.
4. **Peatland Preservation Plan**:
    - A robust peatland preservation and restoration strategy should be mandatory, with measurable outcomes to mitigate carbon loss and protect hydrological functions.
5. **Private Water Supply Safeguards**:
    - Detailed plans for protecting private water supplies must be developed, including monitoring, pollution prevention, and contingency measures for contamination events.
6. **Cumulative Impact Analysis**:
    - Any future applications must include a comprehensive analysis of cumulative impacts from existing and proposed developments in the region, addressing hydrological, ecological, and social dimensions.

Final Statement

The Glenvernoch Wind Farm proposal fails to meet the standards required under Scottish planning policies, including the National Planning Framework 4 (NPF4), Private Water Supplies (Scotland) Regulations 2017, and Dumfries and Galloway Local Development Plan 2 (LDP2). The unmitigated risks to hydrology, geology, and hydrogeology, coupled with the omission of radon risk assessment, render this development incompatible with sustainable environmental stewardship and community protection.

Approval of this proposal would result in long-term environmental harm and set a dangerous precedent for future developments. Therefore, this application must be rejected.

OBJECTION TO SECTION 13 (EIA) – INFRASTRUCTURE AND HUMAN HEALTH

CONTENTS

References:

EnergieKontor Environmental Impact Assessment (EIA)
Chapter 13: Infrastructure and Human Health
Details: Noise pollution, shadow flicker, safety risks, and cumulative impacts.
World Health Organization (WHO)
Environmental Noise Guidelines (2018)
Details: Recommended thresholds for noise in rural areas to protect public health, particularly in sensitive environments.
National Planning Framework 4 (NPF4)
Policy Guidance: Infrastructure Resilience and Community Safety
Details: Emphasis on balancing development with public health and environmental considerations.
Control of Major Accident Hazards (COMAH) Regulations (2015)
Risk Assessment Guidelines
Details: Guidance on managing risks of major incidents, including turbine failures and emergency response requirements.
European Landscape Convention (ELC)
Policy Framework for Landscape Preservation
Details: Requirements for protecting cultural heritage and natural landscapes from adverse development impacts.
Local Community Feedback
Stakeholder Input: Residents of Newton Stewart, Bargrennan and Glentrool
Details: Concerns about noise pollution, shadow flicker, safety hazards, and degradation of quality of life.
Telecommunications Industry Reports
Assessment of Electromagnetic Interference (EMI)
Details: Analyses of turbine impacts on TV and radio signals, with suggested mitigation strategies.
Cumulative Impact Data
Sources: Existing Kilgallioch Wind Farm and Proposed Developments (Blair Hill, Shennanton, and Balunton)
Details: Baseline and projected cumulative impacts on noise, shadow flicker, and infrastructure resilience.
Scientific Literature on Noise and Health
Peer-Reviewed Studies
Details: Long-term health impacts of noise pollution, including sleep disruption.

1. NON-TECHNICAL SUMMARY AND SCOPE OF OBJECTION

Overview

This section evaluates the infrastructure and human health impacts of the proposed Glenvernoch Wind Farm as outlined in Chapter 13 of EnergieKontor's Environmental Impact Assessment (EIA). The EIA fails to adequately address critical risks related to electromagnetic interference (EMI), fire hazards associated with Battery Energy Storage Systems (BESS), turbine-related hazards, and potential health effects from shadow flicker, noise pollution, and construction impacts. These deficiencies raise

serious concerns about the safety, wellbeing, and quality of life of residents in Newton Stewart, Bargrennan, Glentrool, and the surrounding area.

EnergieKontor's assessment overlooks vital considerations, including the region's reliance on over-the-air television and radio services susceptible to EMI from turbines, the high risks posed by lithium-ion BESS in a remote rural context, and the challenges local emergency services face in managing such hazards. Furthermore, the cumulative effects of noise, shadow flicker, and visual intrusion remain inadequately addressed, posing substantial threats to public health and local infrastructure.

Key Areas of Concern

1. **Electromagnetic Interference (EMI):**
    - The proposed turbines risk disrupting television and radio signals from the Caldbeck and Sandale masts, critical for local residents.
    - The EIA's mitigation measures for signal interference are insufficient, relying on reactive strategies that fail to address widespread disruptions comprehensively.
2. **Battery Energy Storage System (BESS) Risks:**
    - The inclusion of lithium-ion BESS presents severe fire and explosion risks due to thermal runaway, releasing toxic gases like hydrogen fluoride.
    - The Scottish Fire and Rescue Service lacks the specialist equipment and training required to manage such incidents in the Dumfries and Galloway region.
3. **Noise Pollution and Shadow Flicker:**
    - Noise from turbines, especially at low frequencies, exceeds World Health Organization (WHO) guidelines, potentially causing sleep disturbances issues.
    - Shadow flicker impacts exceed acceptable thresholds for properties within 1,500m of the turbines, contributing to mental health stress and visual disturbance.
4. **Safety Hazards:**
    - Risks of blade detachment, ice throw, and turbine collapse remain inadequately mitigated, posing threats to public safety and local infrastructure.
    - Construction activities, including heavy traffic, excavation, and runoff, present additional hazards to road safety and water quality.
5. **Cumulative Impacts:**
    - The EIA fails to account for the combined effects of Glenvernoch with existing and proposed wind farms (e.g., Kilgallioch, Blair Hill, Shennanton), exacerbating noise, EMI, and infrastructure stress.
6. **Community and Environmental Health:**
    - Toxic contamination risks from BESS fires and construction runoff threaten watercourses such as the River Cree and River Bladnoch, with potentially devastating effects on ecosystems and human health.
    - Visual intrusion, noise, and shadow flicker collectively degrade the region's tranquillity, impacting community wellbeing and local tourism.

Scope of Objection

This objection calls for a comprehensive reassessment of the Glenvernoch Wind Farm proposal, focusing on:

1. **Enhanced Risk Assessment:**
    - A detailed and independent analysis of EMI, BESS risks, noise, and shadow flicker impacts.
    - Cumulative impact evaluations considering nearby wind farms.
2. **Stronger Mitigation Measures:**
    - Enforceable mitigation strategies for EMI, fire hazards, noise, and shadow flicker.
    - Site-specific safety plans addressing turbine-related hazards and emergency response limitations.
3. **Community Protections:**
    - Clear commitments to safeguarding the health, safety, and quality of life of affected residents through robust compensation, monitoring, and enforcement mechanisms.

The Glenvernoch Wind Farm proposal, as presented, fails to meet essential safety, health, and infrastructure standards, posing unacceptable risks to local communities and requiring significant revisions.

2. POLICY AND LEGISLATIVE CONTRAVENTION

Overview

The Glenvernoch Wind Farm proposal contravenes several national and local policies and legislative frameworks designed to protect public health, safety, and critical infrastructure. These contravention highlight EnergieKontor's failure to align the project with Scotland's commitments to sustainable development, community welfare, and environmental protection. The deficiencies in addressing electromagnetic interference (EMI), fire risks associated with Battery Energy Storage Systems (BESS), noise, shadow flicker, and cumulative impacts underscore the project's incompatibility with key planning and safety regulations.

Key Contravention

1. **National Planning Framework 4 (NPF4):**
    - **Policy Context:**
        - NPF4 emphasises infrastructure resilience, environmental safety, and the minimisation of risks to public health.
        - It supports renewable energy developments only when they avoid significant harm to communities, infrastructure, and ecosystems.
    - **Contravention:**
        - The inclusion of high-risk BESS without adequate emergency response planning contravenes NPF4's principles of resilient and safe development.
        - Noise and shadow flicker impacts compromise the quality of life for affected communities, undermining NPF4's objectives of sustainable and inclusive growth.
2. **Control of Major Accident Hazards (COMAH) Regulations 2015:**
    - **Policy Context:**
        - COMAH requires developers to identify and mitigate risks from major hazards, including fires, explosions, and toxic releases, to prevent catastrophic impacts on people and the environment.
    - **Contravention:**

- The EIA does not provide a robust risk assessment for BESS fires or explosions, failing to comply with COMAH requirements for safety planning and hazard containment.
- Emergency response plans are vague and do not address the limitations of rural firefighting resources in managing large-scale lithium-ion fires.

3. **World Health Organization (WHO) Environmental Noise Guidelines (2018):**
    - **Policy Context:**
        - WHO guidelines set strict thresholds for environmental noise to protect public health, particularly in rural areas with low ambient noise levels.
    - **Contravention:**
        - Predicted operational noise levels exceed WHO-recommended thresholds, particularly at night, leading to potential sleep disturbances and stress issues.
4. **Town and Country Planning (Scotland) Act 1997:**
    - **Policy Context:**
        - The Act requires developers to mitigate significant impacts on public safety and ensure compliance with planning conditions that safeguard community welfare.
    - **Contravention:**
        - The EIA fails to provide enforceable mitigation measures for shadow flicker, noise, and safety risks, leaving affected communities unprotected.
        - The lack of a detailed emergency response plan contravenes the Act's requirement for comprehensive risk management.
5. **European Landscape Convention (ELC):**
    - **Policy Context:**
        - The ELC recognises landscapes as vital to public wellbeing and cultural heritage, requiring developments to minimise visual and environmental impacts.
    - **Contravention:**
        - The turbines' visibility from key locations such as Newton Stewart, Bargrennan and the Galloway Forest Park compromises the area's scenic value, contravening ELC principles.
        - Cumulative visual impacts from Glenvernoch and nearby wind farms further degrade the rural landscape, undermining the ELC's objectives.
6. **Peatland Code and Environmental Protection Legislation:**
    - **Policy Context:**
        - Peatlands are recognised as critical carbon stores and biodiversity habitats, protected under national and international frameworks.
    - **Contravention:**
        - Construction activities threaten peatland ecosystems, increasing carbon emissions and hydrological disruptions, in breach of the Peatland Code and environmental protection policies.

Policy Implications

The Glenvernoch Wind Farm's failure to meet essential policy and legislative standards exposes local communities to unacceptable risks and undermines Scotland's commitments to sustainable development, public safety, and environmental stewardship. Approving this proposal would set a dangerous precedent, eroding trust in the planning process and jeopardising the wellbeing of affected residents.

3. METHODOLOGY

Overview

This section outlines the methodology used to evaluate the deficiencies in EnergieKontor's Environmental Impact Assessment (EIA) for Chapter 13: Infrastructure and Human Health. The analysis focuses on the inadequacies in assessing noise, shadow flicker, electromagnetic interference (EMI), and safety risks, particularly regarding Battery Energy Storage Systems (BESS). Established guidelines, best practices, and legislative frameworks form the basis of this critique, with additional emphasis on cumulative impacts and rural community vulnerabilities.

Data Sources

1. **EnergieKontor's EIA Chapter 13 – Infrastructure and Human Health:**
    - Key elements include:
        - Infrastructure risk assessments and assumptions (Sections 13.3–13.7).
        - Noise and shadow flicker evaluations (Sections 13.8–13.11).
        - EMI considerations and mitigation proposals (Section 13.12).
        - Proposed safety measures for turbine operation and BESS (Section 13.15).
2. **National and Local Policies:**
    - National Planning Framework 4 (NPF4).
    - Control of Major Accident Hazards (COMAH) Regulations 2015.
    - Town and Country Planning (Scotland) Act 1997.
3. **Best Practice Guidelines:**
    - World Health Organization (WHO) Environmental Noise Guidelines (2018).
    - Scottish Government Guidance on Shadow Flicker.
    - ITU-R BT.2142 standards for EMI mitigation.
    - Peatland Code and Environmental Protection Legislation.
4. **Cumulative Impact Analysis:**
    - Noise and visual data from Kilgallioch Wind Farm (existing) and Blair Hill, Shennanton, and Balunton wind farms (proposed).
    - Regional TV signal interference studies, including impacts from Glenvernoch turbines on Cree Valley reception.
5. **Stakeholder Input:**
    - Concerns from local residents and organisations such as the Scottish Fire and Rescue Service and RSPB Scotland.

- Technical expertise on lithium-ion battery hazards and EMI risks.

Assessment Criteria

1. **Infrastructure Baseline Analysis:**
    - Evaluating the resilience of local roads, utilities, and emergency services in Newton Stewart and Glentrool.
    - Identifying existing vulnerabilities to turbine-related incidents, EMI, and noise pollution.
2. **Health Impact Evaluation:**
    - Assessing the potential effects of noise and shadow flicker on public health using WHO guidelines.
    - Evaluating the risks of toxic emissions from BESS fires, with a focus on local emergency response limitations.
3. **Safety and Hazard Risk Assessment:**
    - Analysing turbine-related hazards such as blade detachment, ice throw, and structural collapse.
    - Assessing the risks of thermal runaway events in BESS and their implications for public safety.
4. **Cumulative Impact Modelling:**
    - Examining the interaction of Glenvernoch's impacts with those of Kilgallioch and nearby proposed wind farms.
    - Modelling cumulative noise, shadow flicker, and EMI effects.
5. **Effectiveness of Mitigation Measures:**
    - Evaluating EnergieKontor's proposed mitigation strategies for noise, shadow flicker, EMI, and BESS hazards.
    - Assessing the enforceability and practicality of these measures in a rural context.

Methodological Limitations in the EIA

1. **Incomplete Baseline Data:**
    - Noise assessments lack comprehensive measurements for sensitive receptors in Newton Stewart, Bargrennan and Glentrool.
    - EMI evaluations fail to incorporate local TV and radio signal dependencies in Cree Valley.
2. **Inadequate Cumulative Impact Analysis:**
    - The EIA does not account for interactions with Kilgallioch, Blair Hill, and other regional wind farms.
    - Cumulative impacts on noise, shadow flicker, and EMI are significantly underestimated.
3. **Superficial Risk Assessments:**
    - Hazards associated with BESS fires are inadequately addressed, particularly regarding emergency response capacity.
    - Turbine-related risks are analysed generically without site-specific considerations.
4. **Lack of Enforceable Mitigation Measures:**
    - Proposed measures for noise, shadow flicker, and safety lack specificity and enforceability.
    - No clear accountability mechanisms for monitoring or addressing EMI and BESS hazards.

Conclusion

The methodology employed in EnergieKontor's EIA for Chapter 13 is fundamentally flawed, failing to provide a robust foundation for assessing the infrastructure and human health impacts of the Glenvernoch Wind Farm. Key gaps include insufficient baseline data, inadequate cumulative impact analysis, and superficial risk assessments for safety hazards and EMI. These deficiencies necessitate a revised and comprehensive methodological approach to accurately evaluate the project's suitability.

4. BASELINE CONDITIONS

Overview

The baseline conditions surrounding the proposed Glenvernoch Wind Farm reveal a rural region highly sensitive to noise, shadow flicker, electromagnetic interference (EMI), and safety hazards, including those posed by Battery Energy Storage Systems (BESS). EnergieKontor's Environmental Impact Assessment (EIA) inadequately captures these vulnerabilities, providing insufficient baseline data and underestimating the risks to local infrastructure and public health. This section evaluates the existing conditions, highlighting gaps in the EIA and the implications of these oversights.

Infrastructure Baseline

1. **Road Networks:**
    - **Current State:**
        - The road network in Newton Stewart, Bargrennan and Glentrool comprises narrow rural roads and the A714 as the primary access route. These roads are not designed to handle substantial increases in HGV traffic or abnormal loads.
    - **EIA Gaps:**
        - The EIA fails to adequately assess the road network's capacity to handle construction and operational traffic. No analysis of potential damage to roads or increased maintenance requirements is provided.
2. **Emergency Services:**
    - **Current State:**
        - Emergency response resources in Dumfries and Galloway are limited due to the region's rural nature. Fire services, especially those equipped for handling lithium-ion battery fires, are located far from the site.
    - **EIA Gaps:**
        - The EIA does not evaluate the capacity of emergency services to manage turbine-related incidents or BESS thermal runaway events. There is no contingency plan to address extended response times or the need for specialised equipment.
3. **Utility Infrastructure:**
    - **Current State:**
        - Local utility infrastructure, including power lines and communications systems, serves dispersed rural communities. Disruptions could significantly impact residents.
    - **EIA Gaps:**
        - The EIA does not consider the potential for turbine-related EMI to affect TV, radio, and telecommunications systems.

Environmental and Public Health Baseline

1. **Ambient Noise Levels:**
    - **Current State:**
        - The region's ambient noise levels are exceptionally low, typical of tranquil rural settings. This makes the community highly sensitive to noise pollution from turbine operation.
    - **EIA Gaps:**
        - The EIA does not provide comprehensive baseline noise measurements for sensitive receptors, such as homes and public spaces in Newton Stewart, Bargrennan and Glentrool.
2. **Electromagnetic Interference (EMI):**
    - **Current State:**
        - Residents of Cree Valley rely on signals from the Caldbeck transmitter for TV and radio services. Past wind farm developments in the region have caused signal disruptions.
    - **EIA Gaps:**
        - The EIA fails to evaluate the specific risks of EMI from Glenvernoch's turbines, which could interfere with signal reception for a significant number of households.
3. **Shadow Flicker Exposure:**
    - **Current State:**
        - Properties near the proposed site are within the 1,500m zone of influence for shadow flicker, creating a heightened risk of visual disturbances.
    - **EIA Gaps:**
        - The EIA lacks a robust assessment of baseline shadow flicker exposure, including worst-case scenarios and cumulative effects from existing and proposed wind farms.

Safety and Hazard Baseline

1. **Turbine-Related Hazards:**
    - **Current State:**
        - Turbine failures, including blade detachment, ice throw, and structural collapse, are rare but potentially catastrophic events. The proximity of turbines to public spaces increases the risk of harm.
    - **EIA Gaps:**
        - The EIA provides no site-specific analysis of turbine-related hazards, failing to account for local weather conditions, public access areas, or nearby infrastructure.
2. **Battery Energy Storage Systems (BESS):**
    - **Current State:**
        - BESS units introduce additional risks, particularly from lithium-ion batteries prone to thermal runaway. The Scottish Fire and Rescue Service has stated they lack the resources to manage large-scale BESS fires in the region.

- **EIA Gaps:**
    - The EIA inadequately addresses the risks associated with BESS, including fire, explosion, and toxic emissions. There is no consideration of the extended response times for specialised fire services.

Socioeconomic Baseline

1. **Community Characteristics:**
    - **Current State:**
        - Newton Stewart, Bargrennan and Glentrool are peaceful rural communities reliant on tourism, agriculture, and outdoor recreation. The tranquillity and natural beauty of the region are central to its identity and economy.
    - **EIA Gaps:**
        - The EIA does not assess how disruptions from noise, shadow flicker, and EMI will impact community wellbeing or the local economy.
2. **Tourism Dependency:**
    - **Current State:**
        - The area attracts visitors for its unspoiled landscapes, tranquillity, and cultural landmarks, including Bruce's Stone and the Galloway Forest Dark Sky Park.
    - **EIA Gaps:**
        - The EIA neglects to evaluate how industrialisation from the proposed development will deter tourists and harm local businesses.

Sensitive Receptors

1. **Residential Areas:**
    - Residents in Newton Stewart, Bargrennan and Glentrool are particularly vulnerable to noise, shadow flicker, and safety hazards due to their proximity to the proposed development.
2. **Tourism Destinations:**
    - Key attractions, such as the Southern Upland Way and the Galloway Forest Dark Sky Park, are highly sensitive to visual and acoustic intrusions.
3. **Critical Infrastructure:**
    - The rural road network and communications systems are fragile and susceptible to strain from increased traffic and EMI.

Conclusion

The baseline conditions in Newton Stewart, Bargrennan, Glentrool, and the surrounding area highlight significant vulnerabilities to the proposed Glenvernoch Wind Farm. EnergieKontor's EIA fails to provide a comprehensive assessment of these conditions, underestimating the risks to infrastructure, public health, and community wellbeing. The absence of robust baseline data and cumulative impact analysis underscores the inadequacy of the EIA as a foundation for evaluating the proposal's suitability.

5. IDENTIFICATION AND EVALUATION OF KEY EFFECTS

Overview

This section evaluates the significant impacts of the proposed Glenvernoch Wind Farm on infrastructure, human health, and the broader community. EnergieKontor's Environmental Impact Assessment (EIA) inadequately addresses these effects, particularly in the areas of noise, shadow flicker, electromagnetic interference (EMI), and safety hazards. By underestimating or omitting critical risks, the EIA fails to provide a credible basis for approving the proposal. This evaluation highlights these deficiencies and assesses their implications for local residents, infrastructure, and ecosystems.

Key Effects

1. **Noise Pollution**
    - **Operational Noise:**
        - **Predicted Impact:** Turbine noise, including low-frequency and infrasound, will exceed acceptable thresholds for rural areas. Noise levels will be particularly disruptive during night-time when ambient sound is minimal.
        - **Health Risks:** Prolonged exposure to elevated noise levels can lead to sleep disturbances, stress issues, and reduced quality of life. Vulnerable populations, such as the elderly and children, are at heightened risk.
        - **EIA Deficiencies:**
            - The EIA fails to include baseline noise levels for sensitive receptors, particularly residential areas in Newton Stewart, Bargrennan and Glentrool.
            - Cumulative noise impacts from Glenvernoch combined with nearby Kilgallioch and proposed developments (Blair Hill, Shennanton, and Balunton) are not adequately assessed.
    - **Construction Noise:**
        - **Predicted Impact:** Heavy vehicle movements, crane operations, and turbine installation will generate significant noise, disrupting the tranquillity of the region.
        - **EIA Deficiencies:** The EIA lacks a detailed assessment of construction-phase noise impacts, particularly for properties close to access routes and the construction compound.
2. **Shadow Flicker**
    - **Predicted Impact:**
        - Shadow flicker will affect properties within 1,500m of turbines, with some locations experiencing durations exceeding internationally accepted thresholds (30 hours per year or 30 minutes per day).
    - **Health Risks:**
        - Shadow flicker can cause headaches, eye strain, and stress. It poses a particular risk to individuals with photosensitive epilepsy, potentially triggering seizures.
    - **Cumulative Effects:**
        - Shadow flicker impacts will be compounded by proposed developments at Blair Hill and Shennanton, which the EIA fails to address.
    - **EIA Deficiencies:**

- The EIA does not adequately quantify shadow flicker effects for individual properties or assess cumulative impacts. Proposed mitigation measures lack enforceability and specificity.

3. **Electromagnetic Interference (EMI)**

   - **Predicted Impact:**
     - Turbine operations could disrupt TV, radio, and telecommunication signals, particularly for household's dependent on the Caldbeck transmitter. EMI effects were observed during prior wind farm developments in the region.
   - **Implications for Residents:**
     - Loss of reliable communication services could negatively impact quality of life and access to critical information, particularly during emergencies.
   - **EIA Deficiencies:**
     - The EIA does not provide a comprehensive analysis of EMI risks, nor does it propose robust mitigation strategies. This omission neglects the lessons learned from previous wind farm-related signal disruptions in Dumfries and Galloway.

4. **Safety Hazards**

   - **Turbine Failures:**
     - **Predicted Impact:** Risks include blade detachment, turbine collapse, and ice throw, particularly during severe weather conditions. These hazards could endanger residents, road users, and visitors to public spaces.
     - **EIA Deficiencies:** The EIA lacks site-specific hazard analyses and fails to assess the proximity of turbines to residential areas, roads, and public spaces.
   - **Battery Energy Storage Systems (BESS):**
     - **Predicted Impact:** Lithium-ion batteries pose significant fire and explosion risks due to thermal runaway. Toxic emissions from BESS incidents could endanger human health, wildlife, and water supplies.
     - **Implications for Emergency Response:**
       - The Scottish Fire and Rescue Service in Newton Stewart and towns outwith lack the equipment and training to manage large-scale lithium-ion fires in rural areas, increasing the likelihood of catastrophic outcomes.
     - **EIA Deficiencies:**
       - The EIA does not adequately address the risks associated with BESS or provide a contingency plan for thermal runaway events. Emergency response limitations are ignored, and no strategy is presented to mitigate these risks.

5. **Cumulative Impacts**

   - **Noise and Shadow Flicker:**
     - Combined effects from Kilgallioch and proposed developments (Blair Hill, Shennanton, and Balunton) will exacerbate noise and shadow flicker impacts, significantly increasing exposure for residents.
   - **Infrastructure Strain:**

- Simultaneous development of Glenvernoch and nearby projects will place unprecedented stress on local roads, emergency services, and utility infrastructure.

- **EIA Deficiencies:**
  - The EIA does not evaluate cumulative impacts, resulting in an incomplete and misleading risk assessment.

6. **Quality of Life and Community Wellbeing**

- **Predicted Impact:**
  - The combined effects of noise, shadow flicker, EMI, and safety risks will degrade the tranquillity and natural beauty of the region. This disruption will negatively impact mental health, social cohesion, and economic stability in Newton Stewart, Bargrennan and Glentrool.

- **EIA Deficiencies:**
  - The EIA fails to consider the Socioeconomic implications of these impacts, including their effect on vulnerable populations and tourism-dependent businesses.

Conclusion

The Glenvernoch Wind Farm poses significant risks to infrastructure, public health, and community wellbeing in Newton Stewart, Bargrennan, Glentrool, and surrounding areas. EnergieKontor's EIA inadequately evaluates these risks, particularly regarding noise, shadow flicker, EMI, and safety hazards. The failure to assess cumulative impacts further undermines the credibility of the proposal. These deficiencies highlight the need for a comprehensive reassessment and the introduction of robust mitigation measures.

6. MITIGATION MEASURES AND RESIDUAL RISKS

Overview

This section evaluates the mitigation measures proposed in EnergieKontor's Environmental Impact Assessment (EIA) for the Glenvernoch Wind Farm, focusing on noise pollution, shadow flicker, electromagnetic interference (EMI), and safety hazards, including the risks associated with the Battery Energy Storage System (BESS). While some measures are proposed, they are poorly defined, lack enforceability, and fail to address the unique challenges posed by the rural setting and the cumulative effects of other wind farm developments in the area. Residual risks are assessed to highlight unaddressed or inadequately mitigated impacts.

Proposed Mitigation Measures

1. **Noise Pollution**

- **Proposed Measures:**
  - Implementation of turbine shut-offs during high wind speeds to reduce noise.
  - Commitment to comply with general noise thresholds set by planning regulations.

- **Evaluation:**
  - These measures lack specificity and enforceability. No detailed monitoring plan is provided to ensure compliance, particularly during night-time when noise impacts are most acute.
  - Low-frequency noise (infrasound) is not addressed, leaving a significant gap in the mitigation strategy.

2. **Shadow Flicker**

- **Proposed Measures:**
  - Use of automated turbine shut-offs during peak shadow flicker periods to limit exposure.
  - Commitment to adhere to shadow flicker limits for affected properties within 1,500m.
- **Evaluation:**
  - The EIA does not identify specific properties that will receive protection or provide enforceable operational restrictions.
  - Cumulative shadow flicker impacts from neighbouring developments, such as Blair Hill and Shennanton, are not considered in the mitigation strategy.

3. **Electromagnetic Interference (EMI)**
   - **Proposed Measures:**
     - Collaboration with telecommunications providers to identify and resolve signal disruptions.
   - **Evaluation:**
     - The measures are reactive rather than proactive, with no clear contingency plan or preventative strategies in place.
     - Previous cases of EMI in the region have demonstrated that resolution can be delayed or incomplete, leaving affected households without reliable communication services for extended periods.
4. **Safety Hazards**
   - **Turbine-Related Hazards:**
     - **Proposed Measures:**
       - Generic safety protocols for turbine operation and maintenance.
       - Ice detection systems to prevent ice throw incidents.
     - **Evaluation:**
       - The proposed measures are vague and do not account for site-specific risks, such as proximity to residential areas, roads, and public spaces.
       - Ice detection systems rely on consistent monitoring, which may be challenging in a remote rural setting.
   - **Battery Energy Storage System (BESS):**
     - **Proposed Measures:**
       - Compliance with industry standards for BESS installation and operation.
       - Emergency response plans for thermal runaway events.
     - **Evaluation:**
       - The EIA fails to address the known limitations of rural emergency services in handling lithium-ion fires and explosions. With no local capacity to manage these incidents, reliance on distant hazardous materials (HAZMAT) units creates unacceptable delays.

- The risks of toxic gas emissions and water contamination during a BESS fire are not addressed.

5. **Emergency Response**
    - **Proposed Measures:**
        - Collaboration with local emergency services to develop a response plan.
        - Provision of training and resources to improve emergency response capacity.
    - **Evaluation:**
        - The proposed measures are aspirational and lack detail. There is no evidence of commitments to funding additional resources or providing specialised equipment for rural emergency services.
        - Response times for emergencies in remote areas like Cree Valley are already prolonged, and the additional burden posed by wind farm incidents is inadequately considered.
6. **Cumulative Impacts**
    - **Proposed Measures:**
        - Coordination with neighbouring wind farm developers to mitigate overlapping impacts.
    - **Evaluation:**
        - The EIA does not provide concrete strategies or evidence of collaborative efforts to address cumulative impacts. Noise, shadow flicker, and infrastructure strain are likely to be exacerbated without coordinated mitigation.

Residual Risks

Despite the proposed mitigation measures, significant residual risks remain unaddressed or inadequately mitigated:

1. **Noise Pollution**
    - Night-time noise levels, particularly low-frequency infrasound, will continue to disrupt sleep and degrade the quality of life for residents in Newton Stewart, Bargrennan and Glentrool.
    - Cumulative noise impacts from Kilgallioch, Blair Hill, Shennanton, and Balunton developments will exacerbate the issue, which the EIA fails to quantify or mitigate.
2. **Shadow Flicker**
    - Prolonged and intense shadow flicker will persist for properties within the 1,500m zone of influence, particularly during high-sunlight seasons.
    - Cumulative shadow flicker effects from nearby proposed developments will remain unaddressed, leaving residents exposed to sustained visual disturbances.
3. **Electromagnetic Interference (EMI)**
    - EMI disruptions to TV, radio, and telecommunications signals will reduce the reliability of essential services for local residents, particularly in emergencies.
    - The lack of a robust mitigation strategy leaves households at risk of prolonged service interruptions.
4. **Safety Hazards**

- Turbine-related risks, such as blade detachment, turbine collapse, and ice throw, remain inadequately mitigated, posing significant threats to residents and visitors.

- The reliance on distant HAZMAT units to handle BESS incidents creates unacceptable delays, increasing the likelihood of catastrophic outcomes. Toxic emissions and water contamination during a BESS fire will have long-lasting environmental and health impacts.

5. **Infrastructure Strain**

    - Increased traffic from construction and maintenance activities will strain local roads, leading to higher risks of accidents and delays for emergency services.

    - The simultaneous development of Glenvernoch and other wind farms will exacerbate these pressures, with no coordinated mitigation strategy in place.

6. **Community Wellbeing**

    - The combined impacts of noise, shadow flicker, EMI, and safety hazards will degrade the tranquillity and natural beauty of the region, negatively impacting mental health, social cohesion, and economic stability.

Conclusion

The mitigation measures proposed in EnergieKontor's EIA are insufficient to address the significant risks posed by the Glenvernoch Wind Farm. The lack of robust, enforceable strategies for managing noise, shadow flicker, EMI, safety hazards, and cumulative impacts leaves residents of Newton Stewart, Bargrennan, Glentrool, and surrounding areas exposed to unacceptable residual risks. These deficiencies underscore the need for a comprehensive reassessment of the proposal and the introduction of more effective and site-specific mitigation measures.

7. CONCLUSION AND RECOMMENDATIONS

Overview

The Glenvernoch Wind Farm proposal presents profound and unacceptable risks to infrastructure and human health. EnergieKontor's Environmental Impact Assessment (EIA) inadequately addresses critical concerns such as noise pollution, shadow flicker, electromagnetic interference (EMI), safety hazards, and cumulative impacts. These deficiencies leave local communities, including residents of Newton Stewart, Bargrennan and Glentrool, exposed to significant residual risks, threatening their quality of life, safety, and wellbeing.

The reliance on vague mitigation measures and the lack of enforceable commitments demonstrates a failure to meet the necessary standards for responsible development. Without substantial revisions and stricter oversight, the Glenvernoch Wind Farm is incompatible with Scotland's environmental, health, and safety objectives.

Key Risks and Deficiencies

1. **Noise Pollution**

    - Predicted noise levels, particularly at night, exceed World Health Organization (WHO) guidelines for rural areas, disrupting sleep and increasing health risks.

    - The failure to assess and mitigate cumulative noise impacts from Kilgallioch and other proposed wind farms underestimates the true scale of the issue.

2. **Shadow Flicker**

    - Prolonged and intense shadow flicker will exceed acceptable thresholds for properties within 1,500m of turbines, degrading residents' mental health and quality of life.

- The EIA's failure to account for cumulative shadow flicker impacts leaves residents exposed to sustained visual disturbances.

3. **Electromagnetic Interference (EMI)**
    - Disruptions to TV, radio, and telecommunications signals undermine the reliability of essential services, particularly during emergencies.
    - EnergieKontor's reliance on reactive measures rather than proactive planning exacerbates the risk of prolonged service interruptions.
4. **Safety Hazards**
    - Turbine-related risks, such as blade detachment, turbine collapse, and ice throw, remain inadequately mitigated, posing significant threats to public safety.
    - The Battery Energy Storage System (BESS) introduces additional hazards, including thermal runaway risks and toxic emissions. Local emergency services lack the specialised equipment and training to manage lithium-ion battery fires, creating unacceptable delays and risks.
5. **Infrastructure Strain**
    - Increased traffic from construction and maintenance activities will overwhelm local roads, delaying emergency response times and increasing accident risks.
    - Simultaneous development of Glenvernoch and neighbouring wind farms compounds these pressures, with no coordinated mitigation strategy.
6. **Cumulative Impacts**
    - The interaction of Glenvernoch with existing and proposed developments, such as Kilgallioch, Blair Hill, Shennanton, and Balunton, has been inadequately assessed. The cumulative effects on noise, shadow flicker, infrastructure, and safety are underestimated.

Recommendations

1. **Reject the Glenvernoch Wind Farm Proposal in Its Current Form**
    - The proposal fails to meet the standards for public safety, environmental protection, and community wellbeing. Approval should be withheld until the identified deficiencies are rectified.
2. **Comprehensive Cumulative Impact Assessment**
    - Conduct a thorough evaluation of cumulative impacts, including noise, shadow flicker, EMI, safety hazards, and infrastructure strain. This assessment must consider existing and proposed wind farms in the region.
3. **Strengthened Noise and Shadow Flicker Mitigation**
    - Implement enforceable noise limits adhering to WHO guidelines, particularly for night-time exposure.
    - Identify all properties within the shadow flicker zone and establish binding turbine shut-off protocols to prevent exceedance of acceptable thresholds.
4. **Robust Safety and Emergency Response Planning**
    - Develop site-specific emergency response plans tailored to rural constraints, including additional funding and resources for local emergency services.

- Introduce enforceable safety measures for turbine-related risks and ensure adequate provisions for managing BESS incidents.

5. **Proactive EMI Mitigation**

   - Require proactive measures to prevent EMI disruptions, including baseline signal monitoring and pre-emptive shielding or relocation of affected telecommunications infrastructure.

6. **Enhanced Community Protections**

   - Establish transparent communication processes to address community concerns promptly and effectively.
   - Commit to compensating residents for disruptions caused by noise, shadow flicker, EMI, or infrastructure damage.

7. **Independent Review of the EIA**

   - Engage an independent body to assess the EIA's adequacy in addressing infrastructure and human health impacts. Recommendations from this review should inform future iterations of the proposal.

Final Statement

The Glenvernoch Wind Farm proposal poses unacceptable risks to infrastructure and human health in its current form. The deficiencies in the EIA, particularly regarding cumulative impacts, noise pollution, shadow flicker, EMI, and safety hazards, highlight a lack of due diligence and a disregard for the wellbeing of local communities. Approval of this proposal would contravene Scotland's commitments to sustainable development, public safety, and environmental stewardship. Without substantial revisions and enforceable mitigation measures, the project remains fundamentally incompatible with these objectives.

The recommendation is for the outright rejection of the Glenvernoch Wind Farm proposal in its current state.

OBJECTION TO SECTION 14 (EIA) – SOCIOECONOMICS

CONTENTS

References:

EnergieKontor EIA Chapter 14 – Socioeconomics:
Primary reference for proposed socioeconomic impacts, including claims of job creation and community benefits.
Dumfries and Galloway Local Development Plan (LDP2):
Relevant policies on protecting local economies, tourism, and community wellbeing.
National Planning Framework 4 (NPF4):
Policy framework prioritising sustainable development and protection of natural and cultural assets.
VisitScotland Economic Impact Reports:
Visitor statistics and economic contributions from tourism in Dumfries and Galloway.
Scottish Government Renewable Energy Benefits Framework:
Guidance on community benefit schemes and local economic development from renewable energy projects.
Case Study:
Impact of Existing Wind Farms on Tourism in Dumfries and Galloway: Independent study assessing tourism impacts from regional wind farm developments.
Transport Scotland Reports – Infrastructure Impacts of Wind Farm Developments:
Insights into road degradation and financial implications for local authorities.
Community Feedback – Surveys and Objections from Local Residents in Newton Stewart, Bargrennan and Glentrool:
Primary data reflecting community concerns regarding tourism, infrastructure, and quality of life impacts.
EnergieKontor's Claims on Construction Job Creation:
Documentation from the EIA assessing the employment benefits of the Glenvernoch Wind Farm.
Scotland's Natural and Cultural Heritage Protection Guidelines:
Standards for assessing impacts on heritage sites like Bruce's Stone and Loch Trool.
Southern Upland Way Tourism Statistics:
Data on visitor numbers and economic contributions from the iconic long-distance trail.
Community Benefit Scheme Analysis:
Comparative analysis of effectiveness and fairness of benefit schemes in similar wind farm projects.
Local Authority Emergency Response Planning:
Information on capacity challenges for emergency services in rural Dumfries and Galloway.
Galloway Forest Park and Dark Sky Park Tourism Reports:
Reports on visitor trends and economic impacts tied to the region's scenic and tranquil qualities.

1. NON-TECHNICAL SUMMARY AND SCOPE OF OBJECTION

Overview

The socioeconomic implications of the Glenvernoch Wind Farm proposal, as outlined in Chapter 14 of EnergieKontor's Environmental Impact Assessment (EIA), fail to address critical concerns related to the local economy, community wellbeing, and tourism in Dumfries and Galloway. While the EIA highlights potential benefits such as job creation and economic investment, these claims are overestimated, poorly substantiated, and fail to account for the significant risks posed to existing industries and the local population.

The proposal is situated in a region heavily reliant on tourism and small-scale agriculture, both of which are particularly vulnerable to the visual, acoustic, and environmental impacts of wind farm developments. The industrialisation of a predominantly rural and scenic area risks undermining key drivers of the local economy, as well as diminishing the quality of life for residents.

Key Concerns:

1. **Tourism Impacts**
    - The region attracts visitors for its unspoiled landscapes, cultural heritage sites such as Bruce's Stone, and outdoor activities centred around the Galloway Forest Park and the Southern Upland Way.
    - The presence of industrial-scale turbines threatens the aesthetic appeal and tranquillity that underpin the local tourism economy.
2. **Inflated Economic Benefits**
    - Claims of significant job creation and local investment during the construction and operational phases are unsupported by transparent evidence or detailed economic modelling.
    - The EIA does not account for the potential displacement of existing jobs in tourism and related sectors.
3. **Community Wellbeing**
    - Increased traffic, noise, and shadow flicker during construction and operations will disrupt daily life in nearby communities, such as Newton Stewart, Bargrennan and Glentrool.
    - Vulnerable populations, including the elderly and those with pre-existing health conditions, face disproportionate impacts on their mental and physical wellbeing.
4. **Cumulative Impacts**
    - Overlapping construction schedules with other proposed wind farms (Blair Hill, Shennanton) will amplify socioeconomic challenges, such as road congestion, disruption to tourism, and strain on local services.

Scope of Objection

This objection evaluates the full range of socioeconomic impacts of the Glenvernoch Wind Farm, focusing on:

- The inadequacies in the EIA's methodology and data, including a lack of cumulative impact assessments.
- The risks to Dumfries and Galloway's tourism-driven economy and the disproportionate effects on vulnerable communities.
- The failure to substantiate claimed economic benefits with transparent evidence.

The findings demand that the proposal be reconsidered or rejected until a comprehensive and balanced socioeconomic analysis is conducted, one that accurately reflects the risks to the local economy, community wellbeing, and long-term sustainability of the region.

2. POLICY AND LEGISLATIVE CONTRAVENTION

Overview

The Glenvernoch Wind Farm proposal contravenes multiple policies and legislative frameworks designed to ensure sustainable development, protect community wellbeing, and safeguard local economies. Chapter 14 of the Environmental Impact Assessment (EIA) by EnergieKontor fails to align with these frameworks, particularly regarding its socioeconomic impacts. The proposal's claims of economic benefit are overstated and inadequately substantiated, while its negative impacts on tourism, community wellbeing, and local infrastructure are significantly underrepresented. This section outlines the specific policy and legislative contravention associated with the proposal.

Key Contravention

1. **National Planning Framework 4 (NPF4)**
    - **Policy Context:** NPF4 prioritises sustainable economic growth, community resilience, and the preservation of Scotland's natural and cultural assets. Developments must balance economic benefits with the protection of existing industries, community wellbeing, and environmental heritage.
    - **Contravention:**
        - The EIA fails to provide robust evidence of net positive economic impacts, particularly during the operational phase, violating NPF4's requirement for sustainable and transparent economic growth.
        - The negative impacts on tourism, which forms a cornerstone of the local economy, directly contravene NPF4's goals of protecting key economic drivers in rural areas.
2. **Dumfries and Galloway Local Development Plan (LDP2)**
    - **Policy Context:** LDP2 emphasises the importance of protecting the region's natural and cultural assets, particularly those underpinning its tourism economy. It also stresses the need for developments to support local communities without compromising their quality of life.
    - **Contravention:**
        - The EIA underestimates the long-term socioeconomic harm to tourism-related businesses, in breach of LDP2's policies on sustainable economic growth.
        - The proposal fails to demonstrate meaningful community engagement or provide tangible benefits to offset its adverse impacts, contravening LDP2's community-focused development criteria.
3. **Control of Pollution Act 1974**
    - **Policy Context:** This Act mandates the minimisation of environmental nuisances, such as noise and dust, that affect human health and wellbeing.
    - **Contravention:**
        - The EIA does not adequately address the potential noise and dust impacts on nearby communities during construction, posing a direct threat to public health and violating the Act's provisions.
4. **European Landscape Convention (ELC)**

- **Policy Context:** The ELC requires developments to preserve and enhance landscapes of cultural and economic value, recognising their contribution to public wellbeing and tourism.
- **Contravention:**
  - The industrial-scale wind turbines would irreversibly alter the visual and cultural integrity of the Galloway Hills, Loch Trool, and Bruce's Stone, contravening the ELC's objectives.

5. **Tourism Strategy for Scotland 2020**
   - **Policy Context:** Scotland's tourism strategy emphasises the importance of preserving the natural and cultural assets that attract visitors, with a focus on sustainable tourism development.
   - **Contravention:**
     - The proposal undermines the Galloway Hills' appeal as a tranquil and unspoiled destination, directly contradicting the strategy's goals of enhancing Scotland's tourism potential.

Policy Implications

The Glenvernoch Wind Farm proposal undermines Scotland's commitments to sustainable development, community wellbeing, and the protection of key economic drivers such as tourism. Its failure to align with NPF4, LDP2, and other frameworks highlights significant gaps in the proposal's planning and socioeconomic assessment. By prioritising speculative economic benefits over the tangible risks to established industries and communities, the proposal jeopardises the long-term sustainability of Dumfries and Galloway.

Conclusion

EnergieKontor's EIA demonstrates clear non-compliance with critical policies and legislative frameworks. The proposal's failure to adequately address its socioeconomic impacts on tourism, local communities, and regional sustainability renders it incompatible with Scotland's planning and environmental objectives. Substantial revisions are necessary to bring the proposal into alignment with these standards.

3. METHODOLOGY

Overview

This section outlines the approach taken to assess the socioeconomic impacts of the Glenvernoch Wind Farm, focusing on deficiencies in EnergieKontor's Environmental Impact Assessment (EIA) Chapter 14. The methodology evaluates the proposal's claims against publicly available data, stakeholder feedback, and national and local planning frameworks. It also considers the broader socioeconomic context of Dumfries and Galloway, with a focus on tourism, local businesses, and community wellbeing.

Data Sources

1. **EnergieKontor EIA Chapter 14 – Socioeconomics (Sections 14.1–14.7):**
   - Claims regarding employment opportunities during construction and operation.
   - Projected economic benefits to the local community.
   - Potential impacts on tourism and local businesses.
2. **National and Local Policy Documents:**
   - National Planning Framework 4 (NPF4).
   - Dumfries and Galloway Local Development Plan (LDP2).
   - Tourism Strategy for Scotland 2020.

3. **Stakeholder Feedback:**
    - Community concerns regarding disruptions to tourism, loss of tranquillity, and impacts on businesses reliant on the region's unspoiled landscapes.
4. **Industry and Economic Data:**
    - Statistics on the importance of tourism to the Dumfries and Galloway economy.
    - Case studies of wind farm impacts on rural tourism in similar contexts.
5. **Comparative Analysis:**
    - Lessons from previous wind farm proposals, such as Hill of Ochiltree, rejected due to their adverse impacts on the local economy and landscape.
    - Data from operational wind farms, including Kilgallioch, regarding their socioeconomic effects.

Assessment Criteria

1. **Economic Benefits and Employment Opportunities:**
    - Evaluation of EnergieKontor's claims regarding local job creation during construction and operation.
    - Assessment of whether projected economic benefits are substantiated and realistically achievable.
2. **Tourism and Visitor Economy:**
    - Analysis of the potential impacts on key attractions, such as Loch Trool, Bruce's Stone, and the Southern Upland Way.
    - Consideration of cumulative impacts on tourism from Glenvernoch and neighbouring developments, such as Blair Hill and Shennanton.
3. **Community Wellbeing:**
    - Assessment of the proposal's impacts on local residents, including disruptions to daily life, increased traffic, and noise during construction and operation.
    - Evaluation of potential declines in property values due to perceived industrialisation of the landscape.
4. **Infrastructure and Local Businesses:**
    - Analysis of the capacity of local infrastructure to handle increased demands during construction and operation.
    - Assessment of the proposal's impact on businesses reliant on the region's natural assets, such as hospitality and outdoor recreation providers.
5. **Cumulative Impacts:**
    - Consideration of how the socioeconomic effects of Glenvernoch will interact with those of Kilgallioch and other proposed wind farms, including Blair Hill and Shennanton.

Methodological Deficiencies in the EIA

1. **Overreliance on Generic Assumptions:**
    - The EIA relies on broad, unsubstantiated claims about economic benefits without providing site-specific data or robust evidence.

2. **Inadequate Tourism Impact Assessment:**
    - The EIA underestimates the importance of tourism to the Dumfries and Galloway economy and fails to provide a detailed analysis of how the proposal will affect key attractions.
3. **Failure to Address Cumulative Effects:**
    - The EIA does not consider the compounded socioeconomic impacts of Glenvernoch and neighbouring wind farms, leading to an incomplete evaluation.
4. **Lack of Stakeholder Engagement:**
    - The methodology does not adequately incorporate feedback from local residents, businesses, or tourism operators.
5. **Limited Scope of Economic Analysis:**
    - The EIA focuses primarily on short-term construction jobs while neglecting potential long-term negative impacts on established industries such as tourism and agriculture.

Conclusion

The methodology employed in EnergieKontor's EIA for Chapter 14 is incomplete and fails to provide a comprehensive assessment of the socioeconomic impacts of the Glenvernoch Wind Farm. Its reliance on generic assumptions, lack of cumulative impact analysis, and insufficient stakeholder engagement undermine the credibility of its findings. A revised methodology, incorporating robust local data and transparent engagement with affected communities, is essential for an accurate evaluation of the proposal's socioeconomic implications.

4. BASELINE CONDITIONS

Overview

The socioeconomic baseline conditions in Dumfries and Galloway underscore the region's dependence on tourism, agriculture, and small businesses, all of which are closely tied to its unspoiled landscapes and rural tranquillity. EnergieKontor's Environmental Impact Assessment (EIA) Chapter 14 fails to provide a comprehensive analysis of these baseline conditions, overlooking critical dependencies and vulnerabilities that the Glenvernoch Wind Farm could exacerbate. This section examines the existing socioeconomic context, focusing on tourism, employment, community wellbeing, and local infrastructure.

Key Baseline Conditions

1. **Tourism and Visitor Economy:**
    - **Regional Importance of Tourism:**
      Tourism contributes significantly to the Dumfries and Galloway economy, accounting for approximately £300 million annually. Key attractions include:
        - **Loch Trool and Bruce's Stone:** Integral to Scotland's cultural heritage and a major draw for history enthusiasts and hikers.
        - **Southern Upland Way:** Scotland's premier long-distance walking route, attracting outdoor enthusiasts seeking unspoiled landscapes.
        - **Galloway Forest Park and Dark Sky Park:** Renowned for tranquillity, biodiversity, and stargazing, these sites attract visitors from across the UK and beyond.
    - **Vulnerability to Industrialisation:**
      The region's appeal is rooted in its natural beauty and serenity. Industrial-scale developments, such as wind

farms, risk deterring visitors by altering the landscape's visual integrity and undermining the sense of remoteness that defines these attractions.

2. **Local Employment and Economy:**

    - **Agriculture and Small Businesses:**
      Agriculture remains a cornerstone of the local economy, with many small farms reliant on the integrity of the natural environment for their viability. Businesses in hospitality, outdoor recreation, and retail are similarly dependent on tourism traffic.

    - **Employment Challenges:**
      Dumfries and Galloway already faces limited employment opportunities, particularly in rural areas like Newton Stewart, Bargrennan and Glentrool. Many jobs in the region are seasonal or tied to tourism, making the local economy particularly sensitive to disruptions in visitor numbers.

3. **Community Wellbeing:**

    - **Tranquillity and Quality of Life:**
      Local residents highly value the region's tranquillity and natural beauty, which contribute to a strong sense of community and wellbeing. Noise, traffic, and other disruptions from large-scale construction projects pose a direct threat to this quality of life.

    - **Vulnerable Populations:**
      Elderly residents and individuals with pre-existing health conditions are especially vulnerable to stressors such as increased noise and traffic.

4. **Infrastructure and Services:**

    - **Rural Constraints:**
      The region's infrastructure is not designed to accommodate the increased demands of large-scale construction projects. Narrow roads, limited public transport, and overstretched emergency services are already significant challenges for rural communities.

    - **Dependence on Tourism Traffic:**
      Many local businesses rely on tourism-driven demand for services such as accommodation, dining, and recreational activities. Any decline in visitor numbers could have cascading effects on the regional economy.

5. **Cumulative Development Pressures:**

    - **Existing and Proposed Wind Farms:**
      The region is already home to Kilgallioch Wind Farm, with additional proposals such as Blair Hill and Shennanton under consideration. The combined visual, environmental, and infrastructural impacts of these developments are not adequately accounted for in EnergieKontor's EIA.

Deficiencies in the EIA's Baseline Analysis

1. **Inadequate Tourism Impact Assessment:**

    - The EIA fails to fully assess the importance of tourism to the regional economy, particularly the contributions of key attractions such as the Southern Upland Way and Galloway Forest Park.

2. **Overlooking Cumulative Impacts:**

    - EnergieKontor does not address the combined socioeconomic effects of Glenvernoch and neighbouring wind farm developments, leading to an incomplete understanding of baseline vulnerabilities.

3. **Limited Community Engagement:**

- The EIA does not incorporate sufficient input from local stakeholders, including tourism operators, small business owners, and residents, to accurately reflect the region's socioeconomic baseline.

Conclusion

The baseline conditions in Dumfries and Galloway reveal a rural region deeply reliant on its natural assets for economic stability and community wellbeing. By failing to provide a robust analysis of these conditions, EnergieKontor's EIA significantly underestimates the potential socioeconomic impacts of the Glenvernoch Wind Farm. A more detailed and stakeholder-informed assessment is required to fully understand the risks posed to tourism, local businesses, and community quality of life.

5. IDENTIFICATION AND EVALUATION OF KEY EFFECTS

Overview

This section evaluates the socioeconomic impacts of the proposed Glenvernoch Wind Farm as identified in EnergieKontor's Environmental Impact Assessment (EIA), with a focus on its deficiencies in addressing tourism, local employment, community wellbeing, and infrastructure challenges. The analysis incorporates both direct and indirect effects on the region's economy, quality of life, and cultural assets. Particular attention is given to cumulative impacts from existing and proposed developments in Dumfries and Galloway.

Key Effects

1. **Impact on Tourism and Visitor Economy:**
    - **Visual and Landscape Degradation:**
        - The turbines, with a maximum tip height of 200m, will be highly visible from key attractions, including Bruce's Stone, Loch Trool, the Southern Upland Way, and Galloway Forest Park. These intrusions will diminish the scenic value of these sites, undermining their appeal to visitors seeking unspoiled landscapes.
        - The introduction of aviation lighting on turbines, particularly in a designated Dark Sky Park, will degrade the night-time experience, which is a significant draw for stargazers and astronomers.
    - **Reduced Visitor Numbers:**
        - Visitors seeking tranquillity and natural beauty are likely to be deterred by the industrialisation of the landscape. The Southern Upland Way, a major attraction for hikers, will lose its appeal as a remote and peaceful route.
    - **Economic Consequences:**
        - Reduced visitor numbers will directly impact businesses reliant on tourism, including accommodation providers, restaurants, and outdoor activity operators. The ripple effect could extend to supply chains and secondary service providers, further straining the local economy.
2. **Employment Challenges:**
    - **Temporary Construction Jobs:**
        - While EnergieKontor highlights the creation of temporary jobs during construction, the majority of these roles are likely to be filled by non-local contractors with specialised skills, providing minimal benefit to the local labour market.
    - **Long-Term Employment:**
        - The operational phase of the wind farm will require minimal staffing, offering negligible long-term employment opportunities for local residents.

- **Job Losses in Tourism and Related Sectors:**
  - The anticipated decline in visitor numbers will disproportionately affect small businesses and seasonal workers, leading to job losses in tourism, hospitality, and retail sectors.

3. **Community Wellbeing:**
   - **Disruption to Quality of Life:**
     - Construction activities, including noise, traffic, and dust, will disrupt the tranquillity of rural communities. These impacts will be particularly acute in areas close to construction sites and access routes, such as Newton Stewart, Bargrennan and Glentrool.
     - Operational noise and visual intrusion will continue to affect residents' quality of life throughout the wind farm's lifespan.
   - **Mental Health Impacts:**
     - The cumulative effects of landscape degradation, economic uncertainty, and disrupted community cohesion could contribute to increased stress and mental health issues, particularly for vulnerable populations.
4. **Strain on Local Infrastructure:**
   - **Traffic and Road Safety:**
     - Construction traffic, including heavy goods vehicles (HGVs), will place additional stress on rural roads that are not designed to handle high volumes or heavy loads. This will increase risks for local drivers, cyclists, and pedestrians.
     - Maintenance of roads damaged by construction traffic will impose financial burdens on local authorities, diverting resources from other community needs.
   - **Emergency Services:**
     - Increased demands on emergency services due to construction-related incidents and operational hazards, combined with limited local resources, will compromise response times and community safety.
5. **Cumulative Impacts:**
   - **Overlapping Developments:**
     - The combined visual, economic, and infrastructure impacts of Glenvernoch and neighbouring wind farm proposals, such as Blair Hill and Shennanton, are not adequately addressed in the EIA. The cumulative industrialisation of the landscape risks deterring visitors and eroding the region's unique character.
   - **Economic Vulnerability:**
     - Small businesses and seasonal workers in Dumfries and Galloway are already vulnerable due to the region's economic reliance on tourism. The combined impact of multiple wind farm developments could exacerbate economic instability.

Deficiencies in the EIA's Analysis

1. **Failure to Address Tourism Dependencies:**

- The EIA underestimates the importance of key attractions, such as the Southern Upland Way and Galloway Forest Park, to the regional economy.

2. **Limited Consideration of Long-Term Impacts:**
    - The analysis focuses on short-term construction benefits without adequately addressing long-term socioeconomic consequences, including job losses in tourism.
3. **Inadequate Cumulative Impact Assessment:**
    - The EIA does not account for the combined socioeconomic effects of Glenvernoch and other wind farm developments in the region.

Conclusion

The proposed Glenvernoch Wind Farm will have profound and far-reaching socioeconomic impacts on Dumfries and Galloway, including diminished tourism revenue, job losses, and reduced quality of life for residents. EnergieKontor's EIA fails to adequately identify or evaluate these effects, particularly with regard to cumulative impacts and long-term vulnerabilities.

6. MITIGATION MEASURES AND RESIDUAL RISKS

Overview

EnergieKontor's Environmental Impact Assessment (EIA) proposes several mitigation measures to address the socioeconomic impacts of the Glenvernoch Wind Farm. However, these measures are either inadequately detailed or insufficient to address the significant risks posed to local communities, tourism, and infrastructure. This section evaluates the proposed strategies, identifies residual risks, and highlights critical gaps that undermine the effectiveness of mitigation efforts.

Proposed Mitigation Measures

1. **Tourism and Visual Impact Mitigation**
    - **Proposed Measures:**
        - Use of landscaping and planting to screen turbines from key viewpoints.
        - Reduction in the number of turbines from 18 to 13 to minimise visual clutter.
        - Provision of visitor information boards promoting the wind farm's renewable energy benefits.
    - **Evaluation:**
        - Screening vegetation is ineffective for mitigating visual impacts from elevated vantage points such as Bruce's Stone or the Southern Upland Way.
        - The reduction in turbine numbers does little to address the fundamental issue of industrialisation of a rural, scenic landscape.
        - Information boards promoting the wind farm are unlikely to offset the negative perceptions of visitors deterred by the landscape's degradation.
2. **Employment and Economic Mitigation**
    - **Proposed Measures:**
        - Commitment to using local contractors and suppliers during the construction phase where feasible.
        - Community benefit fund contributions to support local initiatives.
    - **Evaluation:**

- The lack of specific targets or guarantees for local employment undermines the credibility of these commitments.
- Community benefit funds are insufficient to offset long-term economic losses in the tourism and hospitality sectors caused by reduced visitor numbers.

3. **Construction and Traffic Management**
    - **Proposed Measures:**
        - Implementation of a Construction Traffic Management Plan (CTMP) to minimise disruption on local roads.
        - Scheduling construction activities to avoid peak traffic times.
    - **Evaluation:**
        - While the CTMP provides some relief, it does not address the long-term damage to roads caused by heavy construction traffic.
        - The plan does not account for the increased safety risks to local residents, cyclists, and pedestrians.
4. **Community Engagement**
    - **Proposed Measures:**
        - Establishment of a liaison group to address community concerns during construction and operation.
        - Provision of regular updates to residents on construction progress and potential disruptions.
    - **Evaluation:**
        - Liaison groups and updates do not mitigate the actual impacts of noise, visual intrusion, or economic losses.
        - The proposed communication strategies lack enforcement mechanisms to ensure timely and transparent responses to community grievances.
5. **Cumulative Impact Mitigation**
    - **Proposed Measures:**
        - Collaboration with neighbouring wind farm developers to coordinate construction schedules and minimise overlapping impacts.
    - **Evaluation:**
        - No evidence is provided of concrete plans or agreements with neighbouring developers, leaving cumulative impacts unaddressed.

Residual Risks

1. **Tourism and Visitor Economy**
    - The turbines' visibility from key attractions, including Bruce's Stone, Loch Trool, and the Southern Upland Way, remains a significant deterrent to visitors.
    - Reduced visitor numbers will continue to impact local businesses reliant on tourism, with no viable mitigation strategy proposed to counteract these losses.

2. **Employment and Economic Stability**
    - Temporary construction jobs offer minimal benefits to the local labour market, while long-term job losses in tourism, hospitality, and retail sectors remain unmitigated.
    - Community benefit funds do not provide a sustainable solution to the region's economic vulnerabilities.
3. **Community Wellbeing**
    - The combined impacts of visual intrusion, noise, and economic uncertainty will degrade residents' quality of life, with no targeted mitigation measures to address these issues.
4. **Infrastructure Strain**
    - Road damage from heavy construction traffic will impose ongoing financial burdens on local authorities, with no clear commitments from EnergieKontor to cover maintenance costs.
    - Increased demands on emergency services remain unaddressed, leaving communities vulnerable to delayed response times and resource constraints.
5. **Cumulative Impacts**
    - The EIA fails to provide a coordinated strategy for addressing the combined effects of Glenvernoch and neighbouring wind farms, exacerbating the region's socioeconomic challenges.

Conclusion

The proposed mitigation measures in EnergieKontor's EIA are insufficient to address the significant socioeconomic risks posed by the Glenvernoch Wind Farm. Key residual risks, including reduced tourism revenue, job losses, and community disruption, remain unaddressed or inadequately mitigated.

7. CONCLUSION AND RECOMMENDATIONS

Overview

The Glenvernoch Wind Farm proposal presents significant and unacceptable risks to the socioeconomic fabric of Dumfries and Galloway. EnergieKontor's Environmental Impact Assessment (EIA) fails to adequately address the detrimental effects on tourism, local employment, infrastructure, and community wellbeing. This section summarises the key deficiencies in the proposal, identifies critical areas requiring improvement, and provides actionable recommendations to ensure the protection of the region's socioeconomic interests.

Key Risks

1. **Tourism and Visitor Economy**
    - The proposed turbines will industrialise iconic landscapes visible from Bruce's Stone, Loch Trool, and the Southern Upland Way, deterring visitors and harming the region's reputation as a tranquil, scenic destination.
    - Reduced visitor numbers will result in significant economic losses for local businesses, particularly in the hospitality, retail, and outdoor recreation sectors.
2. **Employment and Economic Stability**
    - The temporary nature of construction jobs and the lack of guarantees for local employment mean the proposal offers minimal long-term economic benefits.
    - Community benefit funds, while a positive gesture, do not compensate for sustained economic losses in key sectors such as tourism and retail.

3. **Community Wellbeing**
    - The combined impacts of visual intrusion, noise, and economic uncertainty will degrade residents' quality of life, particularly for vulnerable groups.
    - The absence of targeted support for affected communities exacerbates the proposal's social and economic inequalities.
4. **Infrastructure Strain**
    - Increased traffic during construction will damage local roads, imposing financial burdens on local authorities for repairs and maintenance.
    - The region's rural infrastructure, including emergency services, is ill-equipped to handle the additional demands posed by the wind farm's construction and operation.
5. **Cumulative Impacts**
    - The EIA fails to assess the combined socioeconomic effects of Glenvernoch and neighbouring developments, including Blair Hill, Shennanton, and Balunton wind farms.
    - This omission underestimates the overall burden on tourism, infrastructure, and community wellbeing.

Recommendations

1. **Reject the Glenvernoch Wind Farm Proposal**
    - The proposal fails to align with Scotland's commitments to sustainable development and socioeconomic protection. Immediate rejection is warranted to safeguard Dumfries and Galloway's economy, communities, and heritage.
2. **Comprehensive Socioeconomic Impact Assessment**
    - Require an independent assessment that:
        - Quantifies long-term economic losses in tourism, hospitality, and retail sectors.
        - Evaluates the indirect impacts on community wellbeing and quality of life.
        - Includes a detailed cumulative impact analysis for Glenvernoch and neighbouring wind farms.
3. **Enhanced Tourism Protections**
    - Enforce stricter visual impact mitigation measures to preserve views from key attractions such as Bruce's Stone, Loch Trool, and the Southern Upland Way.
    - Introduce compensation mechanisms for businesses and communities affected by reduced visitor numbers.
4. **Targeted Economic Support**
    - Mandate specific commitments for local employment during construction and operation, with enforceable targets for contractors and suppliers.
    - Expand the scope and funding of community benefit initiatives to include long-term economic development projects.
5. **Infrastructure Resilience**
    - Require EnergieKontor to fund road repairs and upgrades needed to accommodate construction traffic.

- Develop an infrastructure support plan for emergency services to address the additional demands posed by the wind farm.

6. **Transparent Community Engagement**

   - Establish a formal oversight mechanism to ensure regular, transparent communication with affected communities.
   - Provide a clear process for resolving grievances, with enforceable penalties for non-compliance.

Final Statement

The Glenvernoch Wind Farm proposal, in its current form, poses unacceptable risks to the socioeconomic wellbeing of Dumfries and Galloway. By failing to address critical impacts on tourism, employment, infrastructure, and community wellbeing, the project undermines the region's economic stability and quality of life.

Approval of the proposal would contravene key policies and legislative frameworks, including the National Planning Framework 4, and the Dumfries and Galloway Local Development Plan. The omission of cumulative impact assessments and robust mitigation measures further highlights the EIA's inadequacies.

To ensure the region's long-term prosperity and resilience, the Glenvernoch Wind Farm proposal must be rejected. Future iterations must demonstrate full compliance with policy standards, provide a comprehensive socioeconomic impact assessment, and implement robust protections for affected communities. Only through such revisions can Scotland's renewable energy ambitions be balanced with the preservation of its invaluable natural and cultural heritage.

OBJECTION TO SECTION 15 (EIA) – SCHEDULE OF MITIGATION

CONTENTS

References:

1. EnergieKontor Environmental Impact Assessment (EIA) Vol. 1, Chapter 15: Schedule of Mitigation (Sections 15.1–15.10).
2. National Planning Framework 4 (NPF4), Scottish Government, 2023.
3. Control of Major Accident Hazards (COMAH) Regulations, 2015.
4. The Peatland Code, IUCN UK Peatland Programme, 2015.
5. Dumfries and Galloway Local Development Plan (LDP2), Dumfries and Galloway Council, 2023.
6. Wildlife and Countryside Act, 1981 (as amended).
7. World Health Organization (WHO) Environmental Noise Guidelines, 2018.
8. RSPB Scotland, Guidelines on Wind Farms and Wildlife, 2020.
9. Scottish Fire and Rescue Service, Guidance on Emergency Management for Renewable Energy Developments, 2023.
10. ITU-R BT.2142-9 Report on Electromagnetic Interference in Broadcast Signals, 2020.
11. Historic Environment Scotland (HES), Policies on Cultural Heritage Preservation, 2022.
12. Glenvernoch Wind Farm: Ornithology Report, by Hands Off Our Hills LANE Team.
13. Glenvernoch Wind Farm: Ecology Report, by Hands Off Our Hills LANE Team.
14. Scottish Government Guidance on Shadow Flicker and Wind Turbine Impacts, 2017.
15. EnergieKontor Environmental Impact Assessment (EIA) Appendices: Technical Assessments on Hydrology, Ecology, and Cultural Heritage, 2024.
16. Dumfries and Galloway Council Consultation Responses on Glenvernoch Wind Farm, 2024.

1. NON-TECHNICAL SUMMARY AND SCOPE OF OBJECTION

Overview

This section examines the adequacy of the proposed mitigation measures outlined in the Glenvernoch Wind Farm Environmental Impact Assessment (EIA) and their corresponding Schedule of Mitigation (Chapter 15). Effective mitigation is a cornerstone of responsible development, ensuring that adverse impacts on the environment, communities, and local infrastructure are minimised. The Schedule of Mitigation, as presented, fails to meet this standard in several critical areas, including noise pollution, landscape degradation, ecological disturbance, and cumulative impacts.

Key Areas of Concern include:

1. **Insufficient Mitigation for Noise Impacts**
    - Measures to address operational noise and low-frequency infrasound are vague and unenforceable, with no robust monitoring framework.
2. **Ineffective Ecological Mitigation**
    - Proposed actions for protecting wildlife, habitats, and peatlands lack specificity and fail to compensate for significant disturbances, including the destruction of Class 1 and Class 2 peatlands.
3. **Visual and Landscape Impact Mitigation**
    - Mitigation measures such as tree planting and visual screening are superficial and fail to address the scale of visual intrusion caused by the turbines, particularly near cultural landmarks like Bruce's Stone and Loch Trool.
4. **Cumulative Impact Oversight**
    - No comprehensive strategy is provided to mitigate overlapping effects from Glenvernoch and nearby developments like Blair Hill and Shennanton wind farms.
5. **Inadequate Community Safeguards**
    - Measures to address community wellbeing, such as shadow flicker impacts and traffic disruptions, are insufficient and lack enforceable commitments.
6. **Emergency Response Risks**
    - The Schedule of Mitigation fails to adequately prepare for turbine-related hazards or account for the limited capacity of local emergency services.

Scope of Objection

This objection highlights the failures of the Schedule of Mitigation to address the following key aspects:

1. Alignment with **National Planning Framework 4**, and **Environmental Impact Assessment Regulations 2017**.
2. Adequacy of proposed mitigation measures in protecting sensitive receptors, including wildlife habitats, peatlands, and communities.
3. Effectiveness of measures to ensure enforceability and accountability.
4. The lack of a coordinated strategy to address cumulative impacts and overlapping pressures from multiple developments.

The deficiencies in the Schedule of Mitigation render it inadequate to offset the significant and far-reaching impacts of the Glenvernoch Wind Farm proposal. Substantial revisions are necessary to bring the mitigation measures in line with legal and policy requirements and to safeguard the environment, infrastructure, and communities of Dumfries and Galloway.

2. POLICY AND LEGISLATIVE CONTRAVENTION

Overview

The Schedule of Mitigation, as outlined in the Glenvernoch Wind Farm EIA, fails to align with critical policies and legislative frameworks designed to ensure the protection of Scotland's environment, communities, and cultural heritage. This section identifies specific contravention of national and local policies, as well as international guidelines, emphasising the inadequacies of the proposed mitigation measures.

Key Contravention

1. **National Planning Framework 4 (NPF4)**
    - **Policy Context**: NPF4 emphasises climate adaptation, natural heritage protection, and community wellbeing. It requires renewable energy developments to avoid significant harm to sensitive environments and communities.
    - **Contravention**:
        - The disturbance of peatlands conflicts with NPF4's objectives of enhancing carbon sequestration and avoiding harm to natural carbon stores.
        - Mitigation for shadow flicker impacts on communities is insufficient, undermining NPF4's commitment to community wellbeing.
        - The lack of cumulative impact mitigation disregards NPF4's requirement for holistic environmental assessments.
2. **The Peatland Code and Carbon Management Guidelines**
    - **Policy Context**: The Peatland Code prohibits disturbance of peatlands, recognising their role in carbon storage and biodiversity support.
    - **Contravention**:
        - Mitigation measures for peatland destruction, such as restoration, fail to adequately offset the ecological and carbon impacts of disturbing Class 1 and Class 2 peat.
3. **Environmental Impact Assessment (EIA) Regulations 2017**
    - **Policy Context**: The EIA Regulations require robust assessments of significant effects, mitigation measures, and cumulative impacts.
    - **Contravention**:
        - The Schedule of Mitigation lacks enforceable plans for managing noise, shadow flicker, and ecological impacts, violating EIA Regulations' requirements for credible mitigation strategies.
        - Cumulative impact mitigation is absent, breaching the EIA's obligation to evaluate overlapping pressures from multiple developments.
4. **Control of Major Accident Hazards (COMAH) Regulations 2015**
    - **Policy Context**: COMAH regulations require robust safety measures to address risks such as turbine collapse, blade detachment, and fire hazards associated with Battery Energy Storage Systems (BESS).
    - **Contravention**:
        - The mitigation measures fail to adequately address risks posed by turbine-related accidents or the dangers of lithium-ion battery fires in the proposed BESS units.

- Emergency response planning is vague and insufficient, particularly given the limited capacity of local emergency services.

5. **Dumfries and Galloway Local Development Plan (LDP2)**
    - **Policy Context**: LDP2 prioritises the protection of the region's iconic landscapes, ecological sensitivity, and community wellbeing.
    - **Contravention**:
        - The Schedule of Mitigation fails to address the visual intrusion of turbines near cultural landmarks like Bruce's Stone and Loch Trool, contravening LDP2's focus on landscape preservation.
        - Measures for traffic and construction disruptions do not meet LDP2's standards for safeguarding community wellbeing.
6. **European Landscape Convention (ELC)**
    - **Policy Context**: The ELC requires developments to preserve and enhance the cultural and natural value of landscapes.
    - **Contravention**:
        - Mitigation measures for visual impacts fail to protect the landscape integrity of the Galloway Hills and its cultural landmarks, contravening the ELC's principles.

Policy Implications

The inadequacies in the Schedule of Mitigation reveal significant policy and legislative non-compliance. These shortcomings jeopardise the project's ability to meet Scotland's commitments to sustainable development, environmental protection, and community wellbeing.

Conclusion

The Glenvernoch Wind Farm's Schedule of Mitigation demonstrates clear non-compliance with key policies and legislative frameworks, including NPF4, the EIA Regulations, and the Peatland Code. Without substantial revisions, the proposal contravenes critical legal and policy requirements, underscoring the need for its rejection in its current form.

3. METHODOLOGY

Overview

The methodology for evaluating the Schedule of Mitigation in the Glenvernoch Wind Farm EIA focuses on identifying deficiencies in proposed mitigation measures, their enforceability, and their alignment with best practices and regulatory standards. This evaluation integrates technical, environmental, and community perspectives to provide a comprehensive assessment of the mitigation strategies and their potential effectiveness.

Data Sources

1. **EnergieKontor's EIA Chapter 15: Schedule of Mitigation**
    - Sections detailing mitigation measures for noise, shadow flicker, ecological impacts, landscape and visual intrusion, and construction-related risks.
    - Proposed monitoring and enforcement mechanisms.
2. **Policy and Regulatory Frameworks**

- National Planning Framework 4 (NPF4).
- The Peatland Code and associated carbon management guidelines.
- Environmental Impact Assessment (EIA) Regulations 2017.
- Control of Major Accident Hazards (COMAH) Regulations 2015.
- Dumfries and Galloway Local Development Plan (LDP2).

3. **Local and Regional Data**
    - Geographic and ecological data for the Glenvernoch site, including peatland classifications, hydrological systems, and biodiversity records.
    - Feedback from local stakeholders, including community councils and environmental organisations.
4. **Best Practices in Mitigation**
    - Industry standards for noise and shadow flicker mitigation.
    - Established practices for ecological restoration and peatland management.
    - Emergency response planning for wind farm developments and battery storage systems.

Assessment Criteria

1. **Clarity and Specificity of Mitigation Measures**
    - Are the proposed measures detailed, practical, and enforceable?
    - Do they include clear timelines, responsibilities, and monitoring requirements?
2. **Compliance with Policy and Regulatory Standards**
    - Do the measures align with the requirements of NPF4, and other relevant frameworks?
    - Are they sufficient to address identified impacts, such as noise, shadow flicker, and ecological disruption?
3. **Effectiveness of Proposed Mitigation**
    - Will the measures realistically mitigate the identified impacts?
    - Are they supported by evidence, such as modelling or case studies?
4. **Addressing Cumulative Impacts**
    - Do the measures account for cumulative impacts from other developments in the region?
    - Are there strategies for collaborative mitigation with nearby wind farms?
5. **Emergency Response Preparedness**
    - Are the measures sufficient to manage risks associated with turbine failures and Battery Energy Storage System (BESS) incidents?
    - Do they consider the limitations of local emergency services?

Identified Methodological Gaps in the EIA

1. **Insufficient Detail**

- Many mitigation measures are described in generic terms, lacking site-specific adaptations or enforceable commitments.

2. **Lack of Monitoring and Accountability**
    - The EIA fails to propose robust monitoring frameworks or mechanisms for holding the developer accountable for implementing mitigation measures.
3. **Overlooking Cumulative Impacts**
    - The EIA does not adequately address how the mitigation measures will interact with cumulative impacts from nearby developments, such as Blair Hill and Shennanton wind farms.
4. **Limited Stakeholder Engagement**
    - The EIA does not include meaningful input from local stakeholders in the development of the mitigation strategies.
5. **Overreliance on Standard Mitigation Practices**
    - Many measures rely on industry-standard practices without considering their adequacy for the unique conditions of the Glenvernoch site.

Conclusion

The methodology used in the Glenvernoch EIA to develop the Schedule of Mitigation is inadequate. It fails to provide the level of detail, enforceability, and site-specific adaptation required to ensure effective mitigation. The absence of cumulative impact analysis, robust monitoring plans, and meaningful stakeholder engagement further undermines the credibility of the proposed mitigation measures.

4. BASELINE CONDITIONS

Overview

Baseline conditions at the Glenvernoch Wind Farm site highlight a range of environmental, social, and infrastructural vulnerabilities that require robust and tailored mitigation measures. EnergieKontor's Environmental Impact Assessment (EIA) inadequately evaluates these baseline conditions, failing to provide a comprehensive foundation for assessing the effectiveness of the proposed Schedule of Mitigation. This section outlines the existing conditions at the site and the surrounding area, identifying key gaps and challenges that must be addressed to ensure proper mitigation.

Key Baseline Characteristics

1. **Environmental and Ecological Baseline**
    - **Peatlands**
        - The site contains extensive areas of Class 1 and Class 2 peatlands, critical for carbon sequestration and biodiversity. Disturbance of these habitats will result in irreversible ecological damage and significant carbon emissions.
        - Turbines 5 and 12 are directly sited on Class 1 and Class 2 peat, respectively, while Turbine 10 is located mere metres from Class 1 peatland. The EIA fails to adequately address these sensitive conditions.
    - **Hydrological Systems**
        - The site's peatlands play a crucial role in regulating water flow and quality. Construction activities risk disrupting these systems, potentially causing sedimentation and pollution in downstream watercourses, including the River Cree and River Bladnoch.

- The area is prone to flooding, and the disruption of natural water retention in peatlands could exacerbate this risk.

- **Biodiversity**

  - The site is in close proximity to the RSPB Wood of Cree, one of Scotland's most significant nature reserves. This reserve supports a diverse range of species, including protected birds such as wood warblers, pied flycatchers, and redstarts. The area also hosts a variety of bats and other wildlife reliant on intact ecosystems.

  - The EIA underestimates the site's ecological sensitivity, providing insufficient baseline data to inform effective mitigation.

2. **Cultural and Landscape Context**

   - **Iconic Landmarks**

     - The site is visible from nationally significant landmarks, including Bruce's Stone, Loch Trool, and the Southern Upland Way. These areas contribute to the region's cultural identity and tourism economy.

     - Any disruption to their visual or environmental integrity risks damaging their cultural and economic value.

   - **Dark Sky Park**

     - The Galloway Forest Park's status as a designated Dark Sky Park is critical to its tourism appeal. The introduction of turbine aviation lights will degrade the quality of the night sky, undermining the unique experience offered by the park.

3. **Socioeconomic Baseline**

   - **Tourism Dependency**

     - Dumfries and Galloway's economy is heavily reliant on tourism, particularly activities associated with the Galloway Forest Park, Loch Trool, and the Southern Upland Way. The industrialisation of the landscape threatens the region's appeal to visitors.

   - **Community Vulnerabilities**

     - The rural communities of Newton Stewart, Bargrennan and Glentrool are highly sensitive to disruptions caused by noise, shadow flicker, and safety hazards. These factors will disproportionately affect vulnerable populations, including the elderly and those with pre-existing health conditions.

4. **Infrastructure and Emergency Services**

   - **Limited Emergency Response Capacity**

     - The region's rural emergency services are ill-equipped to manage incidents associated with wind farms, including turbine collapses, blade detachment, and Battery Energy Storage System (BESS) fires.

   - **Road Infrastructure**

     - Local roads are not designed to accommodate the construction traffic and abnormal loads associated with wind farm development. The EIA underestimates the impact of increased traffic on road safety and maintenance.

Identified Gaps in the EIA's Baseline Assessment

1. **Ecological and Hydrological Data**

- The EIA provides insufficient baseline data on the site's peatlands, watercourses, and biodiversity, undermining the credibility of the proposed mitigation measures.

2. **Cumulative Impacts**
    - The baseline assessment fails to account for the cumulative effects of Glenvernoch alongside existing and proposed developments, such as Blair Hill and Shennanton wind farms.
3. **Community and Infrastructure Vulnerabilities**
    - The EIA does not adequately consider the unique challenges faced by rural communities, particularly in relation to emergency response and road infrastructure.
4. **Tourism and Cultural Baseline**
    - The EIA lacks a thorough evaluation of the project's potential impacts on tourism and cultural landmarks, failing to quantify the associated economic risks.

Conclusion

The baseline conditions at the Glenvernoch Wind Farm site illustrate the significant environmental, cultural, and infrastructural challenges that must be addressed to ensure effective mitigation. The EIA's failure to comprehensively assess these conditions undermines the credibility of its proposed Schedule of Mitigation, leaving key vulnerabilities unaddressed.

5. IDENTIFICATION AND EVALUATION OF KEY EFFECTS

Overview

This section evaluates the anticipated impacts of the Glenvernoch Wind Farm proposal on the environment, cultural landmarks, community wellbeing, and infrastructure, as identified in the EIA. It also assesses the effectiveness of EnergieKontor's proposed mitigation measures against these impacts. Significant gaps in the EIA's analysis, particularly in cumulative impact assessment and emergency response planning, are highlighted. The identified effects underscore the inadequacy of the proposed mitigation strategies and the pressing need for a more robust and detailed approach.

Key Effects on the Environment

1. **Peatland Disturbance and Carbon Release**
    - **Key Impact**:
        - The construction of turbines and associated infrastructure will result in the disturbance of Class 1 and Class 2 peatlands, releasing stored carbon and undermining Scotland's climate commitments.
    - **Evaluation**:
        - The EIA acknowledges peatland disturbance but underestimates its significance, failing to quantify the full extent of carbon release and ecological degradation.
        - Proposed mitigation measures, such as micro-siting and peat restoration, are insufficient to address the irreversible damage caused by turbine foundations and access roads.
2. **Hydrological Disruption**
    - **Key Impact**:
        - The excavation of peatlands and construction of drainage systems will alter natural water flows, increasing the risk of flooding and sedimentation in downstream watercourses, including the River Cree and River Bladnoch.
    - **Evaluation**:

- The EIA fails to provide a detailed assessment of these hydrological impacts, leaving critical risks unaddressed.

3. **Biodiversity Loss and Habitat Fragmentation**
    - **Key Impact**:
        - The proximity of turbines to the RSPB Wood of Cree and other sensitive habitats threatens protected bird species and bats. Habitat fragmentation from access roads and infrastructure will further degrade biodiversity.
    - **Evaluation**:
        - The EIA inadequately assesses the risks to wildlife, particularly in terms of bird strikes and the disruption of nesting and feeding behaviours.

Key Effects on Cultural and Landscape Heritage

1. **Visual Intrusion on Iconic Landmarks**
    - **Key Impact**:
        - The turbines will be highly visible from Loch Trool, Bruce's Stone, and the Southern Upland Way, significantly altering the visual character of these nationally significant landmarks.
    - **Evaluation**:
        - The EIA fails to adequately quantify the visual impact of the development on these landmarks, downplaying its significance for tourism and cultural heritage.
2. **Degradation of the Dark Sky Park**
    - **Key Impact**:
        - Aviation lights on turbines will introduce light pollution, degrading the quality of the night sky in the Galloway Forest Park, a designated Dark Sky Park.
    - **Evaluation**:
        - The EIA acknowledges this impact but does not propose effective mitigation measures to preserve the park's unique appeal.

Key Effects on Community Wellbeing and Socioeconomics

1. **Disruption to Tourism and Local Economy**
    - **Key Impact**:
        - The industrialisation of the landscape will deter visitors, negatively impacting the tourism-dependent economy of Dumfries and Galloway.
    - **Evaluation**:
        - The EIA lacks a thorough assessment of the project's potential economic impact on local businesses and communities.
2. **Noise and Shadow Flicker**
    - **Key Impact**:

- Prolonged exposure to turbine noise and shadow flicker will degrade the quality of life for residents in Newton Stewart, Bargrennan and Glentrool, with vulnerable populations disproportionately affected.

- **Evaluation**:
  - The EIA provides an incomplete analysis of these effects, failing to consider worst-case scenarios or cumulative impacts.

Key Effects on Infrastructure and Emergency Response

1. **Road Infrastructure Strain**
   - **Key Impact**:
     - The increased traffic from construction vehicles and abnormal loads will strain local roads, increasing maintenance costs and safety risks.
   - **Evaluation**:
     - The EIA underestimates the impact on road infrastructure, failing to account for cumulative traffic from other developments.
2. **Emergency Response Challenges**
   - **Key Impact**:
     - Local emergency services lack the capacity and equipment to respond effectively to incidents associated with wind farms, including turbine collapses and BESS fires.
   - **Evaluation**:
     - The EIA fails to propose concrete measures to enhance emergency response capacity, leaving significant safety risks unmitigated.

Conclusion

The Glenvernoch Wind Farm proposal poses significant and wide-ranging impacts on the environment, cultural heritage, community wellbeing, and infrastructure. The EIA underrepresents the severity of these effects and fails to propose robust mitigation strategies, particularly in relation to peatland disturbance, hydrological disruption, and emergency response challenges. The identified impacts underscore the unsuitability of the site for wind farm development in its current form.

6. MITIGATION MEASURES AND RESIDUAL RISKS

Overview

EnergieKontor's Environmental Impact Assessment (EIA) outlines a range of mitigation measures to address the identified impacts of the Glenvernoch Wind Farm on the environment, cultural heritage, infrastructure, and community wellbeing. However, these measures are poorly defined, lack enforceability, and fail to adequately address the most significant risks, leaving considerable residual impacts. This section evaluates the proposed mitigation strategies and highlights the unresolved risks that persist even with their implementation.

Mitigation Measures

1. **Peatland Protection**
   - **Proposed Measures**:
     - Micro-siting turbines to minimise direct impacts on peatlands.

- Restoration of degraded peatlands elsewhere on the site to offset losses.
- Development of a Peat Management Plan (PMP) to manage excavation and reuse of peat.

- **Evaluation**:
  - Micro-siting alone cannot prevent the destruction of Class 1 and Class 2 peatlands, as turbine 12 directly intersects Class 1 peat and turbine 5 overlaps Class 2 peat.
  - Restoration projects cannot replicate the ecological and carbon-sequestration functions of undisturbed peatlands.
  - The PMP lacks detail on how significant peat volumes will be managed during construction, leading to potential oversights.

2. **Hydrological Management**
   - **Proposed Measures**:
     - Installation of drainage systems to control water flow and reduce flooding risks.
     - Sedimentation control during construction to prevent degradation of downstream watercourses.
   - **Evaluation**:
     - The proposed drainage systems risk altering natural hydrological flows, exacerbating flooding and sedimentation in the River Cree and River Bladnoch catchments.
     - Sedimentation control measures are insufficiently detailed to ensure water quality is maintained.
3. **Biodiversity Conservation**
   - **Proposed Measures**:
     - Pre-construction surveys to identify and protect sensitive habitats and species.
     - Habitat enhancement projects to offset habitat loss.
   - **Evaluation**:
     - Pre-construction surveys provide no guarantee of avoiding long-term impacts on species like bats and protected birds in the RSPB Wood of Cree.
     - Habitat enhancement projects fail to account for the site-specific needs of local biodiversity, particularly for species reliant on unfragmented habitats.
4. **Cultural Heritage Safeguards**
   - **Proposed Measures**:
     - Archaeological monitoring during construction to identify and preserve heritage assets.
     - Visual screening to reduce turbine visibility from key landmarks.
   - **Evaluation**:
     - Archaeological monitoring does not mitigate the irreversible loss of cultural context for heritage sites affected by the development.

- Visual screening is ineffective for elevated or long-distance viewpoints, such as Bruce's Stone and Loch Trool.

5. **Noise and Shadow Flicker Reduction**
    - **Proposed Measures**:
        - Automated turbine shut-offs during high shadow flicker periods.
        - Compliance with noise thresholds during operation.
    - **Evaluation**:
        - The lack of enforceable commitments or detailed monitoring plans undermines the effectiveness of these measures.
        - Cumulative impacts from neighbouring wind farms are not addressed, leaving residents vulnerable to prolonged exposure.
6. **Road and Emergency Infrastructure**
    - **Proposed Measures**:
        - Use of designated transport routes for construction vehicles.
        - Collaboration with local emergency services to develop incident response plans.
    - **Evaluation**:
        - Designated routes fail to address the wear and tear on local roads or the increased risks of traffic accidents.
        - Emergency response plans remain vague and do not account for the limitations of local fire and rescue services, particularly in managing turbine-related incidents or BESS fires.

Residual Risks

1. **Peatland and Carbon Losses**
    - The destruction of Class 1 and Class 2 peatlands remains inevitable, with restoration efforts unable to compensate for carbon release or ecological damage.
2. **Hydrological Disruption**
    - Altered water flows and increased sedimentation will continue to threaten the River Cree and River Bladnoch ecosystems, despite drainage and sedimentation control measures.
3. **Biodiversity Impacts**
    - Bird strikes, habitat fragmentation, and disturbance to species in the RSPB Wood of Cree remain significant concerns, particularly during the construction and operational phases.
4. **Cultural and Visual Degradation**
    - The turbines' visibility from key landmarks, such as Bruce's Stone and Loch Trool, cannot be mitigated effectively, resulting in lasting damage to the region's cultural heritage and tourism appeal.
5. **Community Wellbeing**

- Noise and shadow flicker will continue to disrupt the lives of local residents, with no robust mechanisms for monitoring or enforcement.
- Emergency response capabilities remain insufficient, leaving communities vulnerable to prolonged delays in critical incidents.

6. **Infrastructure Strain**
   - Increased traffic and road damage during construction will place a lasting burden on local infrastructure, with no clear strategy for maintenance or repairs.

Conclusion

The mitigation measures proposed in EnergieKontor's EIA are inadequate to address the significant impacts of the Glenvernoch Wind Farm. Key residual risks, including the destruction of peatlands, hydrological disruption, and cultural degradation, remain unaddressed. The lack of enforceable measures and cumulative impact considerations further undermines the viability of the proposal.

7. CONCLUSION AND RECOMMENDATIONS

Overview

The Glenvernoch Wind Farm proposal, as outlined in EnergieKontor's Environmental Impact Assessment (EIA), poses substantial and unacceptable risks to the environment, biodiversity, cultural heritage, community wellbeing, and local infrastructure. The mitigation measures proposed in the EIA are insufficient to address these risks comprehensively, leaving significant residual impacts that render the proposal fundamentally flawed. This section summarises the key objections and provides recommendations for addressing the critical deficiencies.

Key Objections

1. **Environmental and Carbon Impacts**
   - The destruction of Class 1 and Class 2 peatlands will release substantial carbon emissions, undermining Scotland's climate change commitments and renewable energy goals.
   - Hydrological disruptions caused by construction and drainage systems will degrade sensitive watercourses, including the River Cree and River Bladnoch, and increase the risk of downstream flooding.
2. **Biodiversity Loss**
   - The development threatens key habitats, particularly in the RSPB Wood of Cree, where protected bird species, bats, and other wildlife are at risk of habitat loss, fragmentation, and disturbance.
   - Mitigation measures fail to account for the long-term impacts on species dependent on unaltered ecosystems.
3. **Cultural Heritage and Landscape Degradation**
   - The turbines' visibility from iconic landmarks such as Bruce's Stone and Loch Trool will irreversibly damage the cultural and visual integrity of the Galloway Hills.
   - Archaeological monitoring during construction does not address the loss of historical context for affected heritage sites.
4. **Community and Infrastructure Strain**
   - Noise and shadow flicker will disrupt residents' quality of life, with vulnerable groups disproportionately affected.

- The increased strain on local roads, emergency services, and other infrastructure remains unaddressed, particularly in the context of turbine-related incidents and BESS fires.

5. **Inadequate Mitigation Measures**
    - Proposed mitigation strategies lack enforceability, specificity, and transparency, particularly for peatland protection, noise management, and emergency response.
    - The EIA fails to consider cumulative impacts from neighbouring wind farms, exacerbating the overall risks to the region.

Recommendations

1. **Reject the Proposal in Its Current Form**
    - The Glenvernoch Wind Farm fails to meet the standards for sustainable development, environmental protection, and community safety. Approval should be withheld until all critical deficiencies are rectified.
2. **Conduct a Comprehensive Cumulative Impact Assessment**
    - A robust analysis of the combined effects of Glenvernoch and other regional wind farms (e.g., Blair Hill, Shennanton) is essential to ensure an accurate evaluation of overall impacts on the environment, infrastructure, and community wellbeing.
3. **Develop Enforceable Mitigation Strategies**
    - Commitments to protect Class 1 and Class 2 peatlands must be legally binding, with clear monitoring and enforcement mechanisms.
    - Implement robust noise and shadow flicker management plans, including turbine shut-offs and detailed monitoring for all affected properties.
4. **Enhance Emergency Response Capacity**
    - Collaborate with local Scottish Fire and Rescue Service to establish specialised response teams and procure equipment for managing turbine-related incidents and BESS fires.
    - Develop detailed, site-specific emergency response plans to address rural infrastructure limitations and adverse weather conditions.
5. **Preserve Cultural and Landscape Integrity**
    - Prohibit turbine placement within sightlines of key cultural landmarks, including Bruce's Stone and Loch Trool.
    - Ensure archaeological preservation measures go beyond monitoring to actively protect heritage assets.
6. **Protect Biodiversity and Ecosystems**
    - Relocate turbines away from sensitive habitats, particularly near the RSPB Wood of Cree.
    - Develop comprehensive biodiversity enhancement plans tailored to the needs of local species.
7. **Establish Community Protections**
    - Implement clear, enforceable commitments to minimise disruptions to local communities, including financial compensation for impacted residents and businesses.
    - Strengthen communication channels to ensure transparency and responsiveness to community concerns.

Final Statement

The Glenvernoch Wind Farm proposal is incompatible with Scotland's environmental, cultural, and planning priorities. The failure to adequately assess and mitigate the significant risks associated with the development highlights a lack of due diligence and respect for the region's unique heritage and natural resources.

Without substantial revisions and the implementation of robust, enforceable mitigation measures, the proposal should be rejected outright. Future iterations must prioritise compliance with national and local policies, safeguard sensitive landscapes and communities, and address cumulative impacts comprehensively. Only through such measures can Scotland achieve a balance between renewable energy development and the preservation of its invaluable natural and cultural heritage.

FINAL OVERVIEW: OBJECTION TO GLENVERNOCH WIND FARM PROPOSAL

The **Glenvernoch Wind Farm** proposal exemplifies the persistent and systemic challenges of balancing renewable energy ambitions with the preservation of Scotland's natural heritage, ecological integrity, and Socioeconomic stability. Situated within the **Galloway Hills**, a landscape of unparalleled beauty and biodiversity, this development poses significant and irreparable risks to Dumfries and Galloway's communities, tourism economy, and natural environment. As detailed extensively within the objection document submitted by **Hands Off Our Hills (HOOH)**, the proposal fails to meet statutory, policy, and regulatory requirements, rendering it wholly unsuitable for approval.

NON-COMPLIANCE WITH THE ELECTRICITY ACT 1989 (SCHEDULE 9, 3,1,A)

The **Electricity Act 1989**, under **Schedule 9 (3,1,a)**, imposes a statutory duty on developers and decision-makers to ensure that proposals for energy infrastructure development:

- **Preserve the natural beauty of the countryside**.
- **Protect flora, fauna, and geological or physiographical features of special interest**.
- **Mitigate impacts on natural beauty and cultural heritage through adequate design and location choices**.

The Glenvernoch Wind Farm blatantly disregards these obligations:

1. **Impact on Rolling Hills and Natural Beauty**:
    - The towering turbines, with heights exceeding 200m, would dominate the Galloway Hills' iconic rolling landscapes, irreversibly altering their visual character and detracting from their recognised scenic value.
    - The **Dumfries and Galloway Local Development Plan 2 (LDP2)** explicitly deems turbines of this height unsuitable for this location, citing the sensitivity of the landscape and the need to protect the region's rural character.
2. **Ecological Harm**:
    - Class 1 and Class 2 peatlands, present across 26% of the site, are irreplaceable carbon sinks critical for climate regulation and biodiversity. Disturbance of these peatlands for turbine foundations and access roads contravenes **SEPA guidance** and Scotland's **Peatland Code**.
    - The proposal threatens habitats for protected species, including **bats, golden eagles, water voles, and Atlantic salmon**, in contravention of the **Wildlife and Countryside Act 1981 (as amended)** and the **EU Habitats Directive**, which mandate the conservation of protected species and their habitats.
3. **Cultural and Historical Integrity**:
    - Iconic landmarks such as **Bruce's Stone**, the **Southern Upland Way**, and **Dark Sky Park** are integral to the region's identity. The visual and ecological impacts of the turbines would undermine their cultural significance and tourism value.

CONFLICTS WITH PLANNING POLICY AND GUIDANCE

National Planning Framework 4 (NPF4)

- **NPF4 Policy 33 (Natural Heritage)** prioritises the protection of Scotland's natural landscapes and biodiversity, particularly in sensitive areas like the Galloway Hills.
- **Policy 5 (Soils)** explicitly states that developments must avoid carbon-rich soils, such as peatlands, except in exceptional circumstances—which this proposal does not meet.

Local Development Plan 2 (LDP2)

- LDP2's explicit conclusion that turbines of this height are unsuitable for this location reflects a thorough evaluation of the region's landscape sensitivity, Socioeconomic dependencies, and planning priorities. Ignoring this determination would set a dangerous precedent, undermining the credibility of local planning frameworks.

TOURISM AND COMMUNITY WELLBEING

1. **Economic Dependency on Tourism**:
    - Tourism contributes over **£234 million annually** to Dumfries and Galloway's economy, with the **Galloway Forest Park**, **Dark Sky Park**, and **Southern Upland Way** drawing visitors seeking unspoiled landscapes.
    - The industrialisation of the Galloway Hills risks deterring visitors, jeopardising over **10% of local employment** reliant on tourism.
2. **Community Opposition**:
    - Local communities have expressed overwhelming opposition to the proposal, recognising its incompatibility with the region's identity, economy, and quality of life. Their voices align with Scotland's principles of community-driven planning and development.

ENVIRONMENTAL AND CLIMATE IMPACTS

1. **Carbon Release from Peatland Disturbance**:
    - Excavating peatlands for turbine foundations would release significant quantities of stored carbon, negating any climate benefits associated with the wind farm's energy generation. This contradicts Scotland's **net-zero goals** and international commitments under the **Paris Agreement**.
2. **Hydrological Disruption**:
    - The site's numerous burns, including those feeding the **River Cree and Lower Cree SSSI**, face contamination risks from sedimentation and chemical runoff, threatening protected aquatic species and downstream water quality.

CUMULATIVE AND PRECEDENT-SETTING CONCERNS

1. **Cumulative Landscape and Ecological Impacts**:
    - The Glenvernoch proposal, in conjunction with adjacent wind farms such as **Kilgallioch** and **Blair Hill**, exacerbates the industrialisation of the Galloway Hills, undermining regional conservation efforts and Scotland's international reputation for natural beauty.
2. **Dangerous Precedent**:
    - Approving this development would signal a disregard for planning policies, ecological protections, and community opposition, encouraging further inappropriate developments in Scotland's sensitive landscapes.

OUR FINAL CONCLUSION AND RECOMMENDATIONS

For all the reasons outlined above, the Glenvernoch Wind Farm proposal must be **rejected in full**. Its failure to comply with the **Electricity Act 1989**, **Dumfries and Galloway Local Development Plan 2 (LDP2)**, **National Planning Framework 4 (NPF4)**, and numerous other statutory frameworks leaves no room for reconsideration. This proposal represents a clear contravention of Scotland's established planning principles, environmental protections, and legal obligations. Approval would undermine Scotland's long-standing commitments to **biodiversity conservation**, **community resilience**, and **responsible renewable energy development**, setting a dangerous precedent for future projects.

The Glenvernoch Wind Farm would industrialise one of Scotland's most treasured landscapes, the **Galloway Hills**, irreversibly altering its character and ecological balance. The turbines, towering over 200 metres, are entirely inappropriate for this location, as confirmed by LDP2, which deems developments of this scale and nature **"not suitable"** for the region. This policy conclusion reflects a careful evaluation of the Galloway Hills' **rolling landscapes**, **cultural heritage**, and **natural beauty**, which are integral to the region's identity and tourism economy. Ignoring this determination would erode the credibility of Dumfries and Galloway's planning framework, exposing communities and ecosystems to unchecked industrialisation.

Furthermore, any similar proposals for developments of this scale and nature within the **Galloway Hills** must also be deemed **unacceptable** and rejected outright. The ecological integrity, scenic value, and Socioeconomic contributions of these landscapes are **irreplaceable assets**. They are vital to local livelihoods, regional tourism, and Scotland's international reputation for natural beauty. The Galloway Hills are not just a local treasure but a national symbol of Scotland's commitment to protecting its unique heritage and environment. To permit such developments would be to devalue this legacy for the sake of short-term industrial gains, jeopardising the public trust in Scotland's planning system.

The statutory obligations outlined in **Schedule 9 (3,1,a) of the Electricity Act 1989** are unequivocal: decision-makers must prioritise the **preservation of natural beauty**, the **protection of flora and fauna**, and the **safeguarding of cultural and ecological resources**. The Glenvernoch Wind Farm's incompatibility with these principles cannot be overstated. The project's disruption to Class 1 and Class 2 peatlands, its threat to habitats for protected species, and its degradation of sensitive watercourses, including those feeding the **River Cree and Lower Cree SSSI**, represent a direct affront to these statutory duties. These impacts, compounded by the proposal's visual intrusion on iconic attractions such as **Bruce's Stone**, the **Southern Upland Way**, and the **Dark Sky Park**, leave no justification for approval.

Approving the Glenvernoch Wind Farm would undermine Scotland's international commitments to climate action and sustainable development. While renewable energy is essential for achieving **net-zero emissions**, this cannot come at the expense of Scotland's irreplaceable landscapes and ecosystems. The disturbance of deep peatlands, for example, would release significant carbon stores, negating the proposed wind farm's environmental benefits and conflicting with Scotland's climate goals and **Paris Agreement commitments**. Truly sustainable development must strike a balance between energy production and environmental protection, a balance that the Glenvernoch proposal fails to achieve.

A Decision for the Future

Rejecting the Glenvernoch Wind Farm is not only a legal obligation but a moral imperative. Scotland's landscapes, particularly those as iconic as the Galloway Hills, must not be treated as expendable commodities. Instead, they should be safeguarded as part of our shared heritage, serving as a beacon of sustainable development and environmental stewardship for future generations.

This decision carries profound implications. By rejecting this proposal, Scotland can reaffirm its commitment to **responsible renewable energy planning**, **community-driven development**, and **ecological preservation**. Conversely, approving it would set a dangerous precedent, eroding public trust in the planning system, undermining local and national policies, and risking long-term damage to Dumfries and Galloway's economic, cultural, and environmental fabric.

Let this rejection serve as a powerful message: Scotland's landscapes are a **legacy to be cherished and protected, not sacrificed for short-term industrial gains**. The Cree Valley, the Galloway Hills, and Dumfries and Galloway's irreplaceable natural heritage deserve nothing less than our full protection. **Only by rejecting the Glenvernoch Wind Farm** proposal and any future developments of this scale and nature in the Galloway Hills can Scotland uphold its values of sustainability, responsibility, and environmental stewardship.

OBJECTION DOCUMENT |PROPOSED GLENVERNOCH WIND FARM | ENERGIEKONTOR LTD. | ECU00004892

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INDIVIDUAL OBJECTIONS TO APPENDIX SECTIONS OF THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

This division contains detailed objections to each appendix section of the Environmental Impact Assessment (EIA) submitted for the Glenvernoch Wind Farm proposal. Each appendix has been thoroughly reviewed and analysed, with objections presented in dedicated subsections. These objections highlight specific concerns, identify compliance issues, and provide supporting evidence to reinforce the arguments made.

APPENDIX 1.1 – 1.2 – OBJECTION CHAPTER 1: ENVIRONMENTAL IMPACT ASSESSMENT SCOPING REPORT

SECTION 1: INTRODUCTION AND CONTEXT

Overview

This appendix serves to critically assess the Environmental Impact Assessment (EIA) Scoping Report for the Glenvernoch Wind Farm, as prepared by EnergieKontor. The document outlines the initial scope and methodology proposed for assessing the environmental and societal impacts of the development, including its compliance with relevant regulatory frameworks and national policies. This objection identifies key omissions, inadequacies, and inconsistencies in the scoping report, particularly concerning its adherence to statutory requirements and its evaluation of significant environmental and Socioeconomic impacts.

Key Issues Identified

1. **Failure to Adequately Define Baseline Conditions**: The scoping report provides limited baseline information, undermining the foundation for subsequent impact assessments. This includes insufficient detail on hydrology, biodiversity, and cultural heritage.

2. **Incomplete Identification of Sensitive Receptors**: Key receptors, such as local communities, sensitive habitats, and heritage sites, are either omitted or superficially addressed.

3. **Insufficient Cumulative Impact Assessment**: The scoping report fails to account for overlapping effects with operational and consented developments in the region, contrary to EIA best practices.

4. **Lack of Stakeholder Engagement**: The report does not demonstrate meaningful engagement with local communities or stakeholders, limiting its ability to address site-specific concerns.

Purpose and Objectives

The objection highlights the deficiencies in the scoping process and provides recommendations to ensure that the EIA fully complies with regulatory requirements and addresses the environmental and societal implications of the proposed development.

SECTION 2: REGULATORY FRAMEWORK

Overview

The scoping process for the Glenvernoch Wind Farm, as outlined in the EIA Scoping Report, must adhere to the legal and regulatory frameworks governing environmental assessments and renewable energy developments in Scotland. This section evaluates the compliance of the scoping report with the relevant legislation and policies, identifying critical gaps and omissions that undermine its validity.

Key Applicable Legislation and Policies

1. **Environmental Impact Assessment (Scotland) Regulations 2017**
    - **Requirements**: Mandates a comprehensive assessment of direct, indirect, and cumulative impacts, ensuring that all significant environmental and societal factors are considered.
    - **Omissions**: The scoping report fails to adequately outline a methodology for assessing cumulative impacts with adjacent wind farm projects, such as Blair Hill and Shennanton.
2. **National Planning Framework 4 (NPF4)**
    - **Requirements**: Prioritises renewable energy developments that avoid adverse impacts on protected areas, biodiversity, and cultural heritage.

- **Omissions**: The report fails to align the proposed methodology with the overarching sustainability principles of NPF4.

3. **European Landscape Convention (ELC)**
    - **Requirements**: Obligates the integration of cultural and natural landscapes into planning processes to preserve their aesthetic and ecological integrity.
    - **Omissions**: No specific methodologies are proposed for evaluating the visual impacts on the Galloway Hills Regional Scenic Area or the Southern Upland Way.
4. **Peatland Action Plan and The Peatland Code**
    - **Requirements**: Directs developers to avoid disturbance to Class 1 and Class 2 peatlands and ensure habitat restoration where necessary.
    - **Omissions**: The scoping report fails to address the presence of deep peat across multiple turbine locations and does not propose restoration measures.
5. **The Wildlife and Countryside Act 1981**
    - **Requirements**: Protects species and habitats, requiring thorough biodiversity assessments and mitigation strategies.
    - **Omissions**: The methodology for assessing impacts on protected species such as bats and birds is inadequately defined.
6. **Dumfries and Galloway Local Development Plan 2 (LDP2)**
    - **Requirements**: Advocates for protecting local landscapes and communities while enabling renewable energy development.
    - **Omissions**: The scoping report neglects to evaluate the Socioeconomic impact on local businesses reliant on tourism.

Summary of Non-Compliance

The scoping report fails to meet key regulatory requirements by:

- Omitting detailed cumulative impact analyses.
- Neglecting sensitive landscapes, habitats, and cultural sites.
- Providing insufficient methodologies for stakeholder engagement and Socioeconomic assessments.

Recommendations

1. **Cumulative Impact Methodology**: Incorporate a detailed strategy for assessing combined effects with adjacent developments, as required under the EIA Regulations.
2. **Baseline Expansion**: Align baseline assessments with NPF4 by including comprehensive peatland, biodiversity, and cultural heritage evaluations.
3. **Stakeholder Engagement**: Establish robust mechanisms for community consultation to address local concerns.
4. **Regulatory Compliance Review**: Ensure full alignment with the ELC, Peatland Code, and LDP2 in all scoping methodologies.

SECTION 3: IDENTIFICATION AND EVALUATION OF KEY ISSUES

Overview

The Environmental Impact Assessment (EIA) Scoping Report for the Glenvernoch Wind Farm lacks sufficient depth and fails to adequately identify and evaluate critical issues associated with the development. This section addresses key environmental, cultural, and Socioeconomic concerns that are either omitted or insufficiently considered, highlighting the potential impacts on the region's sensitive assets and community wellbeing.

Key Issues Identified

1. Cumulative Impacts

- **Findings**:
    - The scoping report neglects to assess cumulative impacts from adjacent developments, including Blair Hill, Shennanton, and other operational wind farms in the region.
    - Overlapping visibility zones and shared infrastructure impacts exacerbate landscape industrialisation, significantly altering the character of the Galloway Hills and its Regional Scenic Area (RSA).
- **Implications**:
    - Failure to address cumulative impacts contravenes the **Environmental Impact Assessment (Scotland) Regulations 2017**, which require a comprehensive assessment of combined effects.

2. Peatland and Carbon Storage

- **Findings**:
    - The scoping report fails to acknowledge that turbines, including Turbines 5, 10, and 12, are sited on **Class 1 and Class 2 peatlands**, which are critical for carbon sequestration and flood regulation.
    - Peat disturbance during construction would release stored carbon, compromising Scotland's climate goals under the **Climate Change (Emissions Reduction Targets) (Scotland) Act 2019**.
- **Implications**:
    - The omission of peatland impact assessments contravenes policies outlined in **NPF4**, which prohibit disturbance to protected habitats except in exceptional circumstances.

3. Visual and Landscape Impacts

- **Findings**:
    - The scoping report provides a superficial evaluation of visual impacts on key cultural and scenic landmarks, including **Bruce's Stone**, **Loch Trool**, and the **Southern Upland Way**.
    - The turbines, at 200 metres in height, would dominate the viewshed of the Galloway Hills RSA, undermining its aesthetic and tourism value.
- **Implications**:
    - This insufficient analysis fails to meet the requirements of the **European Landscape Convention (ELC)** and **Dumfries and Galloway LDP2**, which prioritise landscape preservation.

4. Biodiversity and Protected Species

- **Findings**:

- The scoping report does not propose specific methodologies for assessing impacts on protected species such as bats, birds, and amphibians, which are reliant on the site's peatlands and watercourses.
- No mitigation strategies are outlined for protecting habitats during construction and operation phases.

- **Implications**:
  - The lack of detail contravenes the **Wildlife and Countryside Act 1981**, which mandates the protection of species and their habitats.

5. Socioeconomic Impacts

- **Findings**:
  - The scoping report inadequately evaluates the potential Socioeconomic impacts on local communities, particularly regarding tourism, quality of life, and infrastructure strain.
  - Tourism, a significant contributor to Dumfries and Galloway's economy, is likely to suffer due to the industrialisation of natural and cultural landscapes.

- **Implications**:
  - The failure to address Socioeconomic impacts contravenes the principles **Dumfries and Galloway LDP2**, which require developments to balance economic benefits with community wellbeing.

Summary of Inadequacies

The scoping report fails to identify or evaluate several critical issues, including:

- Cumulative impacts with neighbouring wind farm developments.
- The destruction of Class 1 and Class 2 peatlands and its carbon implications.
- Visual intrusion into sensitive landscapes and cultural landmarks.
- Biodiversity risks to protected species and their habitats.
- Socioeconomic harm to local tourism and communities.

Recommendations

1. **Comprehensive Cumulative Impact Analysis**:
   - Develop a robust framework for assessing cumulative impacts, incorporating data from adjacent wind farm developments.
2. **Peatland Protection Strategy**:
   - Conduct detailed peatland surveys and provide mitigation strategies that align with the **Peatland Code**.
3. **Enhanced Visual Impact Assessments**:
   - Perform sensitivity analyses for key landmarks, including **Bruce's Stone** and the **Southern Upland Way**, to quantify visual and cultural impacts.
4. **Biodiversity and Habitat Safeguarding**:
   - Outline specific methodologies for assessing and mitigating impacts on protected species and their habitats.
5. **Socioeconomic Impact Study**:

- Conduct a detailed assessment of potential impacts on tourism, local businesses, and community wellbeing.

SECTION 4: RECOMMENDATIONS FOR REVISED SCOPING METHODOLOGY

Overview

The deficiencies in the EIA Scoping Report for the Glenvernoch Wind Farm highlight the need for a revised and comprehensive scoping methodology. This revised approach should ensure compliance with legal and policy requirements, incorporate robust baseline data, and address the specific sensitivities of Dumfries and Galloway's landscapes, ecosystems, and communities.

This section outlines actionable recommendations to improve the scoping methodology and align it with best practices for Environmental Impact Assessments.

Key Recommendations

1. Cumulative Impact Assessment Framework

- **Action Required**:
  - Develop a detailed cumulative impact assessment framework that evaluates the combined effects of Glenvernoch and neighbouring developments, such as Blair Hill and Shennanton.
  - Include overlapping visual, ecological, and Socioeconomic impacts.
- **Purpose**:
  - To ensure compliance with the **Environmental Impact Assessment (Scotland) Regulations 2017**, which mandate cumulative impact analyses.

2. Comprehensive Baseline Studies

- **Action Required**:
  - Expand baseline studies to include:
    - Detailed peatland surveys to identify **Class 1 and Class 2 peatlands** and their carbon storage potential.
    - Biodiversity assessments focusing on species protected under the **Wildlife and Countryside Act 1981**.
    - Visual and cultural landscape evaluations for key landmarks, including **Bruce's Stone** and the **Southern Upland Way**.
  - Conduct **field surveys** and incorporate local expertise to fill data gaps.
- **Purpose**:
  - To provide a robust foundation for evaluating impacts and developing mitigation strategies, as required under **NPF4**.

3. Enhanced Stakeholder Engagement

- **Action Required**:
  - Establish a formal consultation process involving local communities, heritage organisations, and ecological experts.
  - Incorporate feedback from stakeholders into scoping methodologies and baseline studies.
- **Purpose**:

- To align with the **Aarhus Convention**, which mandates public participation in environmental decision-making, and to address community concerns effectively.

4. Detailed Visual Impact Methodology

- **Action Required**:
  - Implement advanced visualisation techniques, such as photomontages and GIS-based visibility analyses, to assess the turbines' impacts on sensitive landscapes and cultural sites.
  - Include sensitivity analyses for key receptors, including **Loch Trool**, **Galloway Hills RSA**, and **Dark Sky Park**.
- **Purpose**:
  - To meet the requirements of the **European Landscape Convention (ELC)** and **LDP2**, which emphasise landscape preservation.

5. Socioeconomic and Tourism Impact Study

- **Action Required**:
  - Conduct a comprehensive Socioeconomic assessment, focusing on:
    - Potential declines in tourism revenue due to landscape industrialisation.
    - Quality-of-life impacts on local residents, including noise, visual intrusion, and infrastructure strain.
  - Incorporate economic data from existing wind farm developments in the region.
- **Purpose**:
  - To address **LDP2** requirements for balanced economic and social development.

6. Mitigation Strategy Development

- **Action Required**:
  - Propose specific and enforceable mitigation measures, including:
    - Avoidance of **Class 1 and Class 2 peatlands** for turbine placement.
    - Habitat restoration and biodiversity offsets.
    - Noise reduction technologies and visual screening.
  - Ensure measures are tailored to the sensitivities of the site and surrounding areas.

- **Purpose**:
  - To comply with the **Peatland Code** and **NPF4**, which require effective mitigation for environmental impacts.

Conclusion

The current scoping methodology for the Glenvernoch Wind Farm is inadequate and fails to meet the standards required for a thorough and balanced Environmental Impact Assessment. A revised methodology, incorporating the recommendations outlined above, is essential to ensure the proposal aligns with legal, policy, and best practice requirements.

APPENDIX 6.1 – 6.7 – OBJECTION CHAPTER 6: LANDSCAPE AND VISUAL IMPACT ASSESSMENT CRITERIA

SECTION 1: INTRODUCTION AND CONTEXT

Overview

This section outlines the detailed reasoning for objecting to planning application **ECU0004892** for a proposed wind energy development at Glenvernoch Fell in Dumfries and Galloway. This objection, prepared by the Hands Off Our Hills (HOOH) campaign group, focuses exclusively on the development's **landscape and visual effects**. It evaluates the submitted Landscape and Visual Impact Assessment (LVIA) and related appendices (6.1–6.7), identifying critical deficiencies in methodology, assessment, and compliance with regional and national planning policies.

The Glenvernoch Wind Farm proposal comprises **13 turbines**, each **200 metres** to blade tip, situated across a **780-hectare site**. The development would dominate the **Cree Valley**, degrade the **Galloway Hills Regional Scenic Area (RSA)**, and intrude on several sensitive receptors, including the **Galloway Forest Dark Sky Park** and the **Southern Upland Way**. Additionally, the project's aviation lighting requirements would severely impact the area's internationally recognised dark skies.

Purpose and Objectives

This objection seeks to demonstrate the inappropriate nature of the Glenvernoch proposal through detailed critique and factual evidence. It evaluates:

1. **Landscape Character Impact**:
    - The proposal’s inconsistency with existing wind farm developments, its disproportionate scale, and its failure to respect the unique sensitivities of the Galloway Hills RSA and surrounding landscapes.
2. **Visual Amenity Impact**:
    - Severe disruption to views from nearby residential properties, national trails, and cultural landmarks, with overbearing effects on sensitive receptors within 2 km of the turbines.
3. **Cumulative Effects**:
    - The inadequately assessed cumulative impacts of overlapping wind farms, which would create a “wind farm landscape” around the Galloway Hills.
4. **Policy Compliance**:
    - The proposal's non-compliance with key planning policies, including **National Planning Framework 4 (NPF4)**, **Dumfries and Galloway Local Development Plan 2 (LDP2)**, and other associated regional guidance.

By identifying these issues, the document aims to support the outright rejection of the Glenvernoch proposal.

SECTION 2: REGULATORY FRAMEWORK

Overview

The Landscape and Visual Impact Assessment (LVIA) and associated appendices for the Glenvernoch Wind Farm must comply with a range of national, regional, and local planning policies that govern landscape protection, visual amenity, and development sustainability. This section evaluates the proposal’s adherence to these frameworks, identifying significant contravention that render the application incompatible with planning requirements.

Key Applicable Legislation and Policies

1. **National Planning Framework 4 (NPF4)**

- **Requirements**:
  - Protect valued landscapes, cultural landmarks, and scenic character.
  - Ensure renewable energy projects are appropriately sited, balancing energy production with environmental safeguarding.
- **Non-Compliance**:
  - The LVIA fails to adequately protect the **Galloway Hills RSA** and **cultural landmarks** like Bruce's Stone and Loch Trool.
  - The development's aviation lighting will permanently degrade the **Galloway Forest Dark Sky Park**, contravening NPF4's emphasis on maintaining the character of protected landscapes.

2. **Dumfries and Galloway Local Development Plan 2 (LDP2)**
   - **Requirements**:
     - Protect landscape character, scenic qualities, and the Socioeconomic value of tourism.
     - Discourage developments incompatible with regional designations, such as RSAs and Wild Land Areas (WLAs).
   - **Non-Compliance**:
     - The proposal's disproportionate scale and intrusive nature conflict with **Policy OP1 (Landscape Protection)** and **Policy NE2 (Regional Scenic Areas)**.
     - The turbines' overwhelming visibility contravenes **Policy IN2 (Wind Energy Development)**, which prioritises designs that respect the scale and context of the landscape.

Summary of Non-Compliance

The LVIA fails to meet the requirements of the following regulatory frameworks:

- **NPF4**: Inadequate protection of sensitive landscapes, cultural landmarks, and visual receptors.
- **EIA Regulations 2017**: Reliance on incomplete data and failure to evaluate cumulative impacts.
- **LDP2**: Contravenes policies prioritising scenic quality and appropriate development in sensitive landscapes.
- **HEPS and ELC**: Insufficient preservation of cultural and historical landmarks and their settings.

Recommendations

1. **Rejection of the Proposal**:
   The Glenvernoch Wind Farm fails to comply with key regulatory frameworks, and its approval would undermine efforts to protect Dumfries and Galloway's unique landscapes.
2. **Policy Alignment**:
   Ensure the project adheres to NPF4 and LDP2 by addressing scale, location, and cumulative effects.

SECTION 3: IDENTIFICATION AND EVALUATION OF KEY ISSUES

Overview

The Landscape and Visual Impact Assessment (LVIA) presented for the Glenvernoch Wind Farm fails to adequately assess or address several critical issues. This section identifies and evaluates these key deficiencies, focusing on visual receptor analysis,

cumulative impacts, and flawed mitigation strategies. The inadequacies in the LVIA are compounded by its reliance on outdated data, insufficient visualisation techniques, and a lack of stakeholder engagement.

Key Issues Identified

1. **Visual Receptor Analysis**

    - **Findings**:
      The LVIA fails to appropriately assess the impacts on critical visual receptors, including:

        - **Bruce's Stone**: A nationally significant cultural landmark with panoramic views over **Loch Trool**.
        - **Loch Trool**: A prominent feature in the **Galloway Forest Park**, integral to regional tourism and identity.
        - **Southern Upland Way**: A highly sensitive long-distance walking route attracting visitors from across Scotland.
        - **Nearby Residential Properties**: Residences within 2 km of the site are subject to severe visual intrusion, overshadowing any mitigation strategies.
        - Many sensitive receptors, such as **Cairnsmore of Fleet** and the **Dark Sky Park**, are excluded or insufficiently addressed.

    - **Implications**:
      By neglecting these receptors, the LVIA undermines its validity, failing to account for the true scope of visual impacts.

2. **Cumulative Impacts**

    - **Findings**:
      The LVIA inadequately evaluates the cumulative visual impacts of the proposed development in conjunction with:

        - Existing wind farms, such as **Kilgallioch** and **Artfield Fell**.
        - Proposed development at **Blair Hill**. **Shennanton** has been given no consideration at all, both within 7 km of the Glenvernoch site.
        - The combined effect of these developments creates a "wind farm landscape," encircling the **Galloway Hills Regional Scenic Area** and degrading its scenic and cultural value.

    - **Implications**:
      Failing to address cumulative impacts contravenes the **Environmental Impact Assessment (Scotland) Regulations 2017**, which require developers to evaluate overlapping effects on visual receptors and landscapes.

3. **Mitigation Strategies**

    - **Findings**:
      The LVIA proposes minimal and ineffective mitigation strategies, including reliance on:

        - **Tree Cover**: To obscure turbines from sensitive viewpoints, despite the turbines' 200-metre height and seasonal foliage variations.
        - **Site Layout Adjustments**: Minor changes to turbine placement, which fail to address the overwhelming scale and visibility of the project.

- **Implications**:
  These superficial measures do not adequately mitigate the long-term visual intrusion caused by the development. The LVIA fails to demonstrate meaningful efforts to minimise adverse impacts.

4. **Inadequate Visualisation Techniques**
   - **Findings**:
     - **Photomontages**: Very poor quality and not to industry standard, failing to account for key receptors and worst-case scenarios (e.g., aviation lighting).
     - **Zone of Theoretical Visibility (ZTV) Maps**: Omissions in identifying significant visual impacts, particularly for high-sensitivity receptors like the **Merrick Wild Land Area** and the **Dark Sky Park**.
   - **Implications**:
     The quality of some visualisations undermines the credibility of the LVIA and its ability to inform decision-makers.

Summary of Deficiencies

The LVIA for Glenvernoch Wind Farm demonstrates the following critical shortcomings:

1. **The LVIA has in a number of instances underestimated the magnitude of change, particularly in respect to impact on night time views.**
2. **Insufficient Cumulative Impact Analysis**: Has omitted to take account of nearby proposed developments such as Shennanton.
3. **Ineffective Mitigation Strategies**: Relies on inadequate measures like tree cover and minor layout adjustments.
4. **Poor Visualisation Techniques**: Fails to convey the full scope of visual impacts.

Recommendations

1. **Rejection of the Proposal**:
   The Glenvernoch Wind Farm should be rejected due to its underestimation of landscape and visual impacts and its failure to respect the region's scenic and cultural value.
2. **Comprehensive Visual Receptor Analysis**:
   Expand assessments to include high-sensitivity receptors, such as Bruce's Stone, Loch Trool, and the Southern Upland Way.
3. **Cumulative Impact Evaluation**:
   Conduct a detailed analysis of overlapping effects with nearby wind farms, integrating accurate ZTV maps and photomontages.

SECTION 4: RECOMMENDATIONS FOR REVISED SCOPING METHODOLOGY

Overview

The mitigation measures proposed in the Landscape and Visual Impact Assessment (LVIA) for the Glenvernoch Wind Farm are insufficient to address the significant and lasting impacts on the landscape and visual receptors. This section evaluates the measures outlined in Appendices 6.1–6.7, identifying their shortcomings and assessing the residual risks that remain unmitigated.

Proposed Mitigation Measures

The LVIA suggests the following mitigation strategies:

1. **Tree Cover and Natural Screening**
    - The developers propose using existing woodland and tree cover to obscure the turbines from key viewpoints, including **Loch Trool** and **Bruce's Stone**.
2. **Turbine Layout Adjustments**
    - Minor adjustments to turbine locations are intended to minimise visibility from sensitive receptors.
3. **Use of Neutral Colours**
    - Turbine structures and blades will be painted in neutral tones to reduce visual prominence.
4. **Aviation Lighting Compliance**
    - While mandatory aviation lighting is included, the LVIA suggests that its visual impact will be minimal due to limited public visibility during night-time hours.

Evaluation of Mitigation Strategies

1. **Tree Cover and Natural Screening**
    - **Limitations**:
        - The height of the turbines (**200 metres**) far exceeds the surrounding tree lines, rendering this measure ineffective.
        - Seasonal variations in foliage mean the turbines will be highly visible during autumn and winter months.
        - Views from dynamic locations, such as walking routes and the **Southern Upland Way**, cannot be consistently obscured by static natural screening.
    - **Conclusion**: This strategy fails to mitigate the visual impact, particularly from high-sensitivity receptors like Bruce's Stone and Loch Trool.
2. **Turbine Layout Adjustments**
    - **Limitations**:
        - Adjustments are minimal and do not address the fundamental issue of scale and dominance.
        - Visibility from key receptors remains significant, particularly within a 10 km radius.
    - **Conclusion**: Layout adjustments provide negligible benefit and fail to address cumulative impacts with adjacent wind farms.
3. **Use of Neutral Colours**
    - **Limitations**:
        - Neutral colours may reduce prominence slightly but are insufficient to mitigate the overwhelming scale and height of the turbines.
        - The reflective nature of turbine blades can exacerbate visual impacts, particularly during daylight hours.

- **Conclusion**: This measure is superficial and does not address the broader visual intrusion caused by the development.

4. **Aviation Lighting Compliance**
    - **Limitations**:
        - The aviation lighting, required for safety, will create permanent night-time visibility, significantly impacting the **Dark Sky Park** designation of the Galloway Forest.
        - The LVIA fails to provide night-time photomontages to accurately depict the visual impact of the lighting.
    - **Conclusion**: This measure directly conflicts with the objectives of preserving the **Dark Sky Park** and its tourism value.

Residual Risks

The following risks remain unmitigated by the proposed measures:

1. **Visual Intrusion**
    - Turbines will dominate the landscape, particularly within a 10 km radius, adversely affecting views from sensitive locations, including:
        - **Bruce's Stone**
        - **Loch Trool**
        - **Southern Upland Way**
        - Residential properties in Cree Valley.
2. **Cumulative Effects**
    - Overlapping impacts with adjacent wind farms will create a wind farm-dominated landscape, reducing the scenic value of the **Galloway Hills RSA**.
3. **Impact on the Dark Sky Park**
    - The aviation lighting will compromise the integrity of the **Galloway Forest Dark Sky Park**, diminishing its value for stargazing and tourism.
4. **Socioeconomic Consequences**
    - The degradation of iconic landscapes will deter visitors, impacting tourism-dependent businesses and local communities.

Recommendations

1. **Revised Mitigation Measures**:
    - Explore meaningful mitigation strategies, including:
        - Relocation of turbines to areas with reduced visual sensitivity.
        - Reducing turbine height to minimise visibility.
        - Implementation of advanced aviation lighting systems that minimise night-time visual impacts.

2. **Detailed Visualisations**:
    - Provide accurate photomontages and ZTV maps, including night-time scenarios, to enable stakeholders to assess the true scope of visual impacts.
3. **Cumulative Impact Assessments**:
    - Conduct a comprehensive evaluation of the overlapping impacts of Glenvernoch and nearby wind farms, integrating updated datasets.

SECTION 5: CONCLUSION AND RECOMMENDATIONS

Overview

The Glenvernoch Wind Farm proposal, as detailed in its Landscape and Visual Impact Assessment (LVIA) and Appendices 6.1–6.7, fails to adequately address the significant landscape and visual impacts of the development. The mitigation strategies are superficial and ineffective, and the residual risks, particularly in terms of cumulative impacts and Socioeconomic consequences, are substantial and unacceptable. This section summarises the findings of this objection and presents recommendations to ensure appropriate consideration of the region's unique landscape and cultural heritage.

Summary of Findings

1. **Visual Impacts on Sensitive Receptors**:
    - The turbines' scale and visibility will irreparably harm the scenic quality of:
        - **Bruce's Stone** and **Loch Trool**, both iconic landmarks with cultural and historical significance.
        - The **Southern Upland Way**, a nationally important walking route.
        - Residential properties in **Cree Valley** and surrounding areas.
2. **Cumulative Effects**:
    - The LVIA fails to account for the cumulative visual burden of existing and proposed wind farms, including:
        - **Kilgallioch**, **Blair Hill**, and **Shennanton**.
    - This creates a "wind farm landscape" that undermines the **Galloway Hills Regional Scenic Area** (RSA).
3. **Impact on the Dark Sky Park**:
    - Mandatory aviation lighting will permanently compromise the **Galloway Forest Dark Sky Park**, diminishing its international significance and tourism appeal.
4. **Non-Compliance with Regulatory Frameworks**:
    - The proposal contravenes multiple planning policies and frameworks, including:
        - **National Planning Framework 4 (NPF4)**: Fails to protect valued landscapes and cultural landmarks.
        - **Dumfries and Galloway Local Development Plan 2 (LDP2)**: Conflicts with policies prioritising landscape preservation and appropriate siting of wind energy developments.
        - **Environmental Impact Assessment (Scotland) Regulations 2017**: Inadequate cumulative impact assessments and visualisation techniques.

Recommendations

1. **Outright Rejection of the Proposal**:

- The Glenvernoch Wind Farm proposal should be rejected due to its fundamental failure to address the unique landscape sensitivities and cultural significance of the Galloway Hills and its surroundings.

2. **Policy-Driven Relocation**:
    - Any reconsideration of this project must involve relocation to a less visually sensitive area, in line with **LDP2** guidelines.
3. **Comprehensive Cumulative Impact Assessment**:
    - Developers must conduct a detailed analysis of cumulative impacts with adjacent wind farms, including updated **Zone of Theoretical Visibility (ZTV) maps**, **photomontages**, and night-time visualisation data.
4. **Enhanced Mitigation Measures**:
    - Explore alternative aviation lighting technologies to minimise night-time visibility.
    - Consider reducing turbine height and adjusting placement to lessen visual dominance.
5. **Stakeholder Engagement**:
    - Developers must engage meaningfully with local communities, tourism organisations, and environmental groups to identify additional sensitive receptors and develop acceptable mitigation strategies.

Final Recommendation

Approval of the Glenvernoch Wind Farm would set a dangerous and irreversible precedent for the industrialisation of Dumfries and Galloway's most cherished and iconic landscapes. The proposed development, with its massive 200-metre turbines, would fundamentally alter the character of the region's natural and cultural heritage, threatening not only its unique scenic beauty but also the livelihoods and quality of life of the communities who rely on its unspoiled vistas and ecological integrity.

The Glenvernoch proposal is entirely incompatible with key regional and national planning policies designed to protect sensitive landscapes. It directly conflicts with the **Dumfries and Galloway Local Development Plan 2 (LDP2)**, which explicitly designates the **Galloway Hills Regional Scenic Area (RSA)** as unsuitable for developments of this scale and height. Moreover, it contravenes **National Planning Framework 4 (NPF4)** which prioritises the safeguarding of Scotland's cultural and natural landscapes, ensuring they remain a valuable resource for tourism, recreation, and community identity.

Beyond policy breaches, the wind farm's impacts on cultural heritage and Socioeconomic priorities are profound. The turbines will dominate key viewpoints, including **Bruce's Stone**, **Loch Trool**, and the **Southern Upland Way**, which are not only of historical and cultural significance but also pivotal to the region's thriving tourism economy. Tourism contributes substantially to Dumfries and Galloway's economy, accounting for over 10% of local employment and generating significant revenue that supports rural communities. The industrialisation of these landscapes risks deterring visitors, eroding the region's reputation as a tranquil and scenic destination, and undermining the economic resilience of the area.

The proposal also threatens the **Galloway Forest Dark Sky Park**, an internationally recognised designation and a key driver of year-round tourism. The mandatory aviation lighting required for turbines of this height will introduce permanent light pollution, compromising the park's unique stargazing opportunities and its status as one of the few places in the UK where the natural night sky can be fully appreciated.

Allowing this development would open the door to further large-scale industrialisation of Dumfries and Galloway's landscapes, creating a "wind farm landscape" that erodes the intrinsic value of the Galloway Hills and Cree Valley. This cumulative effect would diminish the region's ability to attract visitors, preserve its cultural identity, and support sustainable economic growth. Furthermore, it would undermine public confidence in the planning system by demonstrating that designated protections for scenic and cultural areas can be overridden for commercial gain.

The Scottish Government must reject the Glenvernoch Wind Farm proposal to uphold the principles of sustainable development, protect the heritage and natural beauty of Dumfries and Galloway, and ensure that the region's landscapes remain a source of inspiration, identity, and economic vitality for future generations. Failure to do so risks setting a harmful precedent, where short-term industrial priorities overshadow long-term environmental, cultural, and community wellbeing. The rejection of this proposal is not only a matter of policy compliance but a necessary step to safeguard one of Scotland's most treasured regions.

APPENDIX 7.1 – OBJECTION CHAPTER 7: CULTURAL HERITAGE AND ARCHAEOLOGY BASELINE

Introduction

The Environmental Impact Assessment (EIA) Volume 3, Appendix 7.1, presents the baseline study for cultural heritage and archaeology in relation to the Glenvernoch Wind Farm proposal. While ostensibly intended to provide a thorough understanding of the site's historical and archaeological significance, this appendix demonstrates significant methodological flaws, insufficient baseline data, inadequate recognition of cumulative impacts, and non-compliance with statutory and policy frameworks.

The Glenvernoch site is located in an area rich in cultural and historical significance, encompassing Scheduled Monuments, Listed Buildings, and undesignated but locally important heritage assets. These include **Deil's Dyke**, **Glenluckoch Farmstead**, **Kirkhobble**, and **Knockville**, among others, all of which represent irreplaceable elements of Scotland's cultural heritage. This area also forms part of the broader landscape associated with **Bruce's Stone**, **Loch Trool**, and the **Southern Upland Way**, integral to the nation's historical narrative and identity.

The appendix fails to adequately assess the potential impacts of the development on these assets, contravening the requirements of:

- **National Planning Framework 4 (NPF4)**, which prioritises heritage conservation in decision-making.
- **Historic Environment Policy for Scotland (HEPS)**, which mandates the sustainable management of heritage resources.
- **The Ancient Monuments and Archaeological Areas Act 1979**, which protects Scheduled Monuments from damage or disturbance.
- **Environmental Impact Assessment (Scotland) Regulations 2017**, which require the comprehensive identification and evaluation of impacts on cultural heritage.
- **European Landscape Convention (ELC)**, which underscores the importance of preserving landscapes of cultural and historical value.

This objection will systematically examine the deficiencies in Appendix 7.1, offering a comprehensive critique under the following sections:

1. **Methodology and Scope of Assessment**: Highlighting inadequacies in survey techniques, data collection, and analytical methods.
2. **Baseline Conditions**: Evaluating the accuracy and completeness of the heritage asset inventory.
3. **Impact Assessment and Cumulative Effects**: Identifying shortcomings in the evaluation of direct, indirect, and cumulative impacts.
4. **Policy and Legislative Compliance**: Assessing the appendix's alignment with relevant regulations and policies.
5. **Mitigation Measures and Residual Impacts**: Examining the proposed strategies to protect heritage assets and their efficacy.
6. **Conclusions and Recommendations**: Outlining actionable steps for a revised assessment and grounds for the rejection of the current proposal.

SECTION 1: METHODOLOGY AND SCOPE OF ASSESSMENT

Overview of Methodological Deficiencies

The methodology outlined in Appendix 7.1 exhibits several critical shortcomings, undermining the validity of its conclusions:

1. **Inadequate Survey Techniques**:
    - The appendix relies primarily on desk-based assessments and visual inspections, with minimal fieldwork or intrusive surveys such as **geophysical surveys** or **trial trenching**.
    - Known heritage assets, including **Deil's Dyke** and archaeological features within Glenluckoch Farmstead, have not been properly surveyed, leaving their extent and condition insufficiently understood.
2. **Narrow Scope of Analysis**:
    - The study focuses excessively on designated assets, neglecting the potential significance of undesignated but locally important features, such as historic pathways, boundary markers, and farmsteads.
    - The appendix does not account for the interconnected nature of the landscape, where individual assets contribute collectively to a historically significant setting.
3. **Insufficient Engagement with Local Expertise**:
    - There is no evidence of consultation with local historians, archaeological societies, or community groups, which could provide valuable insights into undocumented or under-researched heritage assets.
4. **Lack of Consideration for Cumulative Impacts**:
    - The study does not address the cumulative effects of Glenvernoch in conjunction with other wind farms, including Blair Hill and Shennanton, despite their overlapping Zones of Theoretical Visibility (ZTV).

Failure to Meet Best Practices

The methodology employed in Appendix 7.1 fails to align with best practices outlined in:

- **HEPS**: Requires comprehensive research and stakeholder consultation to manage heritage responsibly.
- **EIA Regulations**: Mandates the use of adequate, accurate, and site-specific data to inform impact assessments.
- **CIfA Standards and Guidance**: Calls for robust field evaluation techniques, including non-intrusive and intrusive surveys.

Recommendations for Methodological Improvement

1. **Expand Field Survey Scope**:
    - Conduct geophysical surveys and trial trenching across high-risk areas, particularly where turbines and infrastructure intersect with peatlands, watercourses, and known archaeological sites.
2. **Integrate Local Expertise**:
    - Collaborate with local heritage organisations and archaeological groups to ensure undocumented assets are identified and assessed.
3. **Adopt Landscape-Level Analysis**:
    - Evaluate the cumulative impacts of the proposal on the landscape as a whole, recognising its cultural and natural elements.

4. **Update Assessment Techniques**:
    - Utilise modern tools such as **LiDAR imaging**, **3D modelling**, and **GIS mapping** to improve the accuracy of asset identification and impact analysis.

SECTION 2: BASELINE CONDITIONS

Overview

Appendix 7.1 provides a baseline inventory of cultural heritage and archaeological assets within the study area of the Glenvernoch Wind Farm proposal. However, this baseline is incomplete, inaccurate, and fails to reflect the true extent and significance of the region's heritage. Key assets are misrepresented, overlooked, or superficially assessed, undermining the validity of the impact assessments derived from this data.

The baseline study neglects both designated and undesignated heritage assets, inadequately considers their historical and cultural contexts, and fails to integrate local and regional historical narratives. This section evaluates the deficiencies in the baseline data and highlights the significance of overlooked assets.

Key Deficiencies in Baseline Data

1. Incomplete Asset Inventory

- **Designated Assets**:
    - The appendix identifies several Scheduled Monuments, such as **Deil's Dyke**, but fails to map their full extent or evaluate their condition accurately.
    - **Bruce's Stone** and the **Southern Upland Way** are mentioned in passing, with no substantive discussion of their setting or historical significance in relation to the proposal.
- **Undesignated Assets**:
    - Locally significant sites, such as **Glenluckoch Farmstead**, **Kirkhobble**, and **Knockville**, are omitted or insufficiently assessed despite their relevance to Scotland's agricultural and social history.
    - Historical pathways and boundary markers, such as those connecting Glenluckoch and Clachaneasy, remain undocumented.

2. Lack of Contextual Analysis

- The appendix fails to place heritage assets within their broader historical and cultural context. For example:
    - **Deil's Dyke**, believed to be a prehistoric or medieval boundary marker, is not evaluated for its role in the regional landscape or its connection to other archaeological features.
    - The historical significance of **Glenluckoch Farmstead** as part of late medieval settlement patterns is disregarded.

3. Inadequate Survey Techniques

- **Reliance on Desk-Based Studies**:
    - The baseline relies heavily on national databases such as Canmore and Historic Environment Scotland (HES) records, which are known to be incomplete.
    - There is no evidence of field validation to verify the presence, condition, or extent of identified assets.

- **Absence of Intrusive Surveys**:
    - No geophysical surveys or trial trenching have been conducted to identify subsurface archaeological remains, despite the known potential for undiscovered sites in the region.

4. Oversight of Environmental Factors

- **Peatland Archaeology**:
    - The appendix does not account for the potential presence of preserved organic artefacts within peatlands, despite the area's classification as **Class 1 and Class 2 peatland**.
- **Hydrological Features**:
    - Watercourses, such as those flowing into the River Cree, are historically significant but remain unexplored for archaeological potential.

Significance of Overlooked Assets

1. **Deil's Dyke**:
    - Extends across multiple parishes, potentially forming part of a larger prehistoric or medieval boundary system.
    - The turbines' proximity threatens its integrity as a linear landscape feature.
2. **Glenluckoch and Knockville**:
    - Reflect late medieval and early modern rural settlement patterns, with potential subsurface remains offering valuable insights into historical land use.
3. **Historical Pathways**:
    - The network of footpaths, including those used by smugglers and drovers, represents a vital component of the region's intangible cultural heritage.

Recommendations for Baseline Enhancements

1. **Comprehensive Field Surveys**:
    - Conduct geophysical surveys, LiDAR imaging, and trial trenching to identify and map subsurface archaeological features.
2. **Contextual Integration**:
    - Incorporate a narrative analysis of how heritage assets interact within the landscape, particularly connections between **Deil's Dyke**, **farmstead sites**, and historical pathways.
3. **Expansion of Asset Inventory**:
    - Engage with local historical societies to identify undocumented assets and expand the inventory to include undesignated but significant heritage features.
4. **Peatland and Watercourse Assessments**:
    - Evaluate peatlands and hydrological features for their archaeological potential, aligning with best practices outlined in the **Historic Environment Policy for Scotland (HEPS)**.

SECTION 3: IMPACT ASSESSMENT AND CUMULATIVE EFFECTS

Overview

Appendix 7.1 fails to comprehensively evaluate the direct, indirect, and cumulative impacts of the Glenvernoch Wind Farm on the region's cultural heritage and archaeology. The assessment is overly narrow, focusing primarily on direct physical impacts, while neglecting the broader implications of visual intrusion, setting degradation, and cumulative impacts with nearby developments.

This section critically analyses the inadequacies in the impact assessment, focusing on its failure to meet statutory and policy requirements, and the risks posed to the preservation of cultural assets and their contextual landscape.

Key Deficiencies in Impact Assessment

1. Inadequate Assessment of Direct Impacts

- **Physical Damage**:
    - The placement of turbines, access roads, and infrastructure threatens **Deil's Dyke**, **Knockville**, and **Glenluckoch Farmstead**, all of which risk damage from excavation, vibration, and heavy machinery.
    - The potential for subsurface archaeology remains unexplored due to the absence of intrusive surveys.
- **Peatland Disturbance**:
    - Excavation in **Class 1 and Class 2 peatlands** risks exposing preserved organic artefacts, a critical component of Scotland's archaeological record.

2. Insufficient Analysis of Indirect Impacts

- **Degradation of Settings**:
    - The setting of **Bruce's Stone** and **Loch Trool** will be severely affected by the turbines, which will dominate the surrounding landscape.
    - The visual intrusion into the **Southern Upland Way** undermines the cultural experience of this nationally significant walking route.
- **Hydrological Impacts**:
    - The disturbance of watercourses connected to the River Cree and Lower Cree SSSI may indirectly affect archaeological features reliant on stable hydrological systems.

3. Neglect of Cumulative Impacts

- **Overlapping Developments**:
    - The cumulative impact of Glenvernoch alongside other proposed wind farms, including **Blair Hill**, **Shennanton**, and operational sites like **Kilgallioch**, is absent from the assessment.
    - Shared visibility zones significantly amplify visual intrusion and industrialisation of the landscape.
- **Landscape Fragmentation**:
    - The incremental degradation of the Galloway Hills' cultural landscape risks the loss of its cohesive historical identity.

4. Inadequate Visual Impact Evaluation

- **Limited Viewpoints**:
    - The appendix does not adequately consider the visibility of turbines from key heritage locations such as **Bruce's Stone**, **Knockville**, and **Glenluckoch**.
- **Reliance on Tree Cover**:
    - The assumption that tree cover will obscure turbine visibility is unrealistic given the turbines' height (200m), seasonal foliage loss, and the dynamic nature of viewpoints along walking routes.

Non-Compliance with Legislative and Policy Requirements

1. **Environmental Impact Assessment (Scotland) Regulations 2017**:
    - Requires a thorough evaluation of direct, indirect, and cumulative impacts on cultural heritage.
    - Appendix 7.1 fails to meet this standard by omitting cumulative visual and setting impacts.
2. **National Planning Framework 4 (NPF4)**:
    - Mandates the protection of cultural assets from adverse development impacts, including indirect effects on their settings.
3. **Historic Environment Policy for Scotland (HEPS)**:
    - Requires developments to respect the contextual value of heritage assets within their broader landscape.
4. **European Landscape Convention (ELC)**:
    - Highlights the importance of safeguarding cultural landscapes from fragmentation and industrialisation.

Cumulative Effects

The appendix does not address how Glenvernoch's turbines, when combined with other developments, will:

1. **Dominate the Visual Landscape**:
    - The cumulative visibility from **Loch Trool**, **Bruce's Stone**, and the **Southern Upland Way** transforms the area from a natural and cultural haven into an industrial zone.
2. **Disrupt Heritage Landscapes**:
    - The turbines will disrupt the integrity of interconnected heritage features, such as **Deil's Dyke** and surrounding settlements.
3. **Impact Socioeconomic Resources**:
    - Tourism-dependent businesses reliant on the unspoiled character of the Galloway Hills will face significant economic challenges.

Recommendations for Impact Assessment

1. **Comprehensive Evaluation**:
    - Include detailed assessments of direct, indirect, and cumulative impacts on all heritage assets and their settings.

2. **Expanded Visual Impact Analysis**:
    - Conduct photomontages and visibility analyses for key viewpoints, including **Bruce's Stone**, **Loch Trool**, and the **Southern Upland Way**.
3. **Cumulative Impact Modelling**:
    - Integrate data from adjacent developments to evaluate combined effects on the landscape.
4. **Intrusive Surveys**:
    - Conduct trial trenching and geophysical surveys to identify subsurface archaeological features at risk.
5. **Stakeholder Consultation**:
    - Engage with local heritage organisations and communities to validate the scope and findings of the assessment.

SECTION 4: POLICY AND LEGISLATIVE COMPLIANCE

Overview

The Glenvernoch Wind Farm proposal, as detailed in Appendix 7.1, fails to meet the requirements of key legislative and policy frameworks designed to protect Scotland's cultural heritage and archaeology. This section identifies specific breaches of statutory obligations, regional planning policies, and international conventions, highlighting how these deficiencies undermine the credibility of the Environmental Impact Assessment (EIA).

Key Policy and Legislative Contravention

1. National Planning Framework 4 (NPF4)

- **Requirements**:
    - Emphasises a balanced approach to renewable energy development that protects Scotland's cultural and natural heritage.
    - Mandates the safeguarding of heritage assets and their settings from adverse impacts.
- **Contravention**:
    - The turbines' proximity to **Bruce's Stone**, **Loch Trool**, and **Deil's Dyke** fails to respect these assets' settings, contravening NPF4's principles of sustainable development.
    - The cumulative industrialisation of the Galloway Hills RSA directly conflicts with NPF4's priority to preserve regional identity.

2. Historic Environment Policy for Scotland (HEPS)

- **Requirements**:
    - Stipulates that all development proposals must sustainably manage heritage resources for the benefit of present and future generations.
    - Requires the preservation of both the physical fabric of heritage assets and their broader contextual settings.
- **Contravention**:
    - The proposed development does not provide sufficient measures to protect **Deil's Dyke**, which is at risk of physical damage and contextual degradation.

- The visual intrusion of turbines into culturally significant vistas, such as those from **Bruce's Stone**, undermines their historical value.

3. Environmental Impact Assessment (Scotland) Regulations 2017

- **Requirements**:
  - Requires a comprehensive evaluation of direct, indirect, and cumulative impacts on cultural heritage.
  - Mandates the use of accurate and site-specific data to inform decision-making.
- **Contravention**:
  - Appendix 7.1 lacks a detailed cumulative impact assessment, failing to address how the turbines interact with adjacent developments.
  - The reliance on outdated and incomplete datasets undermines the integrity of the assessment.

4. The Ancient Monuments and Archaeological Areas Act 1979

- **Requirements**:
  - Protects Scheduled Monuments, such as **Deil's Dyke**, from damage, disturbance, or destruction.
- **Contravention**:
  - Construction activities, including excavation and roadbuilding, risk irreversible damage to **Deil's Dyke**, violating statutory protections.

5. Dumfries and Galloway Local Development Plan 2 (LDP2)

- **Requirements**:
  - Prioritises the protection of the region's distinctive landscapes and cultural assets, ensuring developments are compatible with local heritage.
  - Identifies areas, such as the Galloway Hills RSA, where large-scale turbines are deemed inappropriate.
- **Contravention**:
  - The proposal disregards LDP2's explicit guidance against developments of this scale in sensitive areas, such as the **Galloway Hills RSA**.
  - The appendix underestimates the Socioeconomic importance of preserving cultural landscapes for tourism and community wellbeing.

6. European Landscape Convention (ELC)

- **Requirements**:
  - Promotes the integrated preservation of landscapes as cultural, ecological, and economic resources.
- **Contravention**:
  - The turbines' visual dominance and fragmentation of the Galloway Hills landscape contravene ELC principles, which prioritise the cohesive management of landscapes.

Implications of Non-Compliance

1. **Degradation of Heritage**:
    - The failure to protect assets such as **Deil's Dyke**, **Loch Trool**, and **Glenluckoch Farmstead** represents a significant loss of cultural heritage.
2. **Legal and Planning Risks**:
    - Approving the proposal in its current form risks setting a precedent for non-compliance with statutory obligations and undermines Scotland's regulatory frameworks.
3. **Community and Tourism Impact**:
    - The industrialisation of culturally significant landscapes diminishes the region's attractiveness to tourists and undermines community identity.

Recommendations

1. **Rejection of the Proposal**:
    - The Glenvernoch Wind Farm should be rejected due to its direct conflict with key statutory and policy frameworks, including NPF4, HEPS, and LDP2.
    - The turbines' height, scale, and cumulative impacts are incompatible with the Galloway Hills RSA and its cultural heritage.
2. **Alignment with Policies**:
    - Any future proposals must strictly adhere to NPF4 and HEPS, demonstrating a balanced approach that respects cultural and archaeological resources.
3. **Revised Impact Assessment**:
    - Require a comprehensive reassessment that aligns with the **EIA Regulations**, ensuring all impacts—direct, indirect, and cumulative—are fully evaluated.
4. **Enhanced Stakeholder Consultation**:
    - Include input from local communities, heritage organisations, and archaeological experts to ensure compliance with national and regional priorities.

SECTION 5: MITIGATION MEASURES AND RESIDUAL IMPACTS

Overview

Appendix 7.1 outlines mitigation strategies to minimise the Glenvernoch Wind Farm's impact on cultural and archaeological assets. However, these measures are generic, insufficiently detailed, and fail to adequately address the severity of the proposal's impacts. Additionally, the appendix does not account for residual risks that remain after mitigation, such as irreversible damage to heritage features and degradation of visual settings. This section evaluates the proposed mitigation strategies, identifies their shortcomings, and highlights the unaddressed residual impacts.

Evaluation of Proposed Mitigation Strategies

1. Generic and Non-Specific Measures

- **Findings**:
    - The appendix recommends standard mitigation measures, such as:

        - Pre-construction surveys to identify subsurface archaeological features.
        - The establishment of exclusion zones around identified heritage assets.
        - Archaeological monitoring during construction activities.
    - These measures lack specificity regarding their application to key assets such as **Deil's Dyke**, **Glenluckoch Farmstead**, and **historical pathways**.

- **Implications**:
    - Without tailored strategies, these generic measures are unlikely to prevent significant impacts, particularly for assets requiring bespoke protection, such as linear features and interconnected landscapes.

2. Inadequate Protection for Key Assets

- **Findings**:
    - The proposed exclusion zones fail to account for:
        - The full extent of **Deil's Dyke**, which has not been properly surveyed or mapped.
        - The interconnected nature of assets such as **farmsteads**, **pathways**, and **boundary markers**.
    - There is no mention of safeguarding intangible heritage, such as the historical significance of footpaths used by smugglers and drovers.
- **Implications**:
    - These omissions leave critical heritage features vulnerable to direct damage, contextual degradation, and permanent loss.

3. Lack of Visual Mitigation

- **Findings**:
    - The appendix does not propose meaningful strategies to mitigate the turbines' visual intrusion into sensitive cultural landscapes, including:
        - **Bruce's Stone** and **Loch Trool**, whose scenic and historical settings will be dominated by the turbines.
        - The **Southern Upland Way**, where the turbines' visibility will detract from the cultural experience of walkers and visitors.
- **Implications**:
    - Visual intrusion will permanently alter the character of these locations, undermining their cultural and historical value.

4. Neglect of Cumulative Impact Mitigation

- **Findings**:
    - No measures are proposed to address cumulative impacts with nearby developments, such as Blair Hill and Shennanton wind farms.
    - Shared visibility zones exacerbate the industrialisation of the Galloway Hills landscape, but no strategies are offered to mitigate this effect.

- **Implications**:
    - The absence of cumulative impact mitigation fails to meet the requirements of the **Environmental Impact Assessment (Scotland) Regulations 2017**, which mandate comprehensive cumulative evaluations.

Residual Impacts

Despite the proposed mitigation measures, the following residual risks remain unaddressed:

1. **Physical Damage to Heritage Assets**:
    - Excavation and construction activities risk irreparable damage to subsurface archaeological features and known assets like **Deil's Dyke**.
2. **Degradation of Visual Settings**:
    - Turbine visibility from **Bruce's Stone**, **Loch Trool**, and the **Southern Upland Way** will permanently degrade these cultural landscapes.
3. **Loss of Community Identity**:
    - The industrialisation of the Galloway Hills will undermine the region's cultural identity and its appeal to residents and tourists.
4. **Irreversible Cumulative Effects**:
    - The combined impacts of Glenvernoch with other developments will result in a fragmented and industrialised landscape, incompatible with its historical and cultural significance.

Recommendations for Mitigation

1. **Enhanced Asset Protection**:
    - Conduct comprehensive geophysical surveys and trial trenching to map the full extent of heritage features, including **Deil's Dyke** and **historical pathways**.
    - Establish site-specific exclusion zones tailored to each asset's sensitivity and significance.
    - Develop bespoke mitigation strategies for interconnected landscapes, recognising their cumulative cultural value.
2. **Visual Mitigation**:
    - Relocate turbines to minimise visibility from key receptors, including **Bruce's Stone**, **Loch Trool**, and the **Southern Upland Way**.
    - Employ advanced design solutions, such as turbine colouration and reduced lighting intensity, to reduce visual intrusion.
3. **Cumulative Impact Mitigation**:
    - Develop a regional strategy to address overlapping impacts with Blair Hill, Shennanton, and other nearby wind farms.
    - Collaborate with local authorities and stakeholders to manage the industrialisation of the Galloway Hills.
4. **Monitoring and Adaptive Management**:
    - Implement a rigorous archaeological monitoring programme during construction, with a contingency plan for unanticipated discoveries.

- Establish long-term monitoring of visual and cultural impacts, with adaptive measures to address emerging issues.

Rejection of Proposal Due to Mitigation Failures

The inadequacy of the proposed mitigation measures and the significant residual impacts underscore the unsuitability of the Glenvernoch Wind Farm proposal. The project fails to meet the statutory and policy requirements of **NPF4**, **HEPS**, and the **EIA Regulations**, and it poses an unacceptable risk to the region's cultural heritage and archaeological resources.

Approval of this proposal would set a dangerous precedent for disregarding the irreplaceable value of Scotland's cultural landscapes. The proposal must be rejected outright, or at the very least, significantly revised to incorporate comprehensive, site-specific mitigation strategies.

SECTION 6: CONCLUSIONS AND RECOMMENDATIONS

Overview

The analysis of Appendix 7.1, which purports to establish a baseline for cultural heritage and archaeology, reveals significant methodological failings, policy contravention, and an insufficient understanding of the Glenvernoch site's historical and cultural importance. The proposed mitigation measures fail to adequately protect the area's heritage, and the residual impacts of the Glenvernoch Wind Farm are incompatible with Scotland's legislative and policy frameworks.

This section consolidates the objections raised, provides final recommendations, and presents the case for the rejection of the Glenvernoch Wind Farm proposal.

Key Findings

1. **Methodological Deficiencies**:
    - The appendix relies on inadequate survey techniques, omits critical fieldwork, and fails to address subsurface archaeological features and the interconnected nature of heritage landscapes.
    - Key assets, such as **Deil's Dyke**, **Glenluckoch Farmstead**, and historical pathways, are insufficiently documented and assessed.
2. **Baseline Assessment Failures**:
    - The inventory of heritage assets is incomplete, overlooking locally significant but undesignated features that contribute to the area's cultural and historical identity.
    - Environmental factors, such as the archaeological potential of peatlands and hydrological systems, remain unexplored.
3. **Impact and Cumulative Effect Oversight**:
    - Direct, indirect, and cumulative impacts on heritage assets and their settings are inadequately addressed.
    - The turbines' visibility from key receptors, such as **Bruce's Stone**, **Loch Trool**, and the **Southern Upland Way**, is understated, and the cumulative industrialisation of the Galloway Hills is ignored.
4. **Non-Compliance with Policies and Legislation**:
    - The proposal contravenes **NPF4**, **HEPS**, **LDP2**, and the **Environmental Impact Assessment (Scotland) Regulations 2017**, failing to respect the statutory protections afforded to cultural heritage.
    - The lack of cumulative impact assessment contravenes the requirements of the **EIA Regulations**.

5. **Inadequate Mitigation Measures**:
    - Generic mitigation strategies, such as exclusion zones and monitoring, are insufficiently tailored to the unique challenges of the Glenvernoch site.
    - Residual impacts, including the degradation of visual settings and physical damage to heritage assets, remain unaddressed.

Recommendations

1. **Rejection of the Proposal**:
    - The Glenvernoch Wind Farm proposal should be rejected outright due to its incompatibility with national and regional planning policies, its failure to adequately protect cultural and archaeological assets, and its significant residual impacts on the Galloway Hills RSA.
    - Approval would undermine Scotland's commitment to preserving its cultural heritage and set a damaging precedent for future developments in sensitive areas.
2. **Comprehensive Reassessment**:
    - If reconsidered, the proposal must undergo a complete reassessment of its cultural and archaeological impacts, including:
        - Intrusive surveys, such as geophysical investigations and trial trenching, to identify subsurface features.
        - A robust cumulative impact assessment incorporating Blair Hill, Shennanton, and other nearby developments.
        - Revised methodologies that integrate heritage assets into a holistic landscape-level analysis.
3. **Enhanced Mitigation Strategies**:
    - Develop bespoke mitigation measures for sensitive assets, such as **Deil's Dyke** and **Glenluckoch Farmstead**, to protect their physical integrity and contextual value.
    - Implement visual mitigation techniques, including reduced turbine height, strategic relocation, and advanced design features.
4. **Legislative and Policy Compliance**:
    - Align all assessments and mitigation strategies with the requirements of **NPF4**, **HEPS**, **LDP2**, and the **EIA Regulations**, ensuring the proposal respects Scotland's cultural heritage commitments.
5. **Community and Stakeholder Engagement**:
    - Actively engage with local communities, heritage organisations, and archaeological experts to ensure the assessment and mitigation strategies reflect local and regional priorities.

Closing Statement

The Glenvernoch Wind Farm proposal, as currently presented, represents a fundamental failure to balance renewable energy development with the protection of Scotland's invaluable cultural and archaeological resources. By neglecting the region's historical assets, failing to comply with statutory requirements, and proposing insufficient mitigation measures, the project poses an unacceptable risk to the Galloway Hills RSA and its surrounding communities. This objection conclusively demonstrates the proposal's shortcomings and calls for its rejection in its current form. If reconsidered, the project must adhere to the highest standards of assessment and mitigation, ensuring it aligns with Scotland's commitment to preserving its heritage for future generations.

APPENDIX 8.1 – OBJECTION CHAPTER 8: ORNITHOLOGY

Introduction

Appendix 8.1 of the Environmental Impact Assessment (EIA) for the Glenvernoch Wind Farm focuses on the ornithological baseline of the proposed development site. However, this appendix has been marked as confidential by EnergieKontor, precluding public access and scrutiny. This lack of transparency raises concerns about the adequacy and robustness of the assessment and the potential for significant gaps in addressing the risks posed to avian species.

Despite the confidentiality of Appendix 8.1, we can infer key considerations based on the ecological sensitivity of the Glenvernoch area, the presence of protected bird species, and the well-documented impacts of wind farms on ornithology. This objection will address the likely implications of the development on bird populations and habitats, focusing on risks, legislative requirements, and best practices for mitigation. It will also critique the lack of transparency, which undermines public confidence in the assessment and decision-making process.

SECTION 1: THE IMPORTANCE OF ORNITHOLOGY IN WIND FARM DEVELOPMENT

Overview

Ornithology plays a critical role in assessing the environmental impacts of wind farms. Birds are particularly vulnerable to wind turbine developments due to collision risks, habitat loss, displacement, and cumulative effects from overlapping projects. The Glenvernoch site, located within Dumfries and Galloway, is known for its rich biodiversity, including species of national and international conservation concern.

The proximity of the proposed development to important habitats such as peatlands, woodlands, and open grasslands makes it essential to thoroughly evaluate ornithological impacts. Key species likely to be affected include:

- **Raptors**: Such as Golden Eagles (*Aquila chrysaetos*), Hen Harriers (*Circus cyaneus*), and Peregrine Falcons (*Falco peregrinus*).
- **Waders**: Including Curlew (*Numenius arquata*), a species in significant decline in Scotland.
- **Migratory Birds**: Using the area as a flight corridor or stopover site during seasonal migrations.

The lack of transparency in Appendix 8.1 hinders public understanding of how these risks have been assessed and addressed.

SECTION 2: POTENTIAL IMPACTS ON AVIAN SPECIES

1. Collision Risks

- **Key Concerns**:
    - The height and rotor sweep of the proposed turbines increase the likelihood of bird collisions, particularly for raptors and other large species with low reproductive rates.
    - Migratory birds, which may traverse the site seasonally, are at heightened risk due to their reliance on established flight corridors.
- **Scientific Context**:
    - Studies have shown that collision mortality can have population-level impacts on species with small or declining populations, such as Hen Harriers and Golden Eagles.

2. Habitat Loss and Displacement

- **Key Concerns**:

- The construction of turbines, access roads, and associated infrastructure results in habitat destruction and fragmentation, particularly in sensitive areas like peatlands.
- Noise, vibration, and visual disturbance from turbines can displace birds from breeding, foraging, or roosting sites.

- **Scientific Context**:
  - Displacement effects can extend several hundred metres from turbines, effectively reducing the functional habitat available to birds.

3. Cumulative Impacts

- **Key Concerns**:
  - The Glenvernoch proposal must be evaluated in conjunction with nearby developments, including Blair Hill and Shennanton, to understand cumulative risks to avian populations.
  - Fragmentation of habitats across multiple developments creates barriers for migratory species and reduces the overall carrying capacity of the landscape.

- **Scientific Context**:
  - Cumulative impacts are often underestimated, yet they represent one of the most significant long-term threats to bird populations in wind farm regions.

SECTION 3: POLICY AND LEGISLATIVE CONTEXT

Key Frameworks

1. **Wildlife and Countryside Act 1981**:
   - Protects Schedule 1 bird species and their habitats from disturbance, injury, or destruction.
   - Requires thorough assessments to ensure compliance with legal protections.
2. **Conservation (Natural Habitats, &c.) Regulations 1994**:
   - Mandates the protection of species and habitats of European importance, including SPAs (Special Protection Areas).
3. **National Planning Framework 4 (NPF4)**:
   - Prioritises biodiversity protection and mandates sustainable development that does not compromise ecological integrity.
4. **Bern Convention and EU Birds Directive**:
   - Establish international obligations to conserve migratory and endangered bird species.

SECTION 4: CRITIQUE OF CONFIDENTIALITY

Lack of Transparency

- The decision to make Appendix 8.1 confidential prevents public and expert scrutiny, which is vital for ensuring the robustness of the assessment.
- This lack of transparency raises questions about:
    - Whether sufficient data has been collected to evaluate impacts across breeding, wintering, and migratory periods.
    - The comprehensiveness of the methodologies used, including survey effort, species coverage, and temporal scope.

Implications of Confidentiality

- The absence of publicly available data undermines public confidence in the planning process and prevents meaningful participation by stakeholders.
- Without access to the appendix, there is no way to verify whether EnergieKontor has adequately addressed legal obligations and policy requirements.

SECTION 5: RECOMMENDATIONS

1. **Call for Transparency**:
    - Appendix 8.1 should be made publicly available to allow scrutiny by stakeholders, ensuring confidence in the assessment and compliance with legal and policy frameworks.
2. **Robust Year-Round Surveys**:
    - Require comprehensive ornithological surveys covering all seasons to capture the full range of species and behaviours present at the site.
3. **Cumulative Impact Assessment**:
    - Evaluate the combined risks to avian species from Glenvernoch, Blair Hill, Shennanton, and other nearby developments.
4. **Mitigation Measures**:
    - Develop site-specific mitigation strategies, including:
        - Avoidance of critical habitats in turbine placement.
        - Bird-friendly turbine designs and operational adjustments during high-risk periods.
        - Habitat restoration to compensate for lost or degraded areas.
5. **Post-Construction Monitoring**:
    - Implement long-term monitoring to track bird activity and mortality, with adaptive management to address emerging issues.

SECTION 6: CONCLUSION

The lack of transparency surrounding Appendix 8.1 undermines confidence in EnergieKontor's assessment of ornithological impacts. While it is impossible to directly critique the contents of the appendix, this objection highlights the critical importance of thorough and transparent ornithological evaluations in wind farm developments. The Glenvernoch proposal, as it stands, poses significant risks to bird populations, habitats, and ecosystems, which must be addressed to ensure compliance with statutory protections and Scotland's biodiversity commitments.

This appendix, and the proposal as a whole, must be rejected unless transparency is achieved and a comprehensive reassessment demonstrates that the risks to ornithology are fully mitigated.

APPENDIX 9.2 – OBJECTION CHAPTER 9: BAT SURVEY REPORT

SECTION 1: METHODOLOGY AND SCOPE OF THE BAT SURVEY

Overview

The methodology employed in the bat survey presented in Appendices 9.2–9.4 forms the foundation for understanding the potential impacts of the Glenvernoch Wind Farm on local bat populations. While the survey follows certain basic guidelines, such as using static detectors and covering seasonal periods, it demonstrates significant methodological deficiencies. These failings undermine the reliability of the conclusions drawn and risk misrepresenting the severity of the proposed development's impacts on protected bat species.

This section evaluates the survey's methodology, identifying limitations in its scope, execution, and alignment with best practices.

Key Deficiencies in Survey Methodology

1. Detector Placement

- **Issue**:
    - Detectors were placed at ground level rather than within the rotor-sweep zone (30–200m above ground level), where bats are most at risk of collision.
    - Placement was based on a draft turbine layout, which was subsequently revised, reducing the relevance of the data collected.
- **Implications**:
    - Ground-level detection provides an incomplete picture of bat activity, particularly for high-flying species such as noctule (*Nyctalus noctula*) and Leisler's bat (*Nyctalus leisleri*), which are known to forage within turbine height ranges.
    - Data from outdated turbine layouts may fail to identify high-risk zones accurately, resulting in inappropriate mitigation measures.

2. Survey Duration and Temporal Scope

- **Issue**:
    - Surveys were conducted for 12-night sessions per season (spring, summer, and autumn), adhering to minimum guidance from NatureScot.
    - Adverse weather conditions during the autumn survey period compromised data collection.
- **Implications**:
    - The limited survey duration may not fully capture temporal variability in bat activity, particularly during migratory periods when bats are more vulnerable.
    - Seasonal gaps in data, such as reduced autumn records, hinder the assessment of migratory species like Nathusius' pipistrelle (*Pipistrellus nathusii*), which traverse Scotland in significant numbers.

3. Acoustic Detection Limitations

- **Issue**:

- Certain bat species, including *Myotis* spp. and brown long-eared bats (*Plecotus auritus*), are challenging to differentiate acoustically.
- Detection bias towards more vocal species, such as common and soprano pipistrelles, skews activity data.

- **Implications**:
  - The underrepresentation of less vocal species may result in underestimated impacts on these populations.
  - Without supplementary techniques, such as mist-netting or thermal imaging, the data fails to provide a complete understanding of species-specific risks.

4. Lack of Advanced Survey Techniques

- **Issue**:
  - The survey did not use high-elevation detectors, radar, or LiDAR to assess activity within the rotor-sweep zone, despite NatureScot's recommendations for large-scale wind farm developments.
  - No effort was made to map key commuting routes or foraging areas, relying instead on general habitat assessments.

- **Implications**:
  - The absence of height-specific activity data severely limits the assessment of collision risks, particularly for high-flying species.
  - Critical habitats and commuting corridors may be overlooked, reducing the effectiveness of proposed mitigation measures.

Failure to Align with Best Practices

The survey does not fully comply with guidelines outlined in:

1. **NatureScot Guidance** (*Bats and Onshore Wind Turbines: Survey, Assessment, and Mitigation*):
   - Recommends advanced techniques to assess rotor-level activity and map commuting routes.
2. **Bat Conservation Trust (BCT)**:
   - Stipulates the need for robust temporal and spatial data to inform risk assessments and mitigation.
3. **CIfA Standards and Guidance**:
   - Requires comprehensive field methodologies for assessing impacts on sensitive species.

Recommendations for Methodological Improvements

1. **High-Elevation Monitoring**:
   - Deploy detectors within the rotor-sweep zone to quantify collision risks for high-flying species.
2. **Extended Survey Duration**:
   - Conduct surveys over longer periods to capture seasonal and migratory variability comprehensively.
3. **Advanced Detection Techniques**:
   - Incorporate radar or LiDAR to identify bat activity at turbine heights.
   - Use mist-netting or thermal imaging to complement acoustic surveys and identify less vocal species.

4. **Habitat and Corridor Mapping**:
    - Map key foraging habitats and commuting routes to understand how turbines intersect with critical bat behaviors.

SECTION 2: RESULTS AND INTERPRETATION

Overview

The results presented in Appendices 9.2–9.4 identify the presence of nine bat species, representing a diverse and ecologically significant population. While these results provide a general understanding of bat activity across the Glenvernoch site, the interpretation of this data raises several concerns. Key species, activity levels, and risk factors are either understated or misrepresented, leading to the categorisation of the site as "low risk" despite clear evidence to the contrary.

This section critiques the report's findings, focusing on the accuracy of species identification, activity levels, and the assessment of collision and displacement risks.

Key Findings

1. Bat Species Recorded

- **Species Identified**:
    - Nine species were recorded, including:
        - **Common Pipistrelle (*Pipistrellus pipistrellus*)** and **Soprano Pipistrelle (*Pipistrellus pygmaeus*)** (most abundant).
        - **Noctule (*Nyctalus noctula*)** and **Leisler's Bat (*Nyctalus leisleri*)**, both high-risk species for turbine collisions.
        - Rare or less common species, such as Nathusius' pipistrelle (*Pipistrellus nathusii*), Brown Long-eared Bat (*Plecotus auritus*), and *Myotis* spp.
- **Critique**:
    - The identification process relies solely on acoustic data, which has known limitations in distinguishing between closely related species (e.g., *Myotis* spp.).
    - Species likely underrepresented include Brown Long-eared Bat and *Myotis* spp., which echolocate less frequently or at lower intensities.

2. Activity Levels

- **Findings**:
    - Static detectors recorded the highest activity at locations 9, 6, and 8, with peak activity in summer.
    - Noctule and Leisler's bats, which are high-altitude foragers, were recorded frequently at these locations.
- **Critique**:
    - Activity data lacks height stratification, making it impossible to accurately assess collision risks within the rotor-sweep zone.
    - Seasonal peaks in activity align with critical periods for reproduction and migration, but this is not adequately considered in risk assessments.

3. Collision Risk Assessment

- **Findings**:
    - The report categorises the site as “low risk” despite:
        - The presence of high-risk species such as noctule and Leisler’s bats, which are known to forage and commute at turbine height.
        - Significant activity levels at multiple turbine locations.
- **Critique**:
    - The "low risk" classification contradicts established guidelines, which emphasise the precautionary principle for high-risk species.
    - The absence of height-specific data prevents a meaningful assessment of collision risks, particularly for noctule and Leisler’s bats.

4. Habitat Assessment

- **Findings**:
    - Habitats on-site include mixed woodland, open grasslands, and peatlands, all of which provide foraging and commuting opportunities for bats.
- **Critique**:
    - The report underestimates the ecological significance of these habitats, particularly peatlands, which often support insect populations critical for bat foraging.
    - Connectivity between habitats is not explored, ignoring potential displacement impacts caused by habitat fragmentation.

Concerns Regarding Interpretation of Results

1. **Underestimation of Risk**:
    - The presence of high-risk species, combined with significant activity levels, strongly suggests a medium- to high-risk site classification.
    - Categorising the site as “low risk” reflects an oversimplification of complex ecological dynamics.
2. **Failure to Address Temporal Variability**:
    - The report does not consider how migratory species, such as Nathusius’ pipistrelle, use the site during different seasons, particularly autumn, when data collection was compromised.
3. **Inadequate Collision Risk Modelling**:
    - Without height-specific data or advanced detection methods, the risk to high-flying species is significantly underestimated.
4. **Over-Reliance on Habitat Assessments**:
    - Habitat-based risk assessments are not a substitute for detailed field data, particularly for mobile species like bats.

Recommendations for Interpreting Results

1. **Reclassify Risk Levels**:
    - Adjust site classification to medium or high risk based on the presence of noctule and Leisler's bats, activity levels, and seasonal patterns.
2. **Supplementary Surveys**:
    - Conduct radar or LiDAR studies to assess activity within the rotor-sweep zone and identify commuting corridors.
3. **Seasonal Data Analysis**:
    - Integrate data from longer survey periods to capture migratory and reproductive activity comprehensively.
4. **Enhanced Habitat Assessment**:
    - Evaluate the ecological connectivity of habitats to understand how turbine placement may disrupt foraging and commuting behaviors.

SECTION 3: POLICY AND LEGISLATIVE COMPLIANCE

Overview

Appendices 9.2–9.4 must demonstrate adherence to a robust framework of policies and legislation designed to protect bats as European Protected Species (EPS). These regulations require developers to identify, assess, and mitigate risks comprehensively, ensuring the preservation of biodiversity and compliance with statutory obligations. However, the survey methodologies, results interpretation, and mitigation measures presented fail to meet the rigorous standards required by these frameworks.

This section evaluates the alignment of the bat survey report with key policies and legislation, identifying specific areas of non-compliance.

Key Legislative and Policy Frameworks

1. Conservation (Natural Habitats, &c.) Regulations 1994

- **Requirements**:
    - Protects all bat species as European Protected Species (EPS).
    - Prohibits deliberate harm, capture, or disturbance, including habitat disruption.
    - Development licences may only be granted if there is no satisfactory alternative, and actions will not be detrimental to the species' conservation status.
- **Contravention**:
    - The absence of high-altitude activity data prevents an accurate evaluation of collision risks, undermining the report's ability to demonstrate no detrimental impact on bat populations.
    - Habitat connectivity disruption caused by turbines remains inadequately assessed, contravening the requirement to avoid harm to essential habitats.

2. Wildlife and Countryside Act 1981

- **Requirements**:
    - Provides protection for bats and their roosts, regardless of whether roosts are occupied at the time.

- Requires thorough assessments to avoid disturbance or damage to roosting sites.

- **Contravention**:
  - The survey report does not evaluate potential roosting sites within the project area, relying on habitat assessments instead of direct field verification.
  - Construction and turbine placement risks to roosts, particularly in mature trees and structures, are not addressed.

3. NatureScot Guidance on Bats and Onshore Wind Turbines

- **Requirements**:
  - Recommends surveys at rotor-sweep height, advanced detection techniques, and robust seasonal data collection.
  - Emphasises cumulative impact assessments for wind farm developments in bat-active regions.
- **Contravention**:
  - Rotor-level activity remains unexplored due to the exclusive use of ground-level detectors.
  - The report does not address cumulative impacts with nearby developments such as Blair Hill and Shennanton, contrary to NatureScot's guidance.

4. National Planning Framework 4 (NPF4)

- **Requirements**:
  - Prioritises biodiversity enhancement and ensures developments do not compromise protected species' populations.
  - Encourages cumulative impact assessments as part of sustainable development planning.
- **Contravention**:
  - The cumulative effects of Glenvernoch and adjacent wind farms on bat populations have not been evaluated.
  - The failure to enhance biodiversity or mitigate impacts demonstrates non-compliance with NPF4's sustainability goals.

Implications of Non-Compliance

1. **Legal Risks**:
   - The absence of critical data and inadequate mitigation measures could lead to contravention of the Conservation (Natural Habitats, &c.) Regulations 1994 and the Wildlife and Countryside Act 1981, exposing the developer to potential enforcement actions.
2. **EIA Failures**:
   - The Environmental Impact Assessment (Scotland) Regulations 2017 require the identification and mitigation of significant impacts on biodiversity. The report fails to meet this standard, jeopardising the project's approval.
3. **Undermining Policy Objectives**:
   - By neglecting cumulative impacts and habitat connectivity, the report fails to align with NatureScot guidance, undermining regional biodiversity conservation objectives.

Recommendations for Legislative Compliance

1. **Comprehensive Compliance Review**:
    - Ensure the survey methodology and mitigation strategies adhere to NatureScot guidance, the Conservation (Natural Habitats, &c.) Regulations 1994.
2. **Licencing Justifications**:
    - Provide robust evidence demonstrating that the proposal meets licencing criteria, including no satisfactory alternatives and no adverse impacts on conservation status.
3. **Cumulative Impact Analysis**:
    - Evaluate the additive effects of Glenvernoch and adjacent wind farms on local bat populations, as required by NPF4 and NatureScot guidance.
4. **Enhanced Survey Techniques**:
    - Incorporate rotor-sweep height detectors, radar studies, and direct assessments of potential roosting sites to comply with best practices.

SECTION 4: POTENTIAL IMPACTS

Overview

The Glenvernoch Wind Farm poses significant risks to local and migratory bat populations through collision mortality, habitat loss, displacement, and cumulative impacts. Despite presenting survey data, Appendices 9.2–9.4 fail to adequately assess or address these impacts, leaving critical risks unmitigated. This section evaluates the potential impacts of the development, drawing on best practices, scientific research, and legislative frameworks.

1. Collision Mortality

Overview:

- Collision with turbine blades is a leading cause of bat mortality at wind farms, particularly for high-altitude foraging species such as noctule (*Nyctalus noctula*) and Leisler's bat (*Nyctalus leisleri*). The Glenvernoch site recorded significant activity for these species, underscoring the risk.

Scientific Context:

- Studies have demonstrated that bat collisions with turbines often occur during low wind speeds, when bats are more active but turbines may still be operating.
- Barotrauma, caused by sudden pressure changes near turbine blades, further increases mortality risks, particularly for migratory species.

Critique of Appendix Findings:

- The absence of rotor-level data and advanced detection techniques severely limits the assessment of collision risks.
- The classification of the site as "low risk" contradicts evidence of significant noctule and Leisler's bat activity, both of which are categorised as high-risk species in wind turbine interactions.

2. Habitat Loss and Fragmentation

Overview:

- The construction of turbines, access roads, and ancillary infrastructure results in habitat destruction and fragmentation, directly affecting foraging grounds, roosting sites, and commuting corridors.

Scientific Context:

- Habitat loss can lead to localised declines in bat populations by reducing food availability and roosting opportunities.
- Fragmentation disrupts connectivity between critical habitats, increasing energy expenditure and reducing reproductive success.

Critique of Appendix Findings:

- The report does not map or evaluate key commuting routes, such as those connecting woodlands and watercourses.
- Peatland and woodland habitats within the Glenvernoch area, which are essential for insectivorous bats, are undervalued in the assessment.

3. Displacement and Behavioral Changes

Overview:

- Bats may avoid areas around turbines due to noise, vibration, and visual disturbances, effectively reducing the functional habitat available to them.

Scientific Context:

- Displacement effects can extend hundreds of metres from turbines, particularly for species sensitive to noise or disturbance.
- Altered foraging patterns may result in increased energy expenditure and reduced survival rates.

Critique of Appendix Findings:

- The report does not assess the displacement effects of turbines or construction activities on sensitive species such as brown long-eared bats (*Plecotus auritus*), which are known to avoid disturbed areas.

4. Cumulative Impacts

Overview:

- The additive effects of Glenvernoch and nearby wind farms, such as Blair Hill and Shennanton, create compounded risks for bat populations.

Scientific Context:

- Cumulative impacts can lead to population-level declines, particularly for migratory species reliant on interconnected habitats.
- The disruption of ecological networks, such as commuting corridors, can reduce regional biodiversity and ecosystem functionality.

Critique of Appendix Findings:

- The report fails to address cumulative impacts, contrary to the requirements of the Environmental Impact Assessment (Scotland) Regulations 2017 and NatureScot guidance.

5. Impacts on Migratory Species

Overview:

- Migratory species, such as Nathusius' pipistrelle (*Pipistrellus nathusii*), are particularly vulnerable during seasonal movements, when they rely on safe stopover sites.

Scientific Context:

- Migratory bats are more susceptible to collision risks due to fatigue and limited familiarity with local landscapes.
- Glenvernoch's location within a migration corridor heightens these risks.

Critique of Appendix Findings:

- Autumn data collection was compromised due to adverse weather, leaving critical gaps in understanding the site's role for migratory species.

Recommendations for Impact Mitigation

1. **Height-Specific Risk Assessment**:
    - Conduct radar or LiDAR studies to quantify rotor-level activity and identify high-risk zones for collision.
2. **Habitat Mapping and Protection**:
    - Map critical commuting routes and foraging habitats, ensuring turbine placement avoids these areas.
    - Preserve and enhance peatland and woodland habitats to maintain ecological connectivity.
3. **Cumulative Impact Evaluation**:
    - Model the additive effects of Glenvernoch and nearby wind farms on bat populations regionally.
4. **Operational Adjustments**:
    - Implement curtailment measures, such as shutting down turbines during low wind speeds and high bat activity periods.
5. **Long-Term Monitoring**:
    - Establish post-construction monitoring to assess mortality rates and population trends, with adaptive management strategies.

SECTION 5: MITIGATION AND MONITORING STRATEGIES

Overview

The mitigation measures proposed in Appendices 9.2–9.4 for addressing the impacts of the Glenvernoch Wind Farm on bat populations are generic, insufficiently tailored, and fail to meet the standards required by NatureScot guidance and international best practices. Furthermore, there is no evidence of a robust post-construction monitoring framework, leaving significant residual impacts unaddressed.

This section critiques the proposed mitigation strategies, identifies key omissions, and outlines comprehensive recommendations for improving mitigation and monitoring efforts.

Evaluation of Proposed Mitigation Strategies

1. General Mitigation Measures

- **Findings**:
    - The report outlines basic measures, such as adherence to minimal buffer zones around bat habitats and selective turbine curtailment during high-risk periods.
    - However, no details are provided on how these measures will be implemented or enforced.
- **Critique**:
    - Buffer zones are not mapped, nor are their adequacy evaluated for high-activity areas identified in the survey.
    - Curtailment thresholds (e.g., wind speed, temperature) are not specified, leaving critical gaps in operational planning.

2. Habitat Protection

- **Findings**:
    - The report suggests minimal habitat modification, relying on existing habitat assessments to guide turbine placement.
- **Critique**:
    - The lack of habitat mapping and commuting route identification undermines the effectiveness of habitat protection measures.
    - Peatlands and woodlands, critical for foraging and roosting, are insufficiently addressed in the mitigation strategy.

3. Collision Risk Mitigation

- **Findings**:
    - The proposed curtailment strategy focuses on reducing turbine operations during low wind speeds, when bat activity is typically higher.
- **Critique**:
    - No quantitative thresholds for curtailment are provided, and the lack of rotor-sweep zone data reduces confidence in the effectiveness of this measure.
    - The exclusion of noctule and Leisler's bats, high-risk species with unique flight behaviors, highlights the inadequacy of this approach.

4. Cumulative Impacts

- **Findings**:
    - The report does not address how mitigation measures will account for cumulative effects with adjacent developments.
- **Critique**:
    - Mitigation strategies developed in isolation fail to address region-wide risks to bat populations, contrary to the requirements of the Environmental Impact Assessment (Scotland) Regulations 2017.

Recommendations for Comprehensive Mitigation

1. Site-Specific Measures

- **Turbine Placement**:
    - Relocate turbines away from high-activity zones identified during surveys, particularly near woodland edges and watercourses.
- **Habitat Buffers**:
    - Establish clearly defined buffer zones around key habitats, with minimum distances informed by radar or LiDAR studies.

2. Enhanced Operational Mitigation

- **Dynamic Curtailment**:
    - Implement real-time monitoring systems to adapt turbine operations based on weather conditions, bat activity, and migratory patterns.
    - Curtail turbines during low wind speeds, warm temperatures, and high bat activity periods, particularly at dusk and dawn.
- **Low-Impact Design**:
    - Employ turbine designs with minimal blade tip speeds to reduce collision risks.

3. Habitat Enhancement

- **Peatland Restoration**:
    - Rehabilitate degraded peatlands to support insect populations critical for bat foraging.
- **Woodland Connectivity**:
    - Preserve and enhance wooded corridors to maintain commuting routes and reduce displacement effects.

4. Regional Mitigation Framework

- **Cumulative Impact Collaboration**:
    - Develop a region-wide mitigation framework in coordination with other wind farms, addressing shared impacts on bat populations.
- **Stakeholder Engagement**:
    - Work with NatureScot, local conservation groups, and bat experts to develop site-appropriate measures.

Post-Construction Monitoring Framework

1. **Collision Monitoring**:
    - Conduct systematic carcass searches under turbines to quantify mortality rates, adjusting methodologies to account for scavenger removal.
2. **Bat Activity Surveys**:
    - Use acoustic detectors and thermal imaging to monitor activity levels post-construction, identifying changes in species behavior or habitat use.

3. **Adaptive Management**:
    - Implement an adaptive management plan to refine operational strategies based on monitoring outcomes, ensuring long-term population stability.

Residual Impacts

Despite robust mitigation strategies, some residual impacts may persist, including:

- Collision risks for migratory and high-flying species during peak activity periods.
- Habitat displacement for species sensitive to noise and disturbance.
- Potential additive effects from cumulative impacts across multiple developments.

These residual risks must be acknowledged and addressed through continuous monitoring and adaptive management.

SECTION 6: CONCLUSION AND RECOMMENDATIONS

Overview

The bat survey report presented in Appendices 9.2–9.4 fails to provide a robust assessment of the Glenvernoch Wind Farm's potential impacts on bat populations. Key methodological flaws, inadequate mitigation strategies, and the absence of a comprehensive evaluation of cumulative impacts severely undermine the reliability of its conclusions. Given the ecological significance of the site and the presence of high-risk species such as noctule (*Nyctalus noctula*) and Leisler's bat (*Nyctalus leisleri*), the current proposal poses an unacceptable risk to protected bat populations and fails to meet statutory and policy requirements.

This section consolidates the findings of the objection, calls for the rejection of the current bat survey report, and outlines recommendations for the necessary steps to ensure compliance and ecological protection.

Key Findings

1. **Methodological Deficiencies**:
    - Survey methodologies relied on ground-level detectors, failing to account for rotor-sweep zone activity, where collision risks are highest.
    - Survey durations and weather-related gaps left critical periods, such as autumn migration, underrepresented.
2. **Inadequate Risk Assessment**:
    - The site was classified as "low risk" despite significant activity by high-risk species and the presence of essential habitats, contradicting established guidelines.
3. **Failure to Address Cumulative Impacts**:
    - The report ignored the additive effects of adjacent developments, such as Blair Hill and Shennanton, which are likely to amplify habitat loss and collision risks.
4. **Insufficient Mitigation Measures**:
    - Proposed mitigation strategies, such as turbine curtailment and buffer zones, lacked specificity and alignment with the ecological sensitivities of the site.
5. **Non-Compliance with Policies and Legislation**:

- The survey report failed to adhere to NatureScot guidance, and the requirements of the Conservation (Natural Habitats, &c.) Regulations 1994, among other frameworks.

Recommendations

1. Rejection of the Current Proposal

- The Glenvernoch Wind Farm proposal must be rejected in its current form due to the inadequacies in the bat survey report and its failure to comply with statutory obligations.
- Approval would contravene the precautionary principle and set a dangerous precedent for dismissing ecological risks to European Protected Species (EPS).

2. Comprehensive Reassessment

- A revised bat survey must address the methodological deficiencies and incorporate:
  - Rotor-sweep zone monitoring using radar or LiDAR technologies.
  - Extended survey durations covering critical seasons and migratory periods.
  - Robust cumulative impact modelling in coordination with adjacent wind farms.

3. Enhanced Mitigation Strategies

- Develop site-specific measures, including:
  - Strategic turbine placement to avoid high-activity zones.
  - Dynamic curtailment protocols during high-risk periods.
  - Restoration of degraded habitats, including peatlands and woodlands, to offset ecological losses.

4. Long-Term Monitoring and Adaptive Management

- Establish a post-construction monitoring framework to assess mortality rates, bat activity, and habitat use.
- Implement adaptive management strategies to refine mitigation measures based on monitoring outcomes.

5. Legislative and Policy Alignment

- Ensure full compliance with:
  - **NatureScot Guidance**: Incorporating advanced survey methods and cumulative impact assessments.
  - **Conservation (Natural Habitats, &c.) Regulations 1994**: Avoiding harm to EPS and demonstrating no adverse impact on conservation status.

Closing Statement

The Glenvernoch Wind Farm proposal presents an unacceptable risk to local and migratory bat populations, failing to meet the standards required for wind farm developments in ecologically sensitive areas. The inadequacies in the survey methodologies, risk assessments, and mitigation strategies highlight a fundamental failure to prioritise ecological protection and comply with statutory obligations.

The proposal, as it stands, must be rejected. A comprehensive reassessment and revised approach are essential to ensure the preservation of Dumfries and Galloway's biodiversity and compliance with Scotland's commitment to sustainable development and ecological stewardship.

APPENDIX 10.1 – OBJECTION CHAPTER 10: ENVIRONMENTAL NOISE ASSESSMENT

SECTION 1: INTRODUCTION AND CONTEXT

1.1 Overview

This objection critically evaluates Appendices 10.1 of the Glenvernoch Wind Farm Environmental Impact Assessment (EIA), which pertains to the **Environmental Noise Assessment**. This appendix provides a detailed analysis of the predicted noise impacts during construction, operation, and decommissioning of the proposed development, as well as the implications for nearby sensitive receptors.

While the appendix aligns its methodology with **ETSU-R-97** and associated planning policies, the findings and conclusions demonstrate significant oversights, underestimations, and methodological flaws. Noise impacts—especially cumulative effects with other wind farms—are inadequately addressed. Further, reliance on ETSU-R-97 fails to incorporate evolving evidence on amplitude modulation, low-frequency noise, and real-world annoyance factors.

1.2 Context and Importance

Noise from wind turbines is a contentious issue, particularly in rural areas like Dumfries and Galloway, where the ambient noise environment is defined by natural soundscapes. The Glenvernoch Wind Farm site is surrounded by residential properties and ecologically sensitive areas, including **SSSIs (Sites of Special Scientific Interest)** and wildlife habitats, where increased noise could disrupt ecological balance and resident quality of life.

Given the proposal's proximity to sensitive receptors and the cumulative presence of operational wind farms such as Kilgallioch and its extension, this section underpins the broader objections raised by Hands Off Our Hills (HOOH).

1.3 Structure of the Objection

The objection to Appendix 10.1 is divided as follows:

1. **Policy and Legislative Context**: Evaluation of compliance with planning and noise guidance.
2. **Methodological Critiques**: Analysis of baseline noise surveys, predictive models, and criteria used.
3. **Identification of Flaws in Impact Assessment**:
    - Construction Noise
    - Operational Noise
    - Cumulative Noise
    - Low-Frequency Noise and Amplitude Modulation
4. **Consequences for Residents and Ecology**: Impacts on health, wellbeing, and ecosystems.
5. **Conclusions and Recommendations**: Grounds for rejecting the appendix findings and the proposal.

SECTION 2: POLICY AND LEGISLATIVE CONTEXT

2.1 Overview

The Environmental Noise Assessment in Appendix 10.1 must adhere to a range of statutory and policy frameworks governing noise impacts from wind energy developments. These frameworks establish criteria for protecting the health and wellbeing of

nearby residents and maintaining ecological integrity. However, the methodologies and findings presented in Appendix 10.1 reveal significant non-compliance with these requirements.

2.2 Relevant Frameworks

1. ETSU-R-97

- **Requirements**:
    - ETSU-R-97 provides the basis for assessing and controlling noise from wind turbines in the UK. It establishes limits for day and night-time noise at residential properties, accounting for background noise levels.
- **Limitations**:
    - The methodology does not account for **amplitude modulation** (AM), **low-frequency noise**, or real-world annoyance factors, which have been increasingly recognised as critical in recent studies.
- **Contravention**:
    - The appendix relies solely on ETSU-R-97 without incorporating supplementary guidance, ignoring advances in understanding wind turbine noise impacts.

2. Institute of Acoustics Good Practice Guide (IoA GPG)

- **Requirements**:
    - The IoA GPG supplements ETSU-R-97, providing practical guidance on conducting baseline noise surveys, predictive modelling, and mitigating impacts.
- **Contravention**:
    - Baseline noise surveys in Appendix 10.1 do not adequately capture low ambient noise levels typical of rural settings, likely underestimating the relative noise contribution of turbines.

3. National Planning Framework 4 (NPF4)

- **Requirements**:
    - NPF4 emphasises the need for developments to balance renewable energy generation with the protection of local communities and environmental quality.
- **Contravention**:
    - The appendix fails to consider **cumulative noise impacts** from adjacent wind farms, contravening NPF4's mandate for sustainable and balanced development.

4. Environmental Impact Assessment (Scotland) Regulations 2017

- **Requirements**:
    - EIA Regulations mandate comprehensive assessments of direct, indirect, and cumulative environmental effects, including noise.
- **Contravention**:
    - Appendix 10.1 inadequately addresses cumulative noise impacts from Glenvernoch, Kilgallioch, and Blair Hill wind farms, failing to meet regulatory standards.

2.3 Implications of Non-Compliance

1. **Legal Risks**:
    - The inadequate assessment of noise impacts risks non-compliance with EIA Regulations, potentially leading to legal challenges and enforcement actions.
2. **Public Health Concerns**:
    - Failure to consider amplitude modulation and low-frequency noise may result in unanticipated health impacts for nearby residents, contravening NPF4's focus on community wellbeing.
3. **Undermining Planning Objectives**:
    - By ignoring cumulative impacts and local sensitivities, the assessment fails to align with Scotland's planning objectives for sustainable and responsible development.

2.4 Recommendations for Compliance

1. **Revised Noise Modelling**:
    - Incorporate advances in acoustic science, including amplitude modulation and low-frequency noise assessments.
2. **Cumulative Impact Assessment**:
    - Conduct a thorough cumulative noise impact analysis, integrating data from Kilgallioch, Blair Hill, and other nearby wind farms.
3. **Alignment with IoA GPG**:
    - Ensure baseline noise surveys and modelling methodologies comply with IoA guidance for rural settings.
4. **Precautionary Noise Limits**:
    - Adopt stricter noise limits than those proposed by ETSU-R-97 to account for evolving evidence on health impacts.

SECTION 3: METHODOLOGICAL CRITIQUES

3.1 Overview

The methodology employed in Appendix 10.1 for the Environmental Noise Assessment is central to determining the reliability of its findings. While the report adheres to some baseline requirements, such as using **ETSU-R-97**, it demonstrates critical flaws in survey design, modelling assumptions, and data interpretation. These deficiencies compromise the validity of the conclusions and underestimate the noise impacts of the Glenvernoch Wind Farm.

This section identifies key methodological shortcomings in baseline noise surveys, predictive modelling, and the criteria used to evaluate noise impacts.

3.2 Baseline Noise Surveys

1. Inadequate Representation of Ambient Noise Levels

- **Issue**:
    - The baseline noise surveys fail to capture the low ambient noise levels typical of rural areas like the Glenvernoch site.

- Measurements were taken over limited periods without sufficient consideration of seasonal variability or nighttime quietness.

- **Implications**:
  - Rural areas often experience very low ambient noise, making turbine noise more perceptible and intrusive. This is inadequately reflected in the baseline data.

2. Sampling Locations

- **Issue**:
  - The survey locations chosen do not adequately represent all nearby sensitive receptors, particularly properties located in valleys or shielded areas where noise may propagate differently.
- **Implications**:
  - The exclusion of certain receptor types skews the data and overlooks the potential for noise "funneling" effects in hilly terrain.

3. Weather Conditions

- **Issue**:
  - Noise surveys did not consistently account for the effects of wind, temperature, and atmospheric stability, all of which influence sound propagation.
- **Implications**:
  - Inaccurate baseline measurements reduce the reliability of subsequent modelling and predictions.

3.3 Predictive Modelling

1. Reliance on ETSU-R-97

- **Issue**:
  - The assessment relies exclusively on ETSU-R-97, a methodology criticised for its failure to address amplitude modulation, low-frequency noise, and infrasound impacts.
- **Implications**:
  - Emerging evidence suggests that these noise characteristics can significantly affect health and wellbeing, yet they are absent from the modelling.

2. Assumptions About Turbine Noise

- **Issue**:
  - The report assumes consistent noise output from turbines, ignoring variability caused by wind speeds, blade pitch adjustments, and turbulence.
- **Implications**:
  - Real-world noise levels may exceed modelled predictions during certain operating conditions.

3. Lack of Cumulative Modelling

- **Issue**:

- The assessment does not model cumulative noise impacts with adjacent wind farms, such as Kilgallioch and Blair Hill, despite overlapping Zones of Theoretical Visibility (ZTV) and shared propagation pathways.

- **Implications**:
  - Cumulative effects may exacerbate noise levels, particularly at receptors already exposed to existing turbines, but this remains unaddressed.

3.4 Criteria for Evaluating Noise Impacts

1. Overreliance on Day and Night-Time Limits

- **Issue**:
  - The assessment applies ETSU-R-97's absolute noise limits without contextualising them within rural ambient noise levels or accounting for site-specific sensitivities.

- **Implications**:
  - Uniform noise thresholds fail to recognise that even small increases in sound pressure levels can cause significant annoyance in quiet rural areas.

2. Exclusion of Amplitude Modulation and Low-Frequency Noise

- **Issue**:
  - The assessment does not evaluate the effects of **amplitude modulation** (periodic changes in noise levels) or **low-frequency noise**, both of which are well-documented contributors to annoyance and health issues.

- **Implications**:
  - These omissions leave critical impacts unassessed, particularly for nearby residents who may experience "thumping" or "pulsing" sounds from turbines.

3.5 Non-Compliance with Best Practices

The methodology in Appendix 10.1 does not align with:

1. **IoA Good Practice Guide**:
   - Recommends site-specific adjustments to reflect rural baseline noise levels and cumulative impacts.
2. **NatureScot Guidance**:
   - Stipulates the importance of considering ecological impacts of noise, particularly on wildlife habitats and protected species.

Recommendations for Methodological Revisions

1. **Enhanced Baseline Surveys**:
   - Conduct extended noise monitoring at representative receptor locations, covering all seasons and accounting for nighttime quietness.
   - Include properties in valleys and other topographically sensitive areas.
2. **Advanced Predictive Modelling**:
   - Incorporate amplitude modulation and low-frequency noise into the predictive modelling process.

- Model cumulative impacts from adjacent wind farms to provide a realistic representation of noise propagation.

3. **Contextual Noise Criteria**:
    - Adopt stricter noise limits tailored to the quiet rural environment, moving beyond the absolute thresholds set by ETSU-R-97.
4. **Stakeholder Engagement**:
    - Consult local communities to identify additional sensitive receptors and ensure the assessment reflects their lived experiences.

SECTION 4: IDENTIFICATION OF FLAWS IN IMPACT ASSESSMENT

4.1 Overview

Appendix 10.1 evaluates noise impacts during construction, operation, and decommissioning phases of the Glenvernoch Wind Farm. However, the assessment demonstrates critical flaws in addressing the full range of impacts on sensitive receptors and ecological areas. These deficiencies include the underestimation of construction noise, the exclusion of amplitude modulation and low-frequency noise in operational assessments, and the absence of cumulative impact analysis with adjacent developments.

This section systematically critiques the flaws in the assessment for each phase of the project.

4.2 Construction Noise

1. Underestimation of Noise Levels

- **Findings**:
    - The appendix estimates construction noise using standard assumptions for heavy machinery and road traffic.
    - Noise levels are projected to remain below **65 dB LAeq** at all receptor locations.
- **Critique**:
    - Construction activities in rural environments with low ambient noise are likely to generate significant disturbances, even below 65 dB.
    - Peak noise events, such as pile driving or blasting for turbine foundations, are inadequately addressed.

2. Lack of Temporal Analysis

- **Findings**:
    - The report provides average noise levels but does not evaluate short-term peak noise events, which are often more disruptive.
- **Critique**:
    - Residents and wildlife are more sensitive to sudden or intermittent noise spikes, particularly during nighttime hours.

3. Failure to Address Ecological Impacts

- **Findings**:

- The appendix does not evaluate how construction noise will affect nearby habitats, including **woodlands**, **peatlands**, and **SSSIs** (e.g., Lower Cree SSSI).

- **Critique**:
  - Noise disturbances can disrupt breeding, foraging, and migration behaviors in sensitive species, but these impacts are omitted from the assessment.

4.3 Operational Noise

1. Amplitude Modulation (AM)

- **Findings**:
  - The report does not account for **amplitude modulation** (periodic fluctuations in noise levels caused by blade rotation), despite its well-documented contribution to noise annoyance.

- **Critique**:
  - AM is a common source of complaints in wind farm developments, often described as a "thumping" or "pulsing" sound. Its exclusion renders the operational noise assessment incomplete.

2. Low-Frequency Noise

- **Findings**:
  - Low-frequency noise and infrasound are not assessed, contrary to emerging evidence linking these noise characteristics to health impacts.

- **Critique**:
  - Prolonged exposure to low-frequency noise can lead to sleep disturbances, stress, and other adverse health effects, particularly in quiet rural areas where background noise levels are low.

3. Underestimation of Receptor Sensitivity

- **Findings**:
  - Noise impacts are evaluated against generic ETSU-R-97 thresholds without accounting for site-specific sensitivities.

- **Critique**:
  - Rural receptors, accustomed to low ambient noise levels, are more likely to perceive turbine noise as intrusive, even if it meets standard thresholds.

4.4 Cumulative Noise

1. Exclusion of Adjacent Wind Farms

- **Findings**:
  - The report does not evaluate how noise from Glenvernoch will combine with operational turbines at Kilgallioch, Blair Hill, and Shennanton.

- **Critique**:
  - Cumulative noise effects can exacerbate disturbances, particularly for receptors exposed to multiple turbine arrays.

2. Overlapping Noise Zones

- **Findings**:
    - The appendix does not model overlapping noise zones where multiple wind farms contribute to elevated sound levels.
- **Critique**:
    - Receptors within these zones are likely to experience compounded impacts, increasing annoyance and health risks.

4.5 Decommissioning Noise

1. Lack of Detailed Assessment

- **Findings**:
    - Noise impacts during decommissioning are dismissed as temporary and insignificant.
- **Critique**:
    - Activities such as dismantling turbines, heavy machinery use, and transportation are likely to generate significant noise levels, particularly in rural areas.

4.6 Implications of Flaws

1. **Underestimated Community Impacts**:
    - Residents near the proposed site are likely to experience greater noise disturbances than predicted, undermining their quality of life and health.
2. **Unassessed Ecological Disruptions**:
    - Noise impacts on wildlife and habitats, including breeding and foraging disruptions, remain unaddressed, contrary to the requirements of the **Environmental Impact Assessment (Scotland) Regulations 2017**.
3. **Insufficient Data for Decision-Making**:
    - The absence of cumulative noise modelling and exclusion of amplitude modulation leave decision-makers without a full understanding of the project's impacts.

4.7 Recommendations for Noise Impact Assessment

1. **Advanced Noise Modelling**:
    - Incorporate amplitude modulation, low-frequency noise, and peak noise events into operational and construction noise modelling.
2. **Cumulative Impact Assessment**:
    - Evaluate the combined noise effects of Glenvernoch, Kilgallioch, Blair Hill, and Shennanton wind farms to provide a realistic representation of receptor impacts.
3. **Ecological Noise Assessment**:

- Conduct a detailed evaluation of how noise affects sensitive habitats and species, including breeding and migratory behaviors.

4. **Stricter Noise Thresholds**:
    - Adopt lower operational noise thresholds to reflect the sensitivities of rural receptors and align with emerging best practices.

SECTION 5: CONSEQUENCES FOR RESIDENTS AND ECOLOGY

5.1 Overview

The noise impacts from the Glenvernoch Wind Farm, as assessed in Appendix 10.1, pose significant risks to both nearby residents and the local ecology. The underestimation of noise impacts during construction, operation, and decommissioning phases leaves sensitive receptors vulnerable to adverse effects. This section evaluates these consequences, focusing on human health, wellbeing, and ecological integrity.

5.2 Impacts on Residents

1. Sleep Disturbance

- **Findings**:
    - Operational turbine noise, particularly at night, has the potential to disrupt sleep patterns, leading to fatigue, stress, and long-term health issues.
- **Scientific Evidence**:
    - Studies link prolonged exposure to turbine noise, including **low-frequency noise** and **amplitude modulation**, to increased complaints of sleep disruption.
    - Rural residents, accustomed to low ambient noise levels, are especially sensitive to even minor noise increases.
- **Implications**:
    - Sleep disturbance not only affects quality of life but can also contribute to chronic health conditions, including mental health issues.

2. Stress and Annoyance

- **Findings**:
    - The report dismisses the potential for annoyance caused by amplitude modulation, despite its well-documented contribution to stress and annoyance in wind farm communities.
- **Scientific Evidence**:
    - Annoyance from turbine noise is often linked to its irregular, “thumping” quality, as well as its persistence in quiet rural environments.
- **Implications**:
    - Chronic annoyance can elevate stress levels, impacting overall wellbeing and increasing the likelihood of community opposition to the project.

3. Impact on Property Values

- **Findings**:

- Appendix 10.1 does not address the secondary impacts of noise on property values in the vicinity of the wind farm.

- **Scientific Evidence**:
  - Evidence from existing wind farm developments shows that persistent noise can deter buyers, leading to reduced property values.

- **Implications**:
  - Local residents may face financial losses as a direct consequence of the project, compounding its broader social impacts.

5.3 Impacts on Ecology

1. Disruption to Wildlife Behavior

- **Findings**:
  - Noise from construction and operation phases has the potential to disrupt breeding, foraging, and migratory behaviors in local wildlife, including protected species.

- **Scientific Evidence**:
  - Studies indicate that noise can cause stress in mammals and birds, leading to altered movement patterns and reduced reproductive success.

- **Key Receptors**:
  - Species likely to be affected include:
    - **Bats**: Disturbed by noise and vibration, leading to habitat avoidance and displacement.
    - **Birds**: Sensitive species, such as raptors and waders, are particularly vulnerable to noise during breeding seasons.

- **Implications**:
  - Noise impacts could lead to population declines in sensitive species, undermining regional biodiversity.

2. Habitat Avoidance

- **Findings**:
  - Noise disturbances during construction and operation are likely to cause wildlife to avoid areas near turbines, reducing the functional habitat available.

- **Scientific Evidence**:
  - Habitat avoidance caused by noise has been observed in mammals, such as deer, and ground-nesting birds.

- **Implications**:
  - Long-term displacement of wildlife from essential habitats could disrupt ecological networks and reduce ecosystem functionality.

5.4 Cumulative Impacts

1. Overlapping Noise Zones

- **Findings**:
    - Adjacent wind farms, including Kilgallioch and Blair Hill, contribute to cumulative noise impacts on residents and wildlife.
- **Scientific Evidence**:
    - Studies have shown that cumulative noise effects can amplify stress and annoyance in humans, as well as compound ecological disruptions.
- **Implications**:
    - Without a cumulative noise impact assessment, the full extent of the project's effects remains unaccounted for, contravening regulatory requirements.

5.5 Recommendations for Mitigating Consequences

1. **Noise Mitigation for Residents**:
    - Implement stricter operational noise limits, particularly during nighttime hours.
    - Address amplitude modulation and low-frequency noise through advanced turbine design and operational adjustments.
    - Establish a compensation fund for affected residents, including those facing property devaluation.
2. **Ecological Noise Mitigation**:
    - Schedule construction activities to avoid breeding and migratory seasons for key wildlife species.
    - Create buffer zones between turbines and sensitive habitats to reduce noise disturbances.
3. **Cumulative Impact Modelling**:
    - Conduct a detailed cumulative noise impact assessment for all operational and proposed wind farms in the region.
    - Develop a regional noise mitigation strategy in collaboration with adjacent developments.
4. **Post-Implementation Monitoring**:
    - Establish long-term monitoring programs to assess the actual noise impacts on residents and wildlife, allowing for adaptive management.

SECTION 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Overview

The Environmental Noise Assessment presented in Appendix 10.1 of the Glenvernoch Wind Farm EIA demonstrates significant deficiencies in methodology, data interpretation, and compliance with legislative requirements. These flaws result in a substantial underestimation of the noise impacts on residents and local ecology, particularly in relation to construction noise, operational noise, and cumulative impacts. Furthermore, the assessment fails to adequately address the distinct characteristics of rural environments, such as low ambient noise levels, and does not incorporate advances in noise impact science, including amplitude modulation and low-frequency noise.

This section consolidates the findings of this objection, providing detailed recommendations and grounds for rejecting the findings of Appendix 10.1.

6.2 Key Findings

1. **Methodological Deficiencies**:
    - Baseline noise surveys did not adequately represent rural ambient noise levels, and sampling locations excluded topographically sensitive areas.
    - Predictive modelling relied solely on ETSU-R-97, failing to incorporate amplitude modulation, low-frequency noise, and infrasound.
2. **Inadequate Impact Assessment**:
    - Construction and decommissioning noise impacts were underestimated, with no consideration of short-term peak noise events or ecological disruptions.
    - Operational noise assessments ignored the heightened sensitivity of rural receptors and the cumulative effects of adjacent wind farms.
3. **Non-Compliance with Policy and Legislation**:
    - The report does not meet the requirements of the **Environmental Impact Assessment (Scotland) Regulations 2017**, and **National Planning Framework 4 (NPF4)**.
    - Exclusion of cumulative noise modelling contravenes NatureScot guidance and regulatory obligations.
4. **Consequences for Residents and Ecology**:
    - Noise impacts pose significant risks to human health, including sleep disturbance, annoyance, and stress.
    - Ecological impacts, such as habitat avoidance and disruption to wildlife behaviors, remain unassessed.

6.3 Recommendations

1. Rejection of the Appendix

- The findings of Appendix 10.1 must be rejected due to its failure to provide a comprehensive, reliable, and policy-compliant assessment of noise impacts.

2. Revised Noise Impact Assessment

- Conduct a new noise assessment incorporating:
    - **Enhanced Baseline Surveys**: Capture seasonal, nighttime, and topographically sensitive variations in ambient noise levels.
    - **Advanced Modelling Techniques**: Include amplitude modulation, low-frequency noise, and cumulative noise effects from adjacent wind farms.

3. Compliance with Legislative and Policy Frameworks

- Ensure the revised assessment adheres to:
    - NatureScot guidance on cumulative impacts and ecological noise.
    - EIA Regulations and IoA Good Practice Guide for rural noise assessment.

4. Noise Mitigation Strategies

- Implement stricter noise thresholds, particularly at nighttime, to account for rural receptor sensitivities.
- Design and operate turbines to minimise amplitude modulation and low-frequency noise.
- Schedule construction activities to avoid peak annoyance periods and ecologically sensitive seasons.

5. Post-Implementation Monitoring

- Establish a robust post-construction monitoring program to track actual noise levels and their impacts on residents and wildlife.
- Develop an adaptive management strategy to refine mitigation measures based on monitoring outcomes.

6.4 Closing Statement

The Glenvernoch Wind Farm, as currently proposed, presents unacceptable risks to the health and wellbeing of nearby residents and the ecological integrity of Dumfries and Galloway. The deficiencies in the Environmental Noise Assessment (Appendix 10.1) underscore the project's failure to meet statutory and policy obligations, particularly in addressing cumulative impacts, low-frequency noise, and site-specific sensitivities.

This appendix must be rejected outright, and the proposal cannot proceed without a comprehensive reassessment of noise impacts that aligns with legislative requirements, scientific best practices, and the principles of sustainable development. By prioritising transparency, accuracy, and mitigation, future assessments must ensure the protection of local communities and biodiversity.

APPENDIX 11.1 – 11.2 – OBJECTION CHAPTER 11: ABNORMAL LOADS ASSESSMENT

SECTION 1: INTRODUCTION AND CONTEXT

1.1 Overview

Appendices 11.1–11.2 of the Environmental Impact Assessment (EIA) for the Glenvernoch Wind Farm address the transport logistics for delivering turbine components to the proposed development site. The transportation plan identifies a route involving the **A75 trunk road**, **A714**, and several unclassified local roads, highlighting 27 "pinch points" requiring physical alterations, temporary measures, or removal of street furniture to accommodate abnormal loads. Key components, including **85-metre-long turbine blades**, represent some of the largest abnormal loads transported in the region.

The assessment provides technical details about swept path analyses, road modifications, and proposed mitigation measures but fails to address the broader implications for road infrastructure, community safety, and environmental impacts. The reliance on mitigation measures, including temporary road closures, manual traffic control, and private land access, underscores the inadequacy of current infrastructure to support the transportation requirements without causing significant disruption.

Given the scale and frequency of abnormal load deliveries required for the construction phase, the appendices fail to adequately evaluate the cumulative pressures on regional roads, particularly in light of concurrent wind farm developments in southwest Scotland.

1.2 Context and Importance

Transporting wind turbine components through rural Scotland poses complex logistical challenges that have far-reaching implications for communities, local economies, and regional infrastructure. The Glenvernoch Wind Farm site, located in Dumfries and Galloway, relies on a road network already under strain from existing developments and regional traffic demands. Key aspects of this proposal include:

1.2.1 Size and Scale of Turbine Components

- The proposed turbines have a rotor diameter of **170 metres**, requiring **85-metre-long blades**, making them among the largest components transported on Scotland's roads.
- The transportation of these blades necessitates:
    - **Specialised vehicles** capable of navigating tight turns and narrow rural roads.
    - Significant road alterations, including widening, vegetation clearance, and temporary removal of street furniture.

1.2.2 Impact on Strategic and Local Roads

- **A75 Trunk Road**:
    - A strategic transport corridor for the southwest, linking Dumfries to Stranraer, the A75 is heavily trafficked by freight vehicles serving the **Cairnryan Port**.
    - Increased abnormal load traffic will exacerbate congestion, particularly at busy junctions and pinch points.
    - **Villages of Springholm and Crocketford**:
        - Both villages are located along the A75 and already experience significant traffic pressures due to high volumes of freight vehicles.
        - Abnormal load convoys will cause prolonged delays, noise disturbances, and safety risks for residents, compounding existing issues with speeding and congestion.

- **Garroch Roundabout**:
    - A critical junction near Dumfries, providing access to the **Dumfries and Galloway Royal Infirmary**, the Garroch Roundabout is a vital link for emergency services and patient transport.
    - Abnormal load convoys navigating this roundabout pose a significant risk of delays, potentially endangering lives by obstructing emergency vehicle access.
- **A714 and Local Roads**:
    - The A714 and unclassified roads leading to the site are narrow, with limited capacity to accommodate oversized vehicles.
    - Many sections lack overtaking opportunities, creating prolonged delays for regular traffic and emergency services.

1.2.3 Disruption to Local Communities

- Communities in **Newton Stewart**, **Bargrennan**, **Glentrool**, and nearby villages will face significant disruptions due to:
    - Temporary road closures and diversions, affecting daily commutes, school routes, and access to local businesses.
    - Noise, vibration, and visual disturbances caused by the passage of abnormal loads.
- **Commuters from Glentrool and Bargrennan**:
    - Those travelling to **Newton Stewart** for work, education, or essential services will experience prolonged travel times and disruptions due to road closures and convoy traffic.

1.2.4 Environmental Impacts

- Road modifications, including vegetation clearance and alterations to embankments, will damage local biodiversity and alter the visual character of the area.
- Increased vehicle emissions and road runoff from construction traffic risk polluting nearby watercourses, including burns feeding the **River Cree and Lower Cree SSSI**.

1.2.5 Cumulative Transport Pressures

- The Glenvernoch proposal adds to regional transport pressures from existing and proposed wind farms, including:
    - **Kilgallioch Wind Farm**, one of Scotland's largest onshore developments, which also utilises the A75 and A714 for logistics.
    - The proposed **Blair Hill Wind Farm**, further increasing abnormal load traffic on shared transport routes.

1.3 Structure of the Objection

This objection critically evaluates Appendices 11.1–11.2, identifying significant shortcomings in the assessment of transport-related impacts and proposing actionable recommendations. The objection is structured as follows:

1. **Policy and Legislative Context**:
    - Analysis of compliance with national and regional transport policies, including **Transport Scotland Guidance**, and Dumfries and Galloway's **Local Development Plan 2 (LDP2)**.
2. **Methodological Critiques**:
    - Examination of the adequacy of route assessments, swept path modelling, and mitigation strategies.

3. **Identification of Flaws in Impact Assessment**:
    - Detailed evaluation of the impacts on road infrastructure, traffic flow, community safety, and the environment.
4. **Consequences for Local Infrastructure and Communities**:
    - Analysis of the long-term risks to regional connectivity, economic activity, and quality of life for affected residents.
5. **Conclusions and Recommendations**:
    - Justification for rejecting the appendix findings and proposing significant revisions to the transport assessment.

SECTION 2: POLICY AND LEGISLATIVE CONTEXT

2.1 Overview

Appendices 11.1–11.2 must adhere to Scotland's legislative and policy frameworks governing transport and infrastructure, ensuring the proposal balances the logistical requirements of abnormal load deliveries with the need to protect local communities, road safety, and environmental integrity. However, the appendices fail to fully comply with these frameworks, particularly regarding cumulative transport impacts, community safety, and regional connectivity.

This section evaluates the proposal's compliance with key legislation, policies, and guidance, identifying areas of non-compliance and regulatory concern.

2.2 Relevant Legislative and Policy Frameworks

1. National Planning Framework 4

- **Requirements**:
    - NPF4 mandates developments to:
        - Avoid significant adverse impacts on community wellbeing, including road safety and access to services.
        - Mitigate transport impacts and ensure developments do not disproportionately burden existing infrastructure.
- **Contravention**:
    - The appendices fail to adequately address the risks posed by abnormal load convoys to emergency access routes, particularly at critical points such as the **Garroch Roundabout** leading to the **Dumfries and Galloway Royal Infirmary**.
    - Cumulative transport pressures on the **A75**, already identified as a heavily trafficked route, remain unassessed.

2. Transport Scotland Guidance

- **Requirements**:
    - Developments involving abnormal loads must:
        - Minimise disruption to strategic transport corridors, including trunk roads such as the **A75**.
        - Conduct detailed route assessments to identify and mitigate potential impacts on road infrastructure and traffic flow.

- **Contravention**:
    - The appendices acknowledge **27 pinch points** along the route but rely on generic mitigation measures, such as road closures and temporary alterations, without fully addressing their broader implications for traffic flow and safety.
    - The impact of increased heavy vehicle traffic through **Springholm** and **Crocketford**, villages already facing transport challenges, is not evaluated in detail.

3. Dumfries and Galloway Local Development Plan 2 (LDP2)

- **Requirements**:
    - LDP2 prioritises developments that:
        - Protect and enhance regional connectivity, particularly along strategic routes such as the A75.
        - Avoid negative impacts on community safety, health, and access to essential services.
- **Contravention**:
    - The appendices overlook the potential for prolonged delays along the A75 and **A714**, which could disrupt local businesses, school commutes, and emergency services.
    - No mitigation measures are proposed for the villages of **Glentrool**, **Bargrennan**, **Springholm**, and **Crocketford**, which will face the cumulative impacts of convoy traffic.

4. Environmental Impact Assessment (Scotland) Regulations 2017

- **Requirements**:
    - EIA Regulations mandate a comprehensive assessment of direct, indirect, and cumulative environmental effects, including those related to transport infrastructure.
- **Contravention**:
    - The appendices fail to evaluate cumulative impacts from multiple wind farms (e.g., **Kilgallioch**, **Blair Hill**) utilising shared transport routes.
    - Potential environmental impacts from vegetation clearance, road runoff, and noise pollution are insufficiently assessed.

5. Road Traffic Regulation Act 1984

- **Requirements**:
    - Temporary traffic management measures, such as road closures and diversions, must:
        - Minimise disruption to local road users and maintain safe passage for emergency vehicles.
- **Contravention**:
    - Proposed road closures and convoy management plans risk obstructing emergency service access, particularly at the **Garroch Roundabout** and along rural roads leading to Glentrool, Bargrennan and Newton Stewart.

2.3 Implications of Non-Compliance

1. **Community Disruption**:

- Prolonged road closures, convoy delays, and detours will negatively impact local residents and businesses in **Springholm**, **Crocketford**, **Newton Stewart**, **Bargrennan**, and **Glentrool**, contravening LDP2.

2. **Risk to Emergency Services**:
    - Delays at the **Garroch Roundabout**, a vital access point for the Dumfries and Galloway Royal Infirmary, could jeopardise emergency response times, contravening Transport Scotland and Road Traffic Regulation Act requirements.
3. **Cumulative Impacts Ignored**:
    - The cumulative effect of Glenvernoch and adjacent wind farms on shared transport corridors is omitted, breaching the EIA Regulations.
4. **Environmental and Infrastructure Strain**:
    - Vegetation clearance, noise, and road modifications compromise environmental integrity and place additional strain on already burdened infrastructure.

2.4 Recommendations for Compliance

1. **Comprehensive Route Assessment**:
    - Conduct detailed evaluations of convoy impacts on strategic and local roads, with a focus on **Springholm**, **Crocketford**, and the **Garroch Roundabout**.
    - Address cumulative impacts from adjacent developments in accordance with the EIA Regulations.
2. **Community Safeguards**:
    - Develop mitigation measures to minimise disruptions to school commutes, local businesses, and emergency services in affected villages and towns.
    - Include outreach programs to inform residents and stakeholders of transport plans and alternative routes.
3. **Enhanced Environmental Protections**:
    - Propose site-specific measures to offset environmental impacts from vegetation clearance, road runoff, and noise pollution.
4. **Adaptive Traffic Management**:
    - Implement dynamic traffic control measures to prioritise emergency vehicle access and maintain traffic flow during abnormal load deliveries.

SECTION 3: METHODOLOGICAL CRITIQUES

3.1 Overview

The methodologies employed in Appendices 11.1–11.2 to assess the transport impacts of the Glenvernoch Wind Farm are insufficiently robust to address the complexities of abnormal load deliveries. Key shortcomings include a lack of detailed cumulative impact analysis, oversimplification of route assessments, and failure to evaluate site-specific risks for critical transport nodes, such as the **Garroch Roundabout** and villages along the **A75**. These methodological flaws undermine the reliability of the assessment and its capacity to inform effective mitigation strategies.

This section evaluates the methodology, highlighting gaps in route analysis, swept path modelling, and risk assessment techniques.

3.2 Route Assessment

1. Lack of Comprehensive Route Evaluation

- **Findings**:
    - The appendices identify **27 pinch points** along the proposed route but fail to assess their cumulative impacts on traffic flow, safety, and community access.
    - Key bottlenecks, such as the **Garroch Roundabout**, are not subject to detailed traffic modelling to evaluate delays or disruptions for emergency services.
- **Critique**:
    - Without a comprehensive assessment of potential delays and disruptions, the proposal risks exacerbating traffic congestion and obstructing access to critical services, particularly in villages like **Springholm** and **Crocketford**.
    - The assessment omits alternative routes or strategies to minimise impacts, contravening **Transport Scotland Guidance**.

2. Insufficient Engagement with Local Conditions

- **Findings**:
    - The assessment does not consider the unique characteristics of rural roads, such as narrow widths, limited overtaking opportunities, and the lack of hard shoulders along the **A714** and local access roads.
- **Critique**:
    - Abnormal load vehicles will likely cause extended delays on these routes, affecting commuters, school transport, and agricultural traffic, particularly between **Glentrool, Bargrennan** and **Newton Stewart**.

3.3 Swept Path Modelling

1. Oversimplification of Modelling Parameters

- **Findings**:
    - The swept path analysis provides basic illustrations of how 85-metre-long blades will navigate pinch points but does not evaluate:
        - The full impact of road widening or vegetation removal on local biodiversity and private land.
        - How abnormal loads will affect oncoming traffic or require additional safety measures at critical junctions.
- **Critique**:
    - Simplified modelling fails to account for real-world conditions, such as weather variability, road surface quality, and driver errors, which could exacerbate safety risks.

2. Limited Mitigation Proposals

- **Findings**:
    - Proposed mitigation measures, such as temporary road closures and manual traffic control, are generic and lack detailed plans for implementation.
- **Critique**:

- The absence of specific timelines, contingency plans, and stakeholder involvement undermines the credibility of the proposed measures, particularly for high-traffic areas like the **A75**.

3.4 Environmental Considerations

1. Inadequate Vegetation Impact Assessment

- **Findings**:
  - The appendices propose vegetation clearance to accommodate widened roads but do not assess the ecological consequences, including habitat loss and visual impacts.
- **Critique**:
  - Trees and hedgerows along the route provide vital habitats for wildlife and contribute to the rural character of the area. Their removal risks biodiversity loss and community opposition.

2. Road Runoff and Pollution Risks

- **Findings**:
  - Increased heavy vehicle traffic will generate road runoff containing oils, lubricants, and particulates, but the assessment does not model how this will affect nearby watercourses, such as burns feeding the **River Cree and Lower Cree SSSI**.
- **Critique**:
  - The lack of a detailed runoff management plan risks contaminating sensitive aquatic habitats and contravenes **SEPA guidelines**.

3.5 Cumulative Impact Assessment

1. Ignored Cumulative Traffic Pressures

- **Findings**:
  - The appendices fail to assess the combined transport impacts of Glenvernoch, **Kilgallioch**, and **Blair Hill** wind farms, which share critical routes like the **A75** and **A714**.
- **Critique**:
  - Overlapping abnormal load deliveries and increased construction traffic could cause prolonged congestion, higher road maintenance costs, and increased safety risks for local residents and businesses.

2. Insufficient Collaboration with Adjacent Developments

- **Findings**:
  - The assessment does not include coordination with adjacent wind farm projects to mitigate shared transport impacts.
- **Critique**:
  - A lack of collaboration increases the likelihood of uncoordinated convoys and conflicting traffic management strategies, compounding disruptions.

3.6 Non-Compliance with Best Practices

1. **Transport Scotland Guidance**:

- Requires detailed route evaluations and mitigation plans that address all potential impacts on strategic transport corridors.

2. **EIA Regulations 2017**:
    - Mandates cumulative impact assessments and stakeholder consultations, which are notably absent from the appendices.
3. **LDP2**:
    - Emphasise the need to protect community wellbeing and regional connectivity, which are insufficiently addressed in the transport assessment.

3.7 Recommendations for Methodological Improvements

1. **Comprehensive Route Modelling**:
    - Conduct detailed evaluations of traffic flow, delays, and safety risks at critical points, including the **Garroch Roundabout** and villages along the **A75**.
    - Incorporate real-world variables, such as weather, road surface conditions, and peak traffic periods.
2. **Enhanced Swept Path Analysis**:
    - Expand modelling to evaluate the environmental impacts of road widening, vegetation removal, and embankment modifications.
    - Develop site-specific mitigation plans for each pinch point, including clear timelines and contingency measures.
3. **Cumulative Impact Assessment**:
    - Evaluate the combined transport impacts of Glenvernoch, **Kilgallioch**, and **Blair Hill** wind farms, ensuring coordinated traffic management strategies.
4. **Environmental Safeguards**:
    - Propose robust runoff management plans to protect nearby watercourses and minimise pollution risks.
    - Include replanting or habitat restoration measures to offset the ecological impacts of vegetation clearance.
5. **Community Consultation**:
    - Engage with affected communities, including residents of **Springholm**, **Crocketford**, **Glentrool, Bargrennan,** and **Newton Stewart**, to address concerns and incorporate feedback into the transport plan.

SECTION 4: IDENTIFICATION OF FLAWS IN IMPACT ASSESSMENT

4.1 Overview

The transport impact assessment presented in Appendices 11.1–11.2 fails to comprehensively evaluate the risks and challenges associated with abnormal load deliveries to the Glenvernoch Wind Farm site. The flaws in the assessment include a lack of detailed analysis of local and regional road impacts, insufficient consideration of community safety, and omissions of cumulative effects with other developments. These gaps undermine the credibility of the findings and raise significant concerns about the feasibility and sustainability of the proposed transport strategy.

This section identifies and critiques the specific shortcomings in the assessment of direct, indirect, and cumulative transport impacts.

4.2 Direct Transport Impacts

1. Traffic Flow and Delays

- **Findings**:
    - The assessment acknowledges the need for temporary road closures and traffic control but does not quantify the expected delays for road users or emergency services.
- **Critique**:
    - Delays caused by abnormal load convoys will disproportionately impact communities along the **A75**, particularly in **Springholm**, **Crocketford**, and **Newton Stewart**, where congestion is already a recurring issue.
    - Access to critical facilities, including the **Dumfries and Galloway Royal Infirmary** via the **Garroch Roundabout**, may be compromised, posing safety risks for emergency response times.

2. Infrastructure Strain

- **Findings**:
    - The appendices provide a basic assessment of required road modifications at pinch points but fail to address the long-term strain on road surfaces and structures caused by heavy abnormal load vehicles.
- **Critique**:
    - Repeated passage of heavy vehicles will exacerbate wear and tear on roads, increasing maintenance costs for local authorities and disrupting regular traffic during repairs.

3. Safety Risks

- **Findings**:
    - The appendices propose generic safety measures, such as manual traffic control, without addressing site-specific risks.
- **Critique**:
    - Narrow roads, blind corners, and limited overtaking opportunities along the **A714** and local access roads increase collision risks for other road users, particularly during convoy movements.
    - Pedestrian safety in **Springholm** and **Crocketford**, where abnormal loads will pass through residential areas, remains unaddressed.

4.3 Environmental Impacts

1. Vegetation Clearance

- **Findings**:
    - The appendices propose removing trees and hedgerows to accommodate widened roads but do not evaluate the ecological consequences of this clearance.
- **Critique**:
    - Vegetation removal disrupts wildlife habitats, reduces biodiversity, and alters the rural landscape's aesthetic value, affecting the region's eco-tourism potential.

2. Watercourse Pollution

- **Findings**:
    - Increased heavy vehicle traffic will generate road runoff, but the appendices do not assess its potential impact on burns feeding the **River Cree and Lower Cree SSSI**.
- **Critique**:
    - Contaminants such as oils, lubricants, and sediments could pollute aquatic habitats, threatening species like **Atlantic salmon, Water Voles** and **otters**.

4.4 Cumulative Transport Impacts

1. Overlapping Developments

- **Findings**:
    - The appendices fail to account for cumulative transport impacts from nearby wind farms, including **Kilgallioch** and **Blair Hill**, which share critical routes like the **A75** and **A714**.
- **Critique**:
    - The combined abnormal load traffic from multiple developments risks creating prolonged congestion, higher road maintenance costs, and increased safety risks.

2. Long-Term Regional Pressures

- **Findings**:
    - The assessment does not consider how the additional transport pressures will strain regional infrastructure beyond the construction phase.
- **Critique**:
    - Road infrastructure serving Dumfries and Galloway is already under pressure from high freight volumes and tourism-related traffic. The Glenvernoch proposal exacerbates these issues, impacting long-term regional connectivity.

4.5 Mitigation Failures

1. Insufficient Mitigation Planning

- **Findings**:
    - Proposed mitigation measures, such as road closures and manual traffic control, are generic and lack detailed timelines, stakeholder consultations, or contingency plans.
- **Critique**:
    - Without specific and enforceable mitigation measures, disruptions to communities and road users will likely be greater than predicted.

2. Lack of Adaptive Measures

- **Findings**:
    - No adaptive traffic management strategies are proposed to respond to unforeseen delays or incidents during abnormal load deliveries.
- **Critique**:

- Failure to incorporate adaptive measures risks prolonged disruptions and reduced safety for road users.

4.6 Recommendations for Addressing Flaws

1. **Detailed Traffic Modelling**:
    - Quantify delays and disruptions at critical points, including the **Garroch Roundabout**, **Springholm**, **Crocketford**, and **Newton Stewart**.
    - Include real-world variables such as weather, peak traffic times, and emergency service requirements.
2. **Cumulative Impact Analysis**:
    - Evaluate the combined transport pressures of Glenvernoch, Kilgallioch, and Blair Hill wind farms, ensuring coordination of convoy movements and mitigation strategies.
3. **Environmental Safeguards**:
    - Develop site-specific measures to offset vegetation clearance and minimise runoff pollution into burns and watercourses.
4. **Enhanced Safety Measures**:
    - Propose detailed plans for pedestrian safety in villages and collision avoidance strategies on narrow rural roads.
5. **Adaptive Traffic Management**:
    - Incorporate dynamic traffic control systems to prioritise emergency vehicles and reduce delays during convoy movements.

SECTION 5: CONSEQUENCES FOR LOCAL INFRASTRUCTURE AND COMMUNITIES

5.1 Overview

The Glenvernoch Wind Farm's transport strategy poses significant risks to local infrastructure and communities, particularly along the **A75**, **A714**, and unclassified roads near the development site. These risks extend beyond temporary disruptions during abnormal load deliveries, affecting road safety, regional connectivity, and the quality of life for residents in impacted areas. This section evaluates the long-term consequences of the proposed transport strategy, focusing on infrastructure strain, community wellbeing, and regional transport pressures.

5.2 Impacts on Local Infrastructure

1. Damage to Road Surfaces

- **Key Risks**:
    - The repeated passage of heavy abnormal load vehicles will accelerate the wear and tear of road surfaces, particularly on the A75 and A714.
- **Implications**:
    - Increased maintenance costs for local authorities and prolonged roadworks will disrupt traffic flow and create additional delays for residents and businesses.
    - Roads not designed for abnormal loads, such as unclassified access roads, may suffer permanent damage, reducing their usability for local traffic.

2. Increased Strain on Junctions and Pinch Points

- **Key Risks**:
    - Key transport nodes, such as the **Garroch Roundabout**, will experience elevated traffic volumes, causing congestion and delays.
- **Implications**:
    - The roundabout is a critical access point for the **Dumfries and Galloway Royal Infirmary**; increased congestion may delay emergency response times, potentially endangering lives.
    - Pinch points along the A714 and local roads will create bottlenecks, further disrupting regional traffic flow.

3. Long-Term Cumulative Strain

- **Key Risks**:
    - The Glenvernoch Wind Farm adds to the cumulative transport pressures from nearby wind farms, including **Kilgallioch** and **Blair Hill**, all of which rely on shared infrastructure.
- **Implications**:
    - The combined effects of multiple developments will necessitate frequent repairs and upgrades to roads and junctions, diverting resources from other critical infrastructure projects.

5.3 Disruption to Communities

1. Noise, Vibration, and Visual Impacts

- **Key Risks**:
    - Abnormal load deliveries will generate noise and vibration, particularly in residential areas such as **Springholm**, **Crocketford**, and **Newton Stewart**.
    - The visual impact of large convoys moving through rural villages will diminish the area's tranquil character and quality of life for residents.
- **Implications**:
    - Increased noise and vibration may cause structural damage to properties near the transport route, particularly older buildings in Springholm and Crocketford.
    - Community opposition is likely to intensify, given the lack of engagement and detailed mitigation planning.

2. Access and Mobility Disruptions

- **Key Risks**:
    - Temporary road closures and convoy delays will affect:
        - School transport routes, particularly for students commuting to Newton Stewart.
        - Daily commutes and local business deliveries in impacted villages.
    - Commuters travelling from **Glentrool and Bargrennan** to Newton Stewart will face prolonged travel times and increased fuel costs due to detours or delays.
- **Implications**:
    - Reduced accessibility to essential services, such as healthcare and schools, will disproportionately impact vulnerable populations, including the elderly and families with children.

3. Safety Concerns

- **Key Risks**:
    - Narrow roads and blind corners along the A714 and local routes increase collision risks for regular traffic, cyclists, and pedestrians.
- **Implications**:
    - Residents of **Springholm** and **Crocketford**, where abnormal loads will pass directly through village centres, face heightened safety risks due to pedestrian traffic and limited road widths.

5.4 Regional Transport Pressures

1. Strategic Corridor Disruption

- **Key Risks**:
    - The **A75**, a vital corridor for freight and tourism, will face prolonged congestion from abnormal load convoys.
- **Implications**:
    - Delays on the A75 may deter freight operators and tourists, negatively impacting regional economic activity.
    - Emergency response times for vehicles relying on the A75 will be compromised, affecting access to critical services across southwest Scotland.

2. Cumulative Development Pressures

- **Key Risks**:
    - Overlapping construction schedules for Glenvernoch, Kilgallioch, and Blair Hill wind farms will amplify transport disruptions on shared routes.
- **Implications**:
    - Residents and businesses along these routes will experience compounded delays, reduced accessibility, and increased frustration with local authorities.

5.5 Recommendations to Mitigate Community and Infrastructure Impacts

1. **Comprehensive Impact Mitigation**:
    - Develop a detailed plan to minimise disruptions in key villages, including **Springholm**, **Crocketford**, **Newton Stewart, Bargrennan** and **Glentrool**.
    - Include enhanced pedestrian safety measures, noise reduction strategies, and designated bypass routes where possible.
2. **Improved Traffic Management**:
    - Implement dynamic traffic control systems to prioritise emergency vehicles and reduce delays for daily commuters.
    - Coordinate convoy movements with adjacent developments to avoid overlapping disruptions.
3. **Long-Term Infrastructure Planning**:
    - Commit to upgrading regional roads, particularly the A75 and A714, to accommodate increased traffic volumes and heavy loads.

- Include provisions for regular road maintenance and monitoring to address wear and tear.

4. **Community Engagement and Support**:
    - Establish a community consultation program to address concerns and incorporate local feedback into transport planning.
    - Provide financial compensation for residents affected by prolonged disruptions or structural property damage.
5. **Environmental Protections**:
    - Minimise vegetation clearance and restore habitats affected by road widening or embankment modifications.
    - Develop runoff management systems to prevent contamination of burns and watercourses, particularly those feeding the **River Cree and Lower Cree SSSI**.

SECTION 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Overview

The transport strategy presented in Appendices 11.1–11.2 for the Glenvernoch Wind Farm fails to adequately address the direct, indirect, and cumulative impacts of abnormal load deliveries on local infrastructure, community wellbeing, and environmental integrity. The inadequacies in the assessment, coupled with generic mitigation measures, demonstrate a lack of consideration for the region's transport challenges and the needs of affected communities. This section consolidates the findings of this objection and provides detailed recommendations for rejecting the appendix findings and revising the transport strategy.

6.2 Key Findings

1. **Methodological Deficiencies**:
    - The appendices fail to provide comprehensive route assessments, swept path analyses, and cumulative transport impact evaluations, leaving critical risks unaddressed.
2. **Non-Compliance with Policy and Legislation**:
    - The transport strategy does not align with **Transport Scotland Guidance** and **EIA Regulations 2017**, which mandate robust mitigation planning, community safeguarding, and cumulative impact assessments.
3. **Infrastructure and Safety Risks**:
    - The proposal risks significant damage to roads, prolonged traffic disruptions, and increased collision risks, particularly along the **A75**, **A714**, and unclassified rural roads.
4. **Community Disruption**:
    - Residents in **Springholm**, **Crocketford**, **Newton Stewart, Bargrennan,** and **Glentrool** face heightened noise, vibration, and accessibility challenges, with insufficient mitigation measures proposed.
5. **Environmental and Biodiversity Impacts**:
    - Vegetation clearance and road runoff risk damaging local ecosystems, including burns feeding the **River Cree and Lower Cree SSSI**, with no adequate safeguards in place.
6. **Cumulative Development Pressures**:
    - The appendices ignore overlapping transport impacts with adjacent wind farms, such as **Kilgallioch** and **Blair Hill**, compounding regional transport challenges.

6.3 Recommendations

1. Rejection of the Current Transport Strategy

- The Glenvernoch Wind Farm transport plan must be rejected in its current form due to its failure to meet statutory and policy requirements, inadequate mitigation measures, and significant risks to regional infrastructure and communities.

2. Comprehensive Transport Reassessment

- A revised transport strategy must include:
    - Detailed route modelling and swept path analyses for all pinch points, with a focus on **Springholm**, **Crocketford**, **Glentrool**, and the **Garroch Roundabout**.
    - Quantified impact assessments for traffic delays, road damage, and safety risks.

3. Cumulative Impact Analysis

- Evaluate the combined transport impacts of Glenvernoch, **Kilgallioch**, and **Blair Hill** wind farms, ensuring coordinated convoy scheduling and mitigation strategies.

4. Enhanced Mitigation Measures

- Propose site-specific measures to address safety, accessibility, and environmental concerns, including:
    - Improved traffic control systems to minimise delays and prioritise emergency vehicle access.
    - Expanded buffer zones and habitat restoration plans to offset vegetation clearance.

5. Community Engagement and Support

- Establish a community consultation framework to address concerns, inform residents of convoy schedules, and incorporate feedback into transport planning.
- Provide financial compensation for property damage and prolonged disruptions in affected communities.

6. Environmental Protections

- Develop robust runoff management systems to prevent watercourse contamination, particularly for burns feeding the **River Cree and Lower Cree SSSI**.
- Minimise vegetation clearance and commit to replanting or habitat restoration initiatives.

7. Long-Term Infrastructure Investments

- Collaborate with local authorities to upgrade the **A75**, **A714**, and rural roads to accommodate increased traffic volumes and heavy loads, ensuring sustainable regional connectivity.

6.4 Closing Statement

The transport plan for the Glenvernoch Wind Farm, as currently proposed, poses unacceptable risks to Dumfries and Galloway's infrastructure, communities, and ecosystems. The inadequacies in the assessment demonstrate a disregard for the region's transport challenges, policy compliance, and community welfare. The reliance on generic mitigation measures and the failure to provide comprehensive evaluations of cumulative impacts undermine the credibility of the proposal and its ability to balance logistical needs with the protection of local interests.

This objection provides clear evidence that the appendices fail to meet statutory and policy requirements, including the **Transport Scotland Guidance**, and **Environmental Impact Assessment (Scotland) Regulations 2017**. These omissions highlight the project's incompatibility with Scotland's commitments to sustainable development, community resilience, and ecological protection. The risks to critical infrastructure, such as the **Garroch Roundabout**, and the disruption to vulnerable communities,

such as those in **Springholm**, **Crocketford**, **Newton Stewart, Bargrennan** and **Glentrool**, are particularly concerning, given their reliance on the affected transport corridors.

Future proposals must include comprehensive route assessments, enforceable mitigation strategies, and community-focused solutions to ensure the responsible development of renewable energy infrastructure in Scotland. This includes detailed traffic modelling that accounts for real-world variables, robust stakeholder engagement to address community concerns, and cumulative impact analyses to mitigate overlapping transport pressures from adjacent wind farm developments. Additionally, environmental safeguards must prioritise the preservation of biodiversity, the prevention of watercourse contamination, and the restoration of habitats affected by road alterations.

Until these conditions are met, the Glenvernoch Wind Farm transport plan cannot proceed. To approve the current proposal would set a dangerous precedent, undermining established planning and transport frameworks designed to protect Scotland's communities and natural resources.

This objection calls for ***the rejection of the transport plan*** in its current form, ensuring that future developments align with Scotland's values of sustainability, equity, and environmental stewardship.

APPENDIX 12.1 – 12.4 – OBJECTION CHAPTER 12: SCHEDULE OF WATERCOURSE CROSSINGS

SECTION 1: INTRODUCTION AND CONTEXT

1.1 Overview

Appendices 12.1–12.4 of the Environmental Impact Assessment (EIA) for the Glenvernoch Wind Farm outline the proposed development's potential impacts on the site's **hydrology**, **hydrogeology**, and **geological conditions**. These appendices are intended to assess risks associated with the construction, operation, and decommissioning of 13 wind turbines, associated infrastructure, and access roads. Despite their intended purpose, the findings and methodologies presented demonstrate significant shortcomings, including a failure to adequately address the risks posed to peatlands, watercourses, and hydrogeological systems, as well as insufficient mitigation measures for potential impacts.

The Glenvernoch Wind Farm site is a hydrologically sensitive area, with multiple **Class 1 and Class 2 peatlands** identified as critical resources for carbon sequestration, water regulation, and biodiversity. Numerous burns and tributaries, including those feeding the **River Cree and Lower Cree SSSI**, traverse the site, increasing the risks of contamination, sedimentation, and hydrological disruption. Excavation for turbine foundations and access roads, as well as peat extraction, poses a high risk of destabilising these ecosystems, leading to irreversible damage.

1.2 Context and Importance

This section breaks down the site's hydrological and geological features, highlighting their ecological, regulatory, and Socioeconomic importance, as well as the potential consequences of the proposed development.

1.2.1 Peatlands and Their Sensitivity

1. **Extent and Depth of Peatlands**:
    - **Class 1 and Class 2 peatlands** are identified across 26% of the site, signifying their **national importance** for carbon storage, hydrological regulation, and biodiversity support .
    - Detailed surveys reveal significant peat depths across turbine locations:
        - **Turbine 5**: Recorded peat depths exceeding 3.5m, categorising it as a high-risk site for peat instability and carbon loss.
        - **Turbine 4**: Located in a zone of deep peat (>3m), making this site unsuitable for development under best practice guidelines.
        - **Turbine 10**: Positioned in an area with peat depths averaging 0.5m–1.0m, but near sensitive hydrological features.
2. **Ecological Importance**:
    - Peatlands at Glenvernoch support a diverse range of species, including mosses, lichens, and invertebrates, forming the foundation of a **delicate ecological network**.
    - These peatlands act as natural water regulators, mitigating flood risks downstream by slowing water flow and stabilising hydrological systems.
3. **Carbon Storage**:
    - Scottish peatlands store an estimated **3 billion tonnes of carbon**, and disturbance can release these stores, negating any proposed carbon reduction benefits of the wind farm .
    - Excavation for turbine bases and access roads directly threatens this critical climate mitigation function.

1.2.2 Hydrology and Watercourse Vulnerability

1. **Burns and Tributaries**:
    - The site contains numerous burns, including **Castle Stewart Burn** and others feeding the **River Cree and Lower Cree SSSI** and **River Bladnoch SAC**. These watercourses are ecologically significant, supporting:
        - **Atlantic salmon** (*Salmo salar*), a protected species under the EU Habitats Directive.
        - **Otters** (*Lutra lutra*), listed as a European Protected Species (EPS).
        - **Water voles (Arvicola amphibius)**, a protected species under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended in Scotland), with additional protection under the UK Biodiversity Framework.
    - Turbines, such as **Turbine 1** and **Turbine 8**, are sited within 100m of burns, heightening the risk of direct sedimentation and contamination.
2. **Hydrological Integrity**:
    - The construction of drainage ditches and access roads risks altering the natural flow of water through the site, increasing the likelihood of:
        - **Erosion**: Disturbed peat is prone to erosion, contributing to sedimentation of burns.
        - **Leachate**: Peat leachate can acidify watercourses, reducing habitat suitability for aquatic species.
3. **Flood Risk**:
    - The site acts as a natural flood regulator for downstream areas. Disturbing these peatlands and altering hydrological pathways could exacerbate flooding risks in nearby communities, particularly during extreme weather events.

1.2.3 Geological Instability

1. **Terrain Characteristics**:
    - The Glenvernoch site features hummocky terrain with a mix of shallow and deep peat, increasing the risks of:
        - **Peat Slides**: Turbine 5 and Turbine 4 are located in zones identified as susceptible to peat instability, which can cause landslides during heavy rainfall or construction activities.
        - **Subsurface Drainage Disruption**: Excavation and drainage alteration could destabilise underlying rock formations, leading to long-term subsidence risks.
2. **Potential Contamination**:
    - Peat slides and disturbed soil can introduce sediment and pollutants into nearby watercourses, with far-reaching impacts on aquatic ecosystems and water quality.

1.2.4 Cumulative Environmental Risks

1. **Nearby Wind Farms**:
    - The proposed Glenvernoch Wind Farm is situated within a region already impacted by existing and proposed developments, including **Kilgallioch Wind Farm** and **Blair Hill**.
    - The cumulative impact of multiple wind farms on peatland degradation, hydrological disruption, and watercourse contamination has not been assessed, contravening the **Environmental Impact Assessment (Scotland) Regulations 2017**.

2. **Regional Peatland Health**:
    - Scotland's peatlands are already under pressure, with **80% considered degraded**. Further damage to these ecosystems risks undermining national biodiversity and climate targets.

1.3 Structure of the Objection

This objection will critically examine Appendices 12.1–12.4 in detail, structured as follows:

1. **Policy and Legislative Context**:
    - Evaluation of compliance with relevant frameworks, including **SEPA guidance** and **NPF4**, with a focus on peatland and watercourse protection.
2. **Methodological Critiques**:
    - Assessment of the adequacy of peat depth surveys, hydrological modelling, and mitigation strategies.
3. **Identification of Flaws in Impact Assessment**:
    - Detailed critique of the proposed mitigation measures and evaluation of direct and cumulative impacts on peatlands, watercourses, and geological stability.
4. **Consequences for Local Ecosystems and Communities**:
    - Examination of risks to biodiversity, climate regulation, and public health resulting from hydrological disruption and peatland degradation.
5. **Conclusions and Recommendations**:
    - Grounds for rejecting the current findings and proposing necessary revisions.

SECTION 2: POLICY AND LEGISLATIVE CONTEXT

2.1 Overview

Appendices 12.1–12.4 must demonstrate compliance with Scotland's robust legal and policy frameworks designed to protect peatlands, hydrological systems, and ecological integrity. These frameworks establish strict guidelines for the development of infrastructure in sensitive environments, prioritising biodiversity conservation, climate resilience, and community welfare. However, the methodologies and conclusions presented in the appendices fail to align with these requirements, leaving critical gaps in compliance.

This section evaluates the relevant legal and policy frameworks and identifies specific areas of non-compliance within the Environmental Noise Assessment.

2.2 Relevant Legislative and Policy Frameworks

1. National Planning Framework 4 (NPF4)

- **Requirements**:
    - Policies **NPF4 Policy 5 (Soils)** and **Policy 33 (Peat and Carbon Rich Soils)** prioritise the protection of peatlands and require developers to demonstrate:
        - Avoidance of areas containing carbon-rich soils, peat, or priority habitats wherever possible.
        - Mitigation strategies to minimise impacts on peatlands and soils if disturbance is unavoidable.
- **Contravention**:

- The proposed placement of turbines in areas with peat depths exceeding **3m** (e.g., **Turbine 5** and **Turbine 4**) directly contradicts the directive to avoid deep peat zones.
- The appendices fail to provide robust mitigation strategies to prevent carbon release, hydrological disruption, or peat degradation.

2. SEPA Guidance on Peatland Protection

- **Requirements**:
  - SEPA guidance emphasises the importance of preserving peatlands as **natural flood regulators** and **carbon sinks**.
  - Requires detailed **peat management plans** and comprehensive assessments of the risks of peat slides and sedimentation.
- **Contravention**:
  - The appendices lack a comprehensive peat management plan and fail to adequately assess the risks of peat slides, particularly for turbines in high-risk zones.
  - Potential sedimentation of burns leading into the **River Cree and Lower Cree SSSI** is insufficiently addressed.

3. Environmental Impact Assessment (Scotland) Regulations 2017

- **Requirements**:
  - Mandates a thorough evaluation of:
    - **Cumulative impacts** of the development, including interactions with adjacent wind farms.
    - Effects on sensitive ecosystems, water resources, and downstream receptors.
- **Contravention**:
  - The cumulative impact of Glenvernoch with nearby wind farms, such as **Kilgallioch** and **Blair Hill**, is omitted.
  - Impacts on watercourses, including sedimentation risks and changes to natural flow patterns, remain inadequately assessed.

4. Peatland Code

- **Requirements**:
  - Encourages developments to avoid disturbing peatlands and to implement restoration projects where disturbance is unavoidable.
- **Contravention**:
  - No restoration plans are proposed for areas of disturbed peat, contravening best practices for mitigating carbon emissions and ecosystem damage.

5. EU Water Framework Directive

- **Requirements**:
  - Protects water quality and ecological integrity by requiring that developments prevent pollution, sedimentation, and disruption of watercourses.
- **Contravention**:

- The appendices fail to provide adequate safeguards against contamination of burns feeding the **River Cree and Lower Cree SSSI**, a watercourse protected under the directive.

2.3 Implications of Non-Compliance

1. **Ecological Risks**:
    - The failure to protect **Class 1 and Class 2 peatlands** jeopardises their critical role in supporting biodiversity, regulating water flow, and sequestering carbon.
    - Watercourse contamination risks significant harm to aquatic species, including **Atlantic salmon**, **Water Voles** and **otters**, both of which are protected under EU directives.
2. **Climate Consequences**:
    - Disturbance of deep peat zones releases substantial carbon stores, undermining Scotland's net-zero targets and commitments under international climate agreements.
3. **Legal and Planning Risks**:
    - Non-compliance with the **EIA Regulations 2017**, **NPF4** exposes the project to potential legal challenges and enforcement actions.
4. **Community and Regional Impacts**:
    - Changes to hydrological systems and flood risks could negatively affect downstream communities reliant on the **River Cree** and surrounding watercourses.

2.4 Recommendations for Compliance

1. **Revised Site Design**:
    - Relocate turbines, such as **Turbine 5** and **Turbine 4**, away from areas with peat depths exceeding 3m and proximity to burns.
2. **Comprehensive Peat Management Plan**:
    - Develop a detailed plan addressing peat excavation, storage, and restoration, aligning with **SEPA guidance** and the **Peatland Code**.
3. **Cumulative Impact Assessment**:
    - Evaluate cumulative impacts on peatlands, watercourses, and hydrological systems from Glenvernoch and adjacent wind farms.
4. **Enhanced Hydrological Safeguards**:
    - Implement buffer zones around burns and develop sediment control measures to protect the **River Cree and Lower Cree SSSI**.
5. **Ecological Offsetting**:
    - Propose restoration or enhancement of degraded peatlands to offset any unavoidable impacts, ensuring alignment with **NPF4 Policy 5**.

SECTION 3: METHODOLOGICAL CRITIQUES

3.1 Overview

The methodologies employed in Appendices 12.1–12.4 to evaluate hydrology, hydrogeology, and geology at the Glenvernoch site are inadequate to fully assess the potential impacts of the proposed wind farm. These flaws include an over-reliance on desktop studies, insufficient field data collection, and a lack of robust modelling for critical risks such as peat instability and watercourse contamination. These deficiencies undermine the reliability of the findings and fail to align with established best practices.

This section evaluates the survey methodologies, baseline data collection, and risk assessment techniques used in the appendices.

3.2 Peat Depth and Stability Surveys

1. Incomplete Peat Depth Mapping

- **Findings**:
    - Peat depth surveys relied on a limited number of sampling points, leaving significant gaps in the spatial understanding of peat distribution across the site.
    - Areas with recorded peat depths exceeding **3m** (e.g., **Turbine 5**, **Turbine 4**) were inadequately investigated for horizontal extent.
- **Critique**:
    - Best practice guidelines from **SEPA** and **NatureScot** recommend more extensive sampling grids to identify variations in peat depth and risks of instability.
    - The limited dataset increases the likelihood of underestimating risks such as peat slides, which could have catastrophic consequences for downstream ecosystems and infrastructure.

2. Lack of Peat Stability Modelling

- **Findings**:
    - The appendices do not include peat slide risk assessments, despite turbines being located in areas prone to instability.
- **Critique**:
    - Turbine 5 and Turbine 4 are located on hummocky terrain with deep peat, conditions that increase the likelihood of slope failure.
    - A **Peat Stability Risk Assessment (PSRA)** is required under **SEPA guidance**, but this is absent from the appendices.

3.3 Hydrological Baseline and Modelling

1. Insufficient Hydrological Surveys

- **Findings**:
    - The appendices rely heavily on desktop studies and historical hydrological data, with limited field verification of watercourse flow patterns, seasonal variability, and sediment transport.
- **Critique**:
    - Local burns feeding the **River Cree and Lower Cree SSSI** and **River Bladnoch SAC** were not adequately monitored for baseline flow rates, water quality, or sediment load.
    - Seasonal variations in hydrological dynamics, particularly during periods of high rainfall, remain unassessed.

2. Omission of Cumulative Hydrological Impacts

- **Findings**:
    - The report does not account for hydrological impacts from nearby developments, including **Kilgallioch Wind Farm** and **Blair Hill**.
- **Critique**:
    - Overlapping catchment areas and shared watercourses amplify the risk of cumulative sedimentation, contamination, and flow disruption, but these interactions are ignored.

3.4 Risk Assessment Methodologies

1. Over-Simplified Watercourse Contamination Risks

- **Findings**:
    - The appendices present generic mitigation measures, such as silt traps and drainage channels, without site-specific modelling of sediment transport or pollutant pathways.
- **Critique**:
    - Sediment plumes originating from construction areas, particularly near turbines close to burns, are likely to affect downstream water quality in the **River Cree and Lower Cree SSSI**.
    - Peat leachate, a known contaminant from disturbed peatlands, is not modelled despite its potential to acidify watercourses.

2. Absence of Hydrogeological Connectivity Analysis

- **Findings**:
    - The appendices do not investigate how the site's hydrology interacts with underlying aquifers and subsurface water flows.
- **Critique**:
    - The River Cree catchment relies on groundwater inputs, but no hydrogeological modelling has been conducted to evaluate potential impacts from turbine foundations or road construction.

3.5 Inadequate Consideration of Climate Change

Findings:

- The appendices fail to evaluate how climate change may exacerbate risks of peat instability, sedimentation, and hydrological disruption.

Critique:

- Increased rainfall intensity and frequency, predicted under Scotland's climate change scenarios, are likely to amplify the risks of peat slides, erosion, and flooding. These factors are critical for risk modelling but remain unaddressed.

3.6 Non-Compliance with Best Practices

1. **SEPA and NatureScot Guidance**:
    - Requires robust peat stability modelling and hydrological connectivity analysis to evaluate risks comprehensively.

2. **Environmental Impact Assessment (Scotland) Regulations 2017**:
    - Mandates a thorough cumulative impact assessment, which is missing from the appendices.
3. **Peatland Code**:
    - Emphasises avoidance of deep peat areas and restoration where disturbance is unavoidable, neither of which is adequately addressed.

3.7 Recommendations for Methodological Improvements

1. **Comprehensive Peat Stability Modelling**:
    - Conduct **Peat Stability Risk Assessments (PSRA)** for all turbines, focusing on high-risk sites such as Turbine 5 and Turbine 4.
    - Use LiDAR or other advanced surveying tools to map peat depth and variability more accurately.
2. **Enhanced Hydrological Baseline Surveys**:
    - Monitor seasonal flow patterns, water quality, and sediment transport in burns feeding the **River Cree** and **River Bladnoch**.
    - Expand field verification to validate desktop studies.
3. **Cumulative Impact Modelling**:
    - Evaluate the combined hydrological effects of Glenvernoch, Kilgallioch, and Blair Hill wind farms on shared catchments and watercourses.
4. **Climate-Responsive Risk Assessments**:
    - Incorporate future climate scenarios into peat stability, sedimentation, and flood risk modelling.
5. **Hydrogeological Analysis**:
    - Investigate groundwater connectivity and evaluate potential impacts on aquifers supporting the **River Cree catchment**.

SECTION 4: IDENTIFICATION OF FLAWS IN IMPACT ASSESSMENT

4.1 Overview

The impact assessments presented in Appendices 12.1–12.4 fail to adequately evaluate the risks posed by the Glenvernoch Wind Farm on peatlands, hydrological systems, and geological stability. These flaws include oversimplified impact predictions, inadequate modelling of direct and cumulative effects, and insufficient mitigation strategies. This section identifies key shortcomings in the assessment, focusing on the risks to peatlands, watercourses, and hydrogeology, as well as the inadequacies of proposed mitigation measures.

4.2 Peatland Impacts

1. Carbon Release from Peat Disturbance

- **Findings**:
    - The appendices acknowledge the presence of **Class 1 and Class 2 peatlands** but fail to quantify the carbon release associated with peat disturbance during construction.
- **Critique**:

- Peatlands store significant carbon reserves, and excavation for turbines and access roads will release stored carbon, contributing to Scotland's greenhouse gas emissions.
- Turbines such as **Turbine 5** and **Turbine 4**, located in areas with peat depths exceeding 3m, pose particularly high risks of carbon release.

2. Peat Instability and Slides

- **Findings**:
  - The assessment does not include a **Peat Stability Risk Assessment (PSRA)**, despite several turbines being located in areas prone to instability.
- **Critique**:
  - Peat slides caused by excavation or heavy machinery can result in sedimentation of nearby watercourses, threatening downstream ecosystems and infrastructure.
  - The risks are heightened in areas of deep peat and sloping terrain, particularly near **Turbine 4** and **Turbine 5**.

3. Lack of Restoration Planning

- **Findings**:
  - No restoration or compensation plans are provided for areas where peat disturbance is unavoidable.
- **Critique**:
  - Restoration of disturbed peatlands is a requirement under **SEPA guidance** and the **Peatland Code** but is entirely omitted from the appendices.

4.3 Watercourse Impacts

1. Sedimentation and Pollution Risks

- **Findings**:
  - The appendices propose generic mitigation measures, such as silt traps, but do not model the risks of sediment plumes entering burns that feed the **River Cree and Lower Cree SSSI**.
- **Critique**:
  - Sedimentation during construction could degrade aquatic habitats, particularly for sensitive species such as **Atlantic salmon, Water Voles** and **otters**.
  - The risk of peat leachate entering watercourses, which can acidify and contaminate downstream waters, is not assessed.

2. Altered Hydrological Flows

- **Findings**:
  - The report fails to evaluate how the construction of drainage ditches and access roads will alter natural flow patterns within the site.
- **Critique**:
  - Changes in flow pathways could increase the frequency and severity of flooding downstream, particularly in areas reliant on the natural flood regulation functions of peatlands.

3. Impacts on the River Cree and Lower Cree SSSI

- **Findings**:
    - No detailed evaluation is provided for potential impacts on the **River Cree and Lower Cree SSSI**, a protected watercourse of national importance.
- **Critique**:
    - The omission of specific impact modelling for this watercourse contravenes the **EU Water Framework Directive** and NatureScot guidance.

4.4 Hydrogeological and Geological Risks

1. Groundwater Contamination

- **Findings**:
    - The appendices do not investigate the potential for contamination of groundwater systems during turbine construction or operation.
- **Critique**:
    - Groundwater contamination from fuels, lubricants, and disturbed sediments could affect aquifers feeding local water supplies and the **River Cree catchment**.

2. Slope Stability

- **Findings**:
    - Geological risks, including slope instability near turbines located on hummocky terrain, are not addressed.
- **Critique**:
    - Instability risks are particularly high near **Turbine 4**, where deep peat and uneven terrain increase the likelihood of subsidence or landslides.

4.5 Cumulative Impacts

1. Overlapping Developments

- **Findings**:
    - The assessment does not evaluate cumulative hydrological impacts from Glenvernoch, **Kilgallioch**, and **Blair Hill** wind farms, despite overlapping water catchments.
- **Critique**:
    - The cumulative effects of multiple developments on water quality, sedimentation, and flow dynamics remain unassessed, contravening the requirements of the **EIA Regulations 2017**.

2. Regional Peatland Health

- **Findings**:
    - The appendices ignore the broader implications of peatland degradation across the region.
- **Critique**:

- Dumfries and Galloway already face significant peatland pressures, with **80% of Scotland's peatlands considered degraded**. Additional disturbances exacerbate these pressures, undermining national biodiversity and climate goals.

4.6 Inadequacies in Mitigation Measures

1. Generic Mitigation Proposals

- **Findings**:
  - The appendices propose generic mitigation strategies, such as drainage ditches and buffer zones, without site-specific adaptations.
- **Critique**:
  - These measures are insufficient to address the unique risks posed by deep peat and sensitive watercourses at Glenvernoch.

2. Lack of Monitoring and Adaptive Management

- **Findings**:
  - No post-construction monitoring or adaptive management strategies are proposed for hydrological or geological impacts.
- **Critique**:
  - Continuous monitoring is essential to identify and address unforeseen impacts, particularly in a hydrologically sensitive area like Glenvernoch.

4.7 Recommendations for Impact Assessment

1. **Comprehensive Peatland Risk Modelling**:
   - Conduct **Peat Stability Risk Assessments (PSRA)** for all turbines, with a focus on high-risk sites such as **Turbine 4** and **Turbine 5**.
   - Quantify carbon release from peat disturbance and propose compensatory restoration measures.
2. **Hydrological Flow Modelling**:
   - Develop site-specific models to evaluate changes in flow pathways, sediment transport, and contamination risks for burns feeding the **River Cree and Lower Cree SSSI**.
3. **Cumulative Impact Assessment**:
   - Include cumulative effects of Glenvernoch, Kilgallioch, and Blair Hill wind farms on shared hydrological systems and peatland ecosystems.
4. **Ecological Protection Plans**:
   - Propose detailed measures to safeguard aquatic habitats and species from sedimentation and pollution.
5. **Enhanced Mitigation Strategies**:
   - Implement robust, site-specific mitigation measures, including expanded buffer zones, peat restoration plans, and adaptive management strategies.

SECTION 5: CONSEQUENCES FOR LOCAL ECOSYSTEMS AND COMMUNITIES

5.1 Overview

The Glenvernoch Wind Farm proposal poses significant risks to local ecosystems and communities through hydrological disruption, peatland degradation, and contamination of water resources. These impacts extend beyond the immediate site, threatening biodiversity, climate regulation, and public health in Dumfries and Galloway. This section evaluates the potential consequences of the development, focusing on ecological integrity, carbon release, and Socioeconomic repercussions for local residents.

5.2 Impacts on Local Ecosystems

1. Biodiversity Loss

- **Key Risks**:
    - Disturbance of burns feeding into the **River Cree and Lower Cree SSSI** threatens aquatic habitats for:
        - **Atlantic salmon** (*Salmo salar*), which rely on clean, oxygenated water for spawning.
        - **Otters** (*Lutra lutra*), a European Protected Species (EPS) that depend on stable riparian habitats.
        - **Water voles (Arvicola amphibius)**, a protected species under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended in Scotland), with additional protection under the UK Biodiversity Framework.
    - Degradation of peatland ecosystems risks the loss of mosses, lichens, and invertebrates that form the foundation of local biodiversity.
- **Implications**:
    - Loss of biodiversity not only diminishes the ecological value of the region but also disrupts ecosystem services such as pollination and pest control.

2. Hydrological Disruption

- **Key Risks**:
    - Changes to natural flow patterns caused by drainage ditches and access roads may exacerbate:
        - Flood risks downstream, particularly during periods of heavy rainfall.
        - Erosion and sedimentation in burns and rivers, degrading water quality.
- **Implications**:
    - Hydrological disruption affects both local ecosystems and human infrastructure, increasing flood management costs and threatening water-dependent species.

3. Peatland Degradation

- **Key Risks**:
    - Excavation and drainage of peatlands lead to:
        - Reduced water retention capacity, increasing drought risks during dry periods.
        - Destabilisation of soils, increasing the likelihood of peat slides.
    - Loss of carbon sequestration capacity in peatlands undermines regional climate resilience.
- **Implications**:

- The degradation of peatlands accelerates climate change, undermining Scotland's carbon reduction targets.

5.3 Carbon Release and Climate Impacts

1. Carbon Release from Disturbed Peat

- **Key Risks**:
  - Disturbing deep peat (>3m), such as at **Turbine 5** and **Turbine 4**, releases vast quantities of stored carbon, contributing to greenhouse gas emissions.
  - Carbon release from disturbed peatlands outweighs the emissions savings from the proposed renewable energy generation.
- **Scientific Evidence**:
  - Peatland degradation accounts for **10% of Scotland's annual carbon emissions**; further disturbances exacerbate this issue.
- **Implications**:
  - The project contradicts Scotland's commitment to achieving net-zero emissions by 2045.

2. Loss of Long-Term Carbon Sequestration

- **Key Risks**:
  - Damaged peatlands lose their ability to sequester carbon over time, compounding their climate impact.
  - No compensatory restoration plans are proposed, leaving degraded peatlands unaddressed.
- **Implications**:
  - The failure to restore disturbed peatlands undermines national climate policies and international commitments, such as the **Paris Agreement**.

5.4 Socioeconomic Impacts on Communities

1. Water Supply and Quality

- **Key Risks**:
  - Sedimentation and contamination of burns feeding into the **River Cree** and local aquifers risk reducing water quality for:
    - Domestic water supplies.
    - Agricultural irrigation systems.
- **Implications**:
  - Reduced water quality increases treatment costs for local authorities and residents, placing an undue financial burden on communities.

2. Increased Flood Risks

- **Key Risks**:
  - Altered hydrological pathways and reduced peatland water retention capacity increase flood risks downstream.

- Communities reliant on natural flood regulation face heightened vulnerability during extreme weather events.

- **Implications**:
  - Increased flood risks affect property values, insurance costs, and public safety, particularly during severe weather exacerbated by climate change.

3. Damage to Tourism

- **Key Risks**:
  - The degradation of iconic landscapes and waterways diminishes the region's appeal as a destination for eco-tourism and outdoor recreation.

- **Implications**:
  - Loss of tourism revenue negatively affects local businesses and employment, reducing the Socioeconomic resilience of the region.

5.5 Cumulative Impacts

1. Regional Peatland Degradation

- **Key Risks**:
  - The cumulative disturbance of peatlands from Glenvernoch and adjacent developments, such as **Kilgallioch** and **Blair Hill**, exacerbates regional habitat loss and carbon emissions.

- **Implications**:
  - The combined effects undermine Scotland's national biodiversity and climate goals, reducing the region's ecological integrity.

2. Combined Hydrological Disruptions

- **Key Risks**:
  - Multiple wind farms affecting shared catchments increase sedimentation and contamination risks for the **River Cree and Lower Cree SSSI** and surrounding ecosystems.

- **Implications**:
  - The lack of a coordinated cumulative impact assessment leaves communities and ecosystems exposed to unmitigated risks.

5.6 Recommendations for Protecting Ecosystems and Communities

1. **Enhanced Ecosystem Safeguards**:
   - Expand buffer zones around burns and peatlands to protect sensitive habitats and species.
   - Implement compensatory restoration plans for degraded peatlands.

2. **Improved Water Resource Management**:
   - Develop hydrological models to predict and mitigate changes in flow patterns, sedimentation, and water quality impacts.

3. **Climate-Responsive Peatland Restoration**:

- Restore degraded peatlands to offset carbon release and enhance water retention capacity, aligning with the **Peatland Code**.

4. **Cumulative Impact Mitigation**:
    - Conduct a regional assessment of cumulative impacts on peatlands, watercourses, and communities, ensuring coordinated mitigation strategies across developments.
5. **Community Support Programs**:
    - Establish financial support mechanisms for residents affected by flood risks, water contamination, or reduced property values.

SECTION 6: RECOMMENDATIONS FOR REVISED SCOPING METHODOLOGY

6.1 Overview

The Glenvernoch Wind Farm, as assessed in Appendices 12.1–12.4, presents unacceptable risks to peatlands, hydrological systems, and geological stability. These appendices fail to adequately address the ecological, climate, and Socioeconomic consequences of the proposed development. Key omissions include a lack of robust peat stability assessments, insufficient hydrological modelling, and the absence of cumulative impact evaluations with nearby wind farms. These deficiencies contravene key statutory and policy requirements, including the **Environmental Impact Assessment (Scotland) Regulations 2017**, **National Planning Framework 4 (NPF4)**, and **SEPA guidance**.

This section consolidates the findings of this objection and provides detailed recommendations for rejecting the proposal or requiring significant revisions to the assessment.

6.2 Key Findings

1. **Non-Compliance with Policy and Legislation**:
    - The development fails to adhere to NPF4 and SEPA guidance, which mandate the avoidance of deep peatlands and the protection of hydrological systems.
2. **Peatland Degradation**:
    - Excavation and drainage threaten the stability, carbon storage capacity, and ecological integrity of **Class 1 and Class 2 peatlands**.
    - No restoration or compensation plans are proposed for disturbed peatlands.
3. **Hydrological Disruption**:
    - The absence of robust hydrological modelling leaves critical watercourses, such as burns feeding the **River Cree and Lower Cree SSSI**, at risk of sedimentation, pollution, and altered flow patterns.
4. **Cumulative Impact Omissions**:
    - The appendices fail to evaluate cumulative effects with adjacent wind farms, such as **Kilgallioch** and **Blair Hill**, on shared catchments and peatland ecosystems.
5. **Insufficient Mitigation Measures**:
    - Proposed mitigation strategies are generic and fail to account for site-specific risks, including peat instability, sediment transport, and contamination.
6. **Climate and Biodiversity Risks**:
    - Carbon release from peat disturbance undermines Scotland's climate goals.

- Degradation of sensitive habitats threatens protected species, including **Atlantic salmon, Water Voles** and **otters**, as well as regional biodiversity.

6.3 Recommendations

1. Rejection of the Current Proposal

- The Glenvernoch Wind Farm must be rejected in its current form due to its failure to comply with statutory and policy requirements.
- The risks to peatlands, hydrological systems, and biodiversity are incompatible with Scotland's commitments to climate action and ecological preservation.

2. Comprehensive Reassessment

- A revised assessment must include:
  - **Peat Stability Risk Assessments (PSRA)** for all turbines, focusing on high-risk sites such as **Turbine 5** and **Turbine 4**.
  - Detailed hydrological modelling to evaluate changes in flow patterns, sediment transport, and water quality impacts on burns feeding the **River Cree and Lower Cree SSSI**.

3. Cumulative Impact Analysis

- Conduct a cumulative impact assessment of the Glenvernoch Wind Farm in conjunction with adjacent developments, addressing shared catchments, peatlands, and ecological systems.

4. Climate-Responsive Mitigation

- Develop and implement a **Peatland Restoration Plan** to offset carbon emissions and enhance water retention capacity.
- Avoid turbine placement in deep peat areas and restore degraded peatlands in line with the **Peatland Code**.

5. Ecological and Hydrological Safeguards

- Expand buffer zones around burns and peatlands to minimise disturbance to sensitive habitats.
- Strengthen mitigation measures to address sedimentation and contamination risks, particularly for the **River Cree and Lower Cree SSSI**.

6. Long-Term Monitoring and Adaptive Management

- Establish a monitoring framework to assess the actual impacts of the development on peatlands, hydrology, and biodiversity.
- Implement adaptive management strategies to refine mitigation measures based on monitoring outcomes.

7. Community Support Programs

- Develop financial compensation schemes for residents affected by increased flood risks, water contamination, or reduced property values.

6.4 Closing Statement

The Glenvernoch Wind Farm proposal presents severe and unmitigated risks to Scotland's natural resources, communities, and climate commitments. The inadequacies in the assessments provided in Appendices 12.1–12.4 highlight a fundamental failure to prioritise environmental protection and compliance with statutory obligations.

This objection demonstrates that the development, as currently proposed, is incompatible with the preservation of Dumfries and Galloway's peatlands, watercourses, and ecological integrity. It must be rejected outright. Future proposals must include a comprehensive reassessment, robust mitigation measures, and alignment with Scotland's legislative frameworks to ensure sustainable and responsible development.

APPENDIX 13.1 – OBJECTION CHAPTER 13: AVIATION LIGHTING DESIGN FOR GLENVERNOCH WIND FARM

SECTION 1: INTRODUCTION AND CONTEXT

Overview of the Proposal

The Glenvernoch Wind Farm proposal by EnergieKontor involves the construction of 13 turbines, each with a tip height of 200 metres. To satisfy aviation safety requirements, the proposal mandates the installation of **2000 candela (cd) red obstruction lights** on six turbines and **infrared (IR) lights** on all turbines. This lighting scheme, detailed in Appendix 13.1 of the Environmental Impact Assessment (EIA), is claimed to meet the guidelines of the **Civil Aviation Authority (CAA)** and **Ministry of Defence (MOD)** for air safety in areas such as **Tactical Training Area 20 (T20)**.

Key Contextual Factors

1. **Geographical and Environmental Significance**:
    - The proposed site lies near the **Cree Valley** and the **Galloway Forest Park**, designated as an **International Dark Sky Park**. This unique designation underscores the region's pristine night skies and makes it a critical area for environmental and tourism interests.
2. **Aviation Operations**:
    - The Glenvernoch area is within **Class G airspace**, which is open and unrestricted but includes **MOD Tactical Training Area 20 (T20)**. This airspace facilitates low-level, night-time military training exercises requiring minimal light pollution to ensure operational realism and safety.
3. **Adjacent Developments**:
    - Nearby wind farms currently being scoped, such as **Blair Hill**, **Shennanton**, and potentially **Balunton**, also propose turbines exceeding 200 metres in height. If approved, these developments would require similar aviation lighting, amplifying cumulative impacts across the region.

Purpose of This Objection

This objection focuses on three primary areas:

1. **Non-compliance with Aviation Safety Guidelines**:
    - The lighting design misrepresents or overstates requirements under **CAA CAP 764** and **MOD Tactical Training Area (T20)** guidelines, introducing unnecessary lighting and failing to consider modern aviation practices.
2. **Environmental and Ecological Impacts**:
    - The proposed lighting threatens the **Dark Sky status** of Galloway Forest Park, harms nocturnal wildlife, and disrupts the region's ecological balance.
3. **Cumulative Impacts**:
    - The lighting plan, when combined with adjacent developments, will exacerbate light pollution, skyglow, and breaches of legislative and policy frameworks, resulting in regional-scale environmental degradation.

Structure of This Objection

The following sections will address the issues in detail:

- **Section 2: Aviation Safety and Compliance**: Analysis of the proposal's misalignment with **CAA CAP 764**, MOD guidelines, and other aviation standards.

- **Section 3: Environmental and Ecological Impacts**: Detailed assessment of the lighting's effect on **Dark Sky status**, wildlife, and ecological systems.
- **Section 4: Cumulative Impacts**: Examination of the combined effects of Glenvernoch and adjacent developments on light pollution, tourism, and regional ecosystems.
- **Section 5: Legislative and Policy Contravention**: Comprehensive breakdown of breaches against **NPF4** and **EIA Regulations**.
- **Section 6: Recommendations**: Proposed measures for mitigation, compliance, and protecting the region's integrity.

SECTION 2: AVIATION SAFETY AND COMPLIANCE

Overview of Aviation Safety Requirements

The aviation lighting design for Glenvernoch Wind Farm is purported to align with the safety requirements of:

1. **Civil Aviation Authority (CAA) CAP 764**:
    - Provides guidance for wind turbine lighting in the context of aviation safety and environmental impact.
    - Recommends reducing light pollution while ensuring sufficient visibility for aircraft in **Class G airspace**.
2. **Ministry of Defence (MOD) Tactical Training Area 20 (T20)**:
    - T20 is designated for low-level military flight training, prioritising low-light environments to preserve operational realism and safety.

The Glenvernoch proposal mandates **2000 candela (cd) red obstruction lights** on six turbines and **infrared (IR) lights** on all 13 turbines to meet these requirements. However, this lighting design **exceeds safety needs**, misaligns with regulatory guidelines, and neglects opportunities to mitigate environmental impacts.

Non-Compliance with CAA CAP 764

1. **Excessive Visible Lighting**
    - CAP 764 emphasises minimising light pollution through adaptive lighting configurations. Specifically:
        - Red lighting intensity should reduce to **200 candela (10%)** when meteorological visibility exceeds **5km**.
        - The Glenvernoch proposal partially incorporates this reduction but excludes certain turbines and does not address unnecessary IR lighting.
    - CAA guidance allows for fewer lit turbines if the **outline of the site** remains visible. The Glenvernoch plan lights six turbines unnecessarily, exceeding the basic safety outline requirements.
2. **Misrepresentation of Class G Airspace Requirements**
    - **Class G airspace** is open and unrestricted, with minimal civilian aviation activity at turbine heights (200m). Most civilian flights operate above **300m (1000 feet)**, where turbines do not pose significant risks.
    - The proposed lighting goes beyond what is needed for Class G airspace safety, prioritising unnecessary visibility over actual operational requirements.
3. **Failure to Reduce Visual Impact**
    - CAP 764 allows flexibility in lighting configurations to reduce visual clutter and environmental harm. The lighting plan fails to explore or implement:

- **Directional shielding** to limit skyglow.
- **Adaptive lighting systems** that adjust intensity based on aircraft proximity.

Non-Compliance with MOD T20 Requirements

1. **Low-Light Environment Preservation**
    - T20 is critical for military low-level flight training, which depends on **low-light conditions** to simulate operational environments. The proposed **2000 cd red lights** will disrupt these conditions, undermining training effectiveness.
    - MOD guidelines encourage **minimal lighting configurations** compatible with Night Vision Equipment (NVE), yet Glenvernoch's plan mandates excessive lighting.
2. **Unnecessary Infrared Lighting**
    - The MOD permits reduced IR lighting for smaller turbine sites. Despite this, the proposal mandates IR lights on **all 13 turbines**, exceeding MOD requirements and introducing redundant light sources into the night sky.
3. **Contradictions with MOD Operational Guidelines**
    - Night Vision Equipment (NVE) is standard for military and civilian operators in T20. The widespread use of NVE reduces the need for visible lighting, which the proposal fails to account for.
    - The lighting design conflicts with MOD safeguarding principles, which prioritise **environmentally sensitive solutions** for aviation safety.

Impact on Civilian and Military Aircraft Operations

1. **Civilian Aircraft**
    - Civilian operators in Class G airspace generally fly at altitudes above turbine tip height. The lighting design fails to justify its necessity for **civilian aviation safety** in this context.
    - The visibility footprint of 2000 cd lights exceeds operational needs, creating unnecessary visual clutter for civilian pilots.
2. **Military Aircraft**
    - The lighting undermines the **realism of low-light training exercises**, crucial for fast jets, tactical transport, and search-and-rescue operations.
    - Infrared lighting, while compatible with NVE, is redundant for night training conducted above **100 feet**.

Cumulative Safety Concerns

When considering nearby developments such as Blair Hill, Shennanton, and Balunton:

1. **Overlapping Visibility Footprints**:
    - CAA guidelines stress the importance of maintaining a clear, navigable airspace. The combined lighting from multiple wind farms will create **visual clutter** and complicate navigation, particularly for low-flying operations.
2. **Redundant Safety Measures**:
    - The lighting requirements for each site are considered in isolation, ignoring the **cumulative safety impact** of excessive lighting in overlapping airspaces.

Conclusions on Aviation Safety and Compliance

The Glenvernoch lighting proposal fails to comply with **CAA CAP 764** and **MOD T20 guidelines** in several key areas. It introduces unnecessary lighting that:

1. Exceeds aviation safety requirements for **Class G airspace**.
2. Contradicts MOD guidelines for preserving low-light environments.
3. Neglects opportunities to reduce light pollution and environmental impacts.

These deficiencies compromise both aviation safety and environmental integrity, making the proposal unsuitable for approval in its current form.

SECTION 3: ENVIRONMENTAL AND ECOLOGICAL IMPACTS

Introduction

The proposed aviation lighting plan for Glenvernoch Wind Farm will cause significant environmental and ecological harm, primarily through **light pollution**, **disruption of nocturnal ecosystems**, and **degradation of the region's Dark Sky status**. These impacts contravene **environmental legislation**, breach commitments outlined in the Environmental Impact Assessment (EIA), and neglect appropriate mitigation measures.

Impact on Dark Sky Status

The **Galloway Forest Park** holds the prestigious designation of an **International Dark Sky Park**—one of only four in the UK. This status requires the preservation of pristine night skies, free from artificial light pollution. The proposed lighting design poses a direct threat to this status.

1. **Skyglow and Night Pollution**:
    - The proposed **2000 candela red lights** will generate substantial **skyglow**, visible for miles beyond the turbine site. The cumulative visibility footprint, extending across the Cree Valley and into the Galloway Forest Park, will degrade the **natural darkness** required for the park's designation.
    - Skyglow from Glenvernoch, combined with lighting from nearby developments (e.g., Blair Hill, Shennanton, and Balunton), will create a regional lighting network, effectively eliminating the **Dark Sky status**.
2. **Tourism and Community Wellbeing**:
    - Stargazing tourism is a cornerstone of the local economy, generating substantial revenue from visitors seeking unpolluted night skies.
    - The loss of Dark Sky status will result in significant **economic decline**, with reduced visitor numbers, fewer associated businesses, and diminished community pride.
3. **Failure of Mitigation Measures**:
    - The lighting proposal incorporates **partial reductions in intensity** during favourable weather conditions, but this mitigation is insufficient. No measures are proposed to address **skyglow**, visibility from distant locations, or the cumulative impacts of multiple developments.

Disruption to Nocturnal Wildlife

Artificial lighting disrupts the behaviour, reproduction, and survival of nocturnal species. The Cree Valley, Galloway Hills, and River Cree host ecologically sensitive habitats that will be severely affected by light pollution.

1. **Impact on Bats**:
    - Multiple bat species, including **protected and rare species**, rely on darkness to forage and navigate. Artificial lighting alters their behaviour by:
        - Reducing the availability of prey (insects).
        - Increasing predation risk.
        - Disrupting migration patterns.
2. **Impact on Moths and Pollinators**:
    - Moths and other nocturnal pollinators are **drawn to artificial light**, disrupting their natural behaviour and reducing pollination rates. This has cascading effects on the entire ecosystem.
3. **Bird Species**:
    - Nocturnal birds and migratory species, such as **owls** and **geese**, are disoriented by artificial lighting, increasing their risk of collision with turbines and reducing their habitat quality.
4. **Cumulative Effects**:
    - The combined lighting from Glenvernoch and neighbouring developments will create a **regional zone of disruption**, affecting ecosystems across Dumfries and Galloway.

Hydrological and Ecological Balance

The lighting's impact on ecosystems extends to the sensitive hydrological and peatland systems in the area.

1. **Hydrological Disruption**:
    - Artificial lighting affects nocturnal activity around watercourses, including the **River Cree** and **River Bladnoch SAC**, critical habitats for aquatic species.
    - Light pollution alters water temperature and quality indirectly by disrupting nearby ecosystems.
2. **Peatland Conservation**:
    - The region's **Class 1 and Class 2 peatlands**, identified as critical carbon sinks, will be indirectly affected by the disruption of nocturnal fauna and flora. This undermines Scotland's commitments to **climate change mitigation**.

Cumulative Environmental Impacts

The EIA fails to adequately address the cumulative impacts of Glenvernoch and nearby developments on the region's environment:

1. **Combined Light Pollution**:
    - Blair Hill, Shennanton, and Balunton wind farms propose similar lighting configurations, amplifying light pollution across the region. The cumulative effects will lead to the **permanent degradation of natural nightscapes**.
2. **Threat to Regional Biodiversity**:
    - Overlapping lighting zones will displace nocturnal species across a broad area, reducing biodiversity and weakening ecological resilience.

3. **Irreversible Loss of Dark Sky Status**:
    - The cumulative lighting impacts are incompatible with the **International Dark Sky Association (IDA)** standards. If approved, these developments will result in the **declassification** of Galloway Forest Park as a Dark Sky Park.

Legislative and Policy Contravention

The environmental impacts of the Glenvernoch lighting proposal breach multiple legislative frameworks and policy commitments:

1. **National Planning Framework 4 (NPF4)**:
    - **Policy 33 (Natural Places)**: The lighting design fails to safeguard the region's natural beauty and ecological integrity.
    - **Policy 5 (Soils and Peatlands)**: Disruption to peatlands indirectly caused by lighting contravenes Scotland's commitment to protecting these vital ecosystems.
2. **Environmental Impact Assessment (EIA) Regulations (2017)**:
    - Regulation 5(3) mandates the assessment of **cumulative impacts**, which is inadequately addressed in the EIA.

Conclusion

The aviation lighting design for Glenvernoch Wind Farm poses unacceptable risks to the environment, wildlife, and community wellbeing. These impacts are exacerbated by the cumulative effects of adjacent developments, leading to the **degradation of the region's ecological balance**, the **loss of Dark Sky status**, and significant **economic and cultural harm**.

Key Findings:

1. The proposal fails to protect the regions internationally recognised **Dark Sky Park**.
2. Artificial lighting disrupts nocturnal species, peatlands, and hydrological systems, with cascading ecological consequences.
3. The cumulative effects of Glenvernoch and neighbouring developments amplify light pollution and ecological harm, breaching multiple legislative frameworks.

SECTION 4: CUMULATIVE IMPACTS

Introduction

The cumulative impacts of aviation lighting from Glenvernoch Wind Farm, combined with nearby proposed developments such as **Blair Hill**, **Shennanton**, and **Balunton**, represent a significant and largely unaddressed threat. Each of these projects involves turbines exceeding 200 metres in height, requiring aviation lighting that will dramatically increase light pollution and exacerbate breaches of regulatory and environmental standards.

These cumulative effects must be comprehensively analysed to understand their collective harm to the region.

Cumulative Light Pollution

1. **Skyglow Across Dumfries and Galloway**:

- The combined lighting from Glenvernoch, Blair Hill, Shennanton, and Balunton will produce a **network of skyglow** that extends over vast areas of Dumfries and Galloway. This will permanently degrade the **natural nightscape**, eliminating the darkness that defines the Cree Valley and Galloway Forest Park.

2. **Loss of Dark Sky Status**:
    - Galloway Forest Park's **Dark Sky Park** designation requires the preservation of natural darkness. The overlapping visibility footprints of these developments will result in:
        - **Declassification** of the park by the International Dark Sky Association (IDA).
        - A significant loss of tourism revenue tied to stargazing and other nocturnal activities.
3. **Increased Visual Clutter**:
    - The 2000 candela red lights and infrared (IR) lights proposed for each development will create **intense visual clutter** in the night sky, disrupting the natural aesthetic of the region and reducing the appeal of the area for residents and visitors.

Cumulative Environmental and Ecological Disruption

1. **Nocturnal Wildlife Displacement**:
    - The combined effects of lighting across multiple sites will create a **regional disruption zone** for nocturnal species, including bats, moths, and migratory birds. Key impacts include:
        - Reduced foraging and migration success due to fragmented dark habitats.
        - Increased predation risks for species attracted to artificial light sources.
    - These cascading effects threaten the biodiversity and ecological balance of the Galloway Hills and Cree Valley.
2. **Hydrological and Peatland Degradation**:
    - Light pollution affects watercourses such as the **River Cree** and **River Bladnoch SAC**, disrupting nocturnal species' behaviours and impacting aquatic ecosystems.
    - The peatlands in these areas, critical for carbon sequestration, will suffer **indirect disruption** from changes in nocturnal fauna activity and habitat fragmentation.

Cumulative Impacts on Aviation Safety

1. **Overlapping Lighting Zones**:
    - The proximity of Glenvernoch to Blair Hill, Shennanton, and Balunton will create **overlapping aviation lighting footprints**, increasing confusion and visual clutter for pilots operating in the region.
    - This contravenes the **CAA CAP 764** principle of maintaining clear and navigable airspace.
2. **Redundancy of Safety Measures**:
    - Each site applies lighting standards independently, resulting in **redundant safety measures** that amplify light pollution without additional benefits for aviation safety.
    - The lack of a coordinated regional lighting strategy highlights the failure to account for cumulative safety impacts.

Legislative Breaches Related to Cumulative Impacts

1. **Environmental Impact Assessment (EIA) Regulations (2017)**:

- **Regulation 5(3)** requires developers to assess and mitigate cumulative impacts. The Glenvernoch EIA fails to address how its lighting plan interacts with adjacent wind farms, a clear breach of these regulations.

2. **National Planning Framework 4 (NPF4)**:
    - **Policy 33 (Natural Places)**: Fails to safeguard landscapes of national importance, including Galloway Forest Park, from cumulative light pollution.
    - **Policy 5 (Soils and Peatlands)**: Disruption to nocturnal species and hydrological systems indirectly harms peatlands, violating commitments to their conservation.

Case Study: International Dark Sky Association Standards

The **IDA** outlines strict requirements for maintaining Dark Sky Park designations, including the control of light pollution and protection of natural darkness. The cumulative lighting impacts from Glenvernoch, Blair Hill, Shennanton, and Balunton will:

1. **Exceed IDA Thresholds for Skyglow**:
    - The IDA's thresholds for skyglow will be breached across the Galloway Forest Park, leading to its inevitable **declassification**.
2. **Economic Consequences**:
    - Stargazing tourism is directly linked to the park's Dark Sky designation. Declassification will result in:
        - Loss of visitor numbers.
        - Significant economic decline for local businesses reliant on astronomy-related tourism.

Cumulative Impacts on Local Communities

1. **Loss of Identity**:
    - The Dark Sky designation is a source of pride for local communities. Its loss due to cumulative light pollution will diminish community morale and engagement in conservation efforts.
2. **Economic Decline**:
    - Tourism revenue from stargazing and nature-based activities will decline sharply, with ripple effects on local economies across Dumfries and Galloway.

Conclusion

The cumulative impacts of aviation lighting from Glenvernoch, Blair Hill, Shennanton, and Balunton create an unsustainable burden on the region's environment, aviation safety, and communities. The combined effects of light pollution, ecological disruption, and legislative breaches make it clear that these proposals, including Glenvernoch, must be rejected or significantly revised to mitigate these impacts.

Key Findings:

1. The combined lighting impacts will permanently degrade the night sky, resulting in the loss of Galloway Forest Park's Dark Sky status.
2. Cumulative effects on nocturnal wildlife, peatlands, and hydrological systems will amplify ecological harm across the region.
3. Overlapping lighting footprints will create visual clutter, breaching aviation safety guidelines and undermining MOD operations.

4. Legislative frameworks, including NPF4 and EIA Regulations, are systematically violated by the failure to address cumulative impacts.

SECTION 5: LEGISLATIVE AND POLICY CONTRAVENTION

Introduction

The proposed aviation lighting design for Glenvernoch Wind Farm, combined with cumulative impacts from other wind farms, contravenes multiple legislative frameworks and policies. This section identifies these contravention with direct references to relevant laws, regulations, and policies, ensuring a watertight argument for rejecting the proposal.

1. Environmental Impact Assessment (EIA) Regulations (2017)

The **Environmental Impact Assessment (Scotland) Regulations 2017**, specifically **Regulation 5(3)**, require a thorough assessment of cumulative environmental impacts. The EIA for Glenvernoch fails in several key respects:

1. **Inadequate Cumulative Impact Assessment**:
    - The EIA does not account for the combined light pollution from Glenvernoch, Blair Hill, Shennanton, and Balunton, which collectively degrade the night sky, disrupt ecosystems, and harm community wellbeing.
    - This omission contravenes the regulatory requirement to evaluate how Glenvernoch interacts with other proposed developments in the region.
2. **Failure to Identify Mitigation Measures**:
    - The EIA provides only partial solutions for light intensity reduction, neglecting to propose shielding, adaptive systems, or other technologies to limit light pollution.
3. **Non-compliance with Public Consultation Standards**:
    - Regulation 18 mandates robust consultation with affected communities. The EIA does not adequately reflect community concerns regarding the loss of Dark Sky status and its economic and cultural impacts.

2. National Planning Framework 4 (NPF4)

The **National Planning Framework 4 (NPF4)** sets out Scotland's policies for balancing renewable energy development with environmental, cultural, and social protections. The Glenvernoch proposal breaches several key policies:

1. **Policy 33: Natural Places**:
    - NPF4 requires the safeguarding of landscapes with national and international designations. The lighting design directly threatens the **Galloway Forest Park Dark Sky Park**, violating its unique natural and cultural significance.
    - The cumulative impacts exacerbate this harm, permanently altering the region's visual and ecological character.
2. **Policy 5: Soils and Peatlands**:
    - Artificial lighting disrupts the behaviour of nocturnal species that contribute to the ecological balance of peatlands. This indirect harm to Class 1 and 2 peatlands contravenes NPF4's commitment to peatland conservation and climate change mitigation.
3. **Policy 3: Biodiversity**:

- The lighting's disruption to nocturnal species, including **protected bats and migratory birds**, fails to align with NPF4's emphasis on preserving and enhancing biodiversity.

4. **Policy 11: Energy**:
    - NPF4 requires renewable energy projects to consider their cumulative impacts. The lack of coordination with Blair Hill, Shennanton, and Balunton breaches this requirement, undermining NPF4's commitment to responsible energy development.

3. National Planning Framework 4

The **NPF4** outlines key principles for sustainable development, including safeguarding cultural heritage, landscapes, and tourism. The Glenvernoch proposal contravenes these principles:

1. **Landscape Protection**:
    - NPF4 emphasises the need to protect landscapes with **national and international designations**. The lighting's impact on the **Dark Sky Park** and the Cree Valley contravenes this principle.
2. **Tourism and Economic Development**:
    - Stargazing tourism is a significant economic driver for Dumfries and Galloway. The loss of the Dark Sky designation due to light pollution contravenes the commitment to sustainable economic development.
3. **Community Wellbeing**:
    - The cumulative lighting impacts undermine the cultural identity and pride associated with the Dark Sky Park, failing to meet the aim to enhance community resilience and wellbeing.

4. Civil Aviation Authority (CAA) CAP 764

The lighting proposal does not comply with **CAA CAP 764: Policy and Guidelines on Wind Turbines**, which prioritises the reduction of light pollution and balanced aviation safety measures:

1. **Excessive Lighting Design**:
    - CAP 764 allows for the minimisation of visible lighting through shielding, adaptive systems, and reduced configurations. The Glenvernoch proposal fails to utilise these options adequately.
2. **Cumulative Safety Risks**:
    - CAP 764 stresses maintaining clear and navigable airspace. The combined lighting footprints of Glenvernoch, Blair Hill, Shennanton, and Balunton create **visual clutter**, compromising navigation and operational safety for both civilian and military aircraft.
3. **Disregard for Environmental Impact**:
    - CAP 764 explicitly encourages balancing aviation safety with environmental concerns. The lighting design prioritises visibility over minimising ecological and community harm, violating this guidance.

5. MOD Tactical Training Area 20 (T20) Guidelines

The Glenvernoch site lies within **Tactical Training Area (T20)**, where MOD guidelines prioritise low-light conditions to support night-time military operations. The proposal contradicts these guidelines:

1. **Low-Light Environment Disruption**:
    - The **2000 candela red lights** undermine the MOD's operational need for darkness in low-level training, reducing the effectiveness of night operations.

2. **Redundant Infrared Lighting**:

    - The MOD permits reduced IR lighting configurations for smaller turbine sites. By mandating IR lights on all turbines, the proposal disregards MOD's flexibility provisions, unnecessarily contributing to light pollution.

6. International Dark Sky Association (IDA) Standards

The **IDA** sets strict standards for maintaining Dark Sky designations, requiring minimal artificial lighting and controlled skyglow. Glenvernoch and nearby developments breach these standards:

1. **Exceedance of Skyglow Thresholds**:

    - The lighting intensity and cumulative impacts will surpass IDA thresholds for light pollution, triggering the **declassification** of Galloway Forest Park as a Dark Sky Park.

2. **Economic Consequences**:

    - The IDA designation supports a thriving stargazing tourism industry. Its loss will result in significant **economic harm** to local communities reliant on this unique attraction.

Conclusion

The Glenvernoch Wind Farm's aviation lighting proposal contravenes multiple legislative frameworks and policy commitments, including **NPF4**, **EIA Regulations**, **CAA CAP 764**, and **MOD T20 guidelines**. The cumulative impacts with adjacent developments exacerbate these breaches, resulting in widespread harm to the environment, aviation safety, and community wellbeing.

Key Findings:

1. The proposal systematically fails to comply with legal and policy standards for environmental protection, biodiversity conservation, and responsible renewable energy development.
2. The cumulative effects amplify these breaches, creating a regional-scale crisis for Dumfries and Galloway.
3. The lighting plan is unsuitable for approval without significant revision to address these contravention comprehensively.

SECTION 6: RECOMMENDATIONS

Introduction

Based on the extensive findings presented in this objection document, the Energy Consents Unit (ECU) is urged to reject the proposed Glenvernoch Wind Farm. This decision is essential to safeguard Dumfries and Galloway's unique environmental, ecological, and cultural heritage. The cumulative impacts of this and nearby developments, combined with glaring breaches of aviation, environmental, and planning standards, render the Glenvernoch Wind Farm wholly unsuitable for approval.

Key Grounds for Rejection

1. Non-Compliance with Legislative and Policy Frameworks

The Glenvernoch Wind Farm proposal contravenes key statutory obligations and planning policies, including:

1. **Environmental Impact Assessment (EIA) Regulations (2017)**:

    - The failure to adequately assess and mitigate **cumulative impacts** contravenes Regulation 5(3), which mandates a comprehensive evaluation of the environmental consequences of the proposal in relation to nearby developments.

2. **National Planning Framework 4 (NPF4)**:

- The proposal breaches **Policy 33: Natural Places**, which requires the protection of landscapes of national and international significance. The lighting design threatens the Galloway Forest Park Dark Sky Park and its ecological and cultural integrity.
- It undermines **Policy 5: Soils and Peatlands** by indirectly disrupting peatland ecosystems through light pollution impacts on nocturnal species.

3. **National Planning Framework 4**
   - The project contravenes the NPF4's principles of sustainable development by:
     - Failing to protect designated landscapes like the Dark Sky Park.
     - Jeopardising local tourism economies reliant on stargazing and nocturnal activities.

2. Adverse Cumulative Impacts

The Glenvernoch proposal, when combined with Blair Hill, Shennanton, and Balunton wind farms, amplifies environmental, ecological, and community harms. Specific issues include:

1. **Skyglow and Light Pollution**:
   - The cumulative effects of aviation lighting will degrade the night skies across Dumfries and Galloway, leading to the likely **declassification** of the Galloway Forest Park as a Dark Sky Park. This loss will irreparably damage the region's cultural identity and tourism economy.
2. **Ecological Disruption**:
   - The combined lighting zones will create a **regional disturbance area** for nocturnal species, exacerbating habitat fragmentation, migration challenges, and predation risks.
3. **Aviation Safety Risks**:
   - Overlapping lighting zones from multiple wind farms will create **visual clutter** in the night sky, increasing navigation risks for both civilian and military aircraft operating in Class G airspace and MOD Tactical Training Area 20.

3. Inadequate Mitigation Measures

The proposal fails to incorporate sufficient mitigation measures to address the identified harms:

1. **Lighting Reduction**:
   - The design does not adequately utilise adaptive lighting technologies or shielding to reduce light pollution.
2. **Cumulative Coordination**:
   - There is no evidence of collaboration with neighbouring wind farms to develop a coordinated lighting strategy that minimises regional impacts.
3. **Dark Sky Preservation**:
   - The mitigation measures do not address the specific requirements to protect the Galloway Forest Park's International Dark Sky Park designation, a critical regional asset.

4. Long-Term Economic and Social Harm

The Glenvernoch Wind Farm will impose significant economic and social costs on local communities:

1. **Tourism Decline**:

- Stargazing tourism is a key economic driver for Dumfries and Galloway. The lighting impacts will reduce visitor numbers, leading to losses in revenue and employment.

2. **Community Wellbeing**:
    - The degradation of the region's natural and cultural heritage, including the Dark Sky Park, will diminish community pride and cohesion.

Recommendation for the Energy Consents Unit

Based on the comprehensive analysis of legislative breaches, cumulative impacts, and insufficient mitigation measures, the Energy Consents Unit must reject the Glenvernoch Wind Farm proposal. This recommendation is grounded in the following critical findings:

1. **Irreparable Harm to the Dark Sky Park**:
    - The lighting design will result in the loss of the Galloway Forest Park's internationally recognised Dark Sky status, undermining its cultural, ecological, and economic value.
2. **Violation of National and Regional Policies**:
    - The proposal conflicts with **NPF4** and **EIA Regulations**, failing to balance renewable energy development with environmental and community protections.
3. **Cumulative Environmental Degradation**:
    - The combined impacts of Glenvernoch and nearby developments will lead to significant regional harm, including biodiversity loss, hydrological disruption, and increased carbon emissions from affected peatlands.
4. **Failure to Align with Aviation Standards**:
    - The lighting design exceeds the requirements of **CAA CAP 764** and MOD guidelines, introducing unnecessary safety risks and environmental impacts.
5. **Economic and Social Costs**:
    - The proposal threatens the local economy by jeopardising stargazing tourism and diminishing the region's appeal as a natural destination.

Conclusion

The Glenvernoch Wind Farm proposal, in its current form, is incompatible with the environmental, cultural, and social priorities of Dumfries and Galloway. The Energy Consents Unit has a duty to uphold legislative and policy standards by rejecting this application outright. The rejection will send a clear message that renewable energy development must balance sustainability, community interests, and environmental stewardship.

This decision is not only necessary but also aligned with Scotland's broader goals for sustainable development, biodiversity preservation, and climate change mitigation.

APPENDIX 14.1 – OBJECTION CHAPTER 14: TOURISM IMPACT ASSESSMENT

SECTION 1: METHODOLOGY AND SCOPE OF ASSESSMENT

1.1 Overview

Appendix 14.1 of the Environmental Impact Assessment (EIA) for the Glenvernoch Wind Farm presents a tourism impact assessment conducted by the developer, EnergieKontor. The report evaluates the potential effects of the proposed wind farm

on the local tourism economy, focusing primarily on Newton Stewart and the surrounding area. While it acknowledges the proximity of key tourism assets, such as the **Galloway Forest Park**, **Bruce's Stone**, and the **7Stanes mountain biking network**, the appendix concludes that the wind farm will have negligible impacts on visitor behaviour and the local tourism economy. However, this assessment is flawed in its methodology, overly dismissive of potential risks, and lacks a comprehensive understanding of the economic and cultural significance of tourism in the Cree Valley.

Tourism is a cornerstone of the local economy in Dumfries and Galloway, contributing significantly to employment, revenue, and community wellbeing. The area attracts over **3.1 million visitors annually**, generating an estimated **£234 million in spending** (2022). Iconic attractions such as the Galloway Forest Park, which hosts the UK's first **International Dark Sky Park**, and the Southern Upland Way, draw visitors seeking unspoiled natural landscapes and outdoor recreation. The wind farm's visual, ecological, and perceived impacts on these assets risk undermining the very attributes that attract visitors to the region.

1.2 Context and Importance

Tourism in Dumfries and Galloway is not only a vital economic driver but also a key element of the region's cultural identity and community resilience. The Cree Valley, in particular, is celebrated for its natural beauty, tranquillity, and recreational opportunities, making it a preferred destination for eco-tourists, outdoor enthusiasts, and families. The local tourism proposition is defined by several unique characteristics:

1.2.1 Economic Contribution of Tourism

- Tourism supports **10.1% of total employment** in Dumfries and Galloway, compared to 8.7% nationally.
- In Newton Stewart, tourism accounts for **10.2% of all employment**, with accommodation and food services as the leading sectors.

1.2.2 Iconic Attractions

- **Galloway Forest Park**: A major draw for visitors seeking walking, cycling, and stargazing experiences, the park receives hundreds of thousands of visitors annually.
- **Bruce's Stone**: A historic site commemorating Robert the Bruce's victory, attracting history enthusiasts and hikers.
- **7Stanes Mountain Biking Network**: Recognised internationally for its trails, the network spans the region and draws cyclists from across the UK and beyond.
- **Southern Upland Way**: Scotland's longest coast-to-coast walking route, with sections passing within 1.5 km of the proposed development.

1.2.3 Environmental Sensitivity

- The Galloway Forest Park's designation as a **Dark Sky Park** underscores its exceptional nightscapes, attracting stargazers and eco-tourists.
- The park's diverse ecosystems, including ancient woodlands and wildlife reserves, provide habitats for species like red deer, wild goats, and golden eagles.

1.2.4 Visitor Demographics

- The region attracts older independent travellers, families, and outdoor enthusiasts, many of whom are drawn by the area's natural and historical assets.
- Visitors typically stay for multiple nights, contributing to local economies through accommodation, dining, and recreational spending.

1.3 Structure of the Objection

This objection systematically critiques Appendix 14.1, focusing on its methodological shortcomings, underestimation of potential impacts, and failure to align with national and regional tourism strategies. The objection is structured as follows:

1. **Policy and Legislative Context**:
    - Analysis of compliance with Scotland's tourism and economic policies, including **Scotland Outlook 2030** and the **South of Scotland Responsible Tourism Strategy**.
2. **Methodological Critiques**:
    - Examination of flaws in the assessment's approach, data collection, and stakeholder engagement.
3. **Identification of Flaws in Impact Assessment**:
    - Detailed critique of the appendix's conclusions regarding visitor behaviour, economic impacts, and the perception of wind farms.
4. **Consequences for the Local Tourism Economy**:
    - Evaluation of potential risks to employment, visitor numbers, and the reputation of the Cree Valley as a tourism destination.
5. **Conclusions and Recommendations**:
    - Grounds for rejecting the appendix findings and proposing necessary revisions to the assessment.

SECTION 2: POLICY AND LEGISLATIVE CONTEXT

2.1 Overview

The tourism impact assessment presented in Appendix 14.1 must adhere to Scotland's strategic policies and frameworks for economic development, tourism growth, and environmental protection. These policies emphasise the importance of sustaining the country's unique natural and cultural assets, which are fundamental to its tourism economy. However, the appendix fails to align with these frameworks, particularly in its dismissal of the potential impacts of the Glenvernoch Wind Farm on iconic attractions, community resilience, and the region's reputation as a visitor destination.

This section evaluates the relevant legislative and policy frameworks, identifying areas where the tourism impact assessment falls short.

2.2 Relevant Legislative and Policy Frameworks

1. Scotland Outlook 2030: Responsible Tourism for a Sustainable Future

- **Requirements**:
    - Promote Scotland as a leading destination by protecting and enhancing its natural and cultural assets.
    - Ensure tourism developments contribute to local economies without compromising community wellbeing or environmental quality.
- **Contravention**:
    - The appendix underestimates the potential for adverse impacts on key assets, such as the **Galloway Forest Park** and **Southern Upland Way**, which are integral to Scotland's tourism brand.
    - The proposal's visual intrusion into sensitive landscapes undermines the region's appeal as a destination for eco-tourists and outdoor enthusiasts.

2. South of Scotland Responsible Tourism Strategy

- **Requirements**:
    - Foster sustainable tourism growth in Dumfries and Galloway, prioritising community benefits and environmental stewardship.
    - Avoid developments that negatively affect the region's natural landscapes, biodiversity, or cultural heritage.
- **Contravention**:
    - The proposed wind farm risks degrading the Cree Valley's natural landscapes, reducing its attractiveness to visitors and contravening the strategy's emphasis on preserving regional character.
    - The failure to conduct meaningful stakeholder engagement with local tourism businesses and community groups neglects the strategy's focus on inclusivity and local input.

3. National Planning Framework 4 (NPF4)

- **Requirements**:
    - Policies **6 (Tourism)** and **33 (Natural Heritage)** prioritise the protection of natural and cultural assets that contribute to Scotland's tourism economy.
    - Developments must avoid significant adverse effects on key tourism destinations and sensitive landscapes.
- **Contravention**:
    - The proposal's proximity to the **Southern Upland Way**, **Bruce's Stone**, and the **Dark Sky Park** risks diminishing their value to visitors, conflicting with NPF4's principles of sustainable development and tourism protection.

4. Dumfries and Galloway Local Development Plan 2 (LDP2)

- **Requirements**:
    - Encourage developments that support the tourism economy while safeguarding the region's landscapes and biodiversity.
    - Avoid large-scale developments that compromise the rural character and tranquillity valued by visitors.
- **Contravention**:
    - The assessment fails to consider the impact of turbine visibility on iconic landscapes within the **Galloway Forest Park** and surrounding areas, contravening LDP2's policies on tourism and landscape protection.

5. Environmental Impact Assessment (Scotland) Regulations 2017

- **Requirements**:
    - Mandate comprehensive evaluations of Socioeconomic impacts, including those on tourism and local economies.
- **Contravention**:
    - The appendix does not sufficiently assess the potential economic losses from reduced visitor numbers, nor does it evaluate cumulative effects on tourism from other wind farm developments in the region.

2.3 Implications of Non-Compliance

1. **Threat to Key Tourism Assets**:

- Visual and ecological impacts on the **Dark Sky Park**, **Southern Upland Way**, and **Bruce's Stone** risk reducing their appeal to visitors, undermining the Cree Valley's tourism economy.

2. **Economic Risks**:
    - Diminished visitor numbers and spending would have cascading effects on local businesses, employment, and community wellbeing.
3. **Reputational Damage**:
    - The Cree Valley's reputation as a tranquil and unspoiled destination could be permanently harmed, deterring future investment in tourism infrastructure.
4. **Failure to Align with Policy Objectives**:
    - The appendix disregards Scotland's strategic goals for sustainable tourism growth and environmental protection, jeopardising regional and national efforts to position Scotland as a leading destination.

2.4 Recommendations for Compliance

1. **Enhanced Tourism Impact Modelling**:
    - Conduct a comprehensive analysis of the wind farm's effects on visitor numbers, spending, and business operations, focusing on key attractions such as the **Galloway Forest Park** and **7Stanes network**.
2. **Cumulative Impact Assessment**:
    - Evaluate how the Glenvernoch Wind Farm, in combination with other developments such as **Kilgallioch** and **Blair Hill**, will affect the overall attractiveness of Dumfries and Galloway as a destination.
3. **Community and Stakeholder Engagement**:
    - Engage with local tourism businesses, community groups, and conservation organisations to identify concerns and incorporate feedback into mitigation strategies.
4. **Tourism-Friendly Mitigation Measures**:
    - Propose measures to minimise visual and ecological impacts, such as strategic turbine placement, landscape restoration, and visitor information initiatives.

SECTION 3: METHODOLOGICAL CRITIQUES

3.1 Overview

The methodology employed in Appendix 14.1 to assess the potential impacts of the Glenvernoch Wind Farm on tourism is fundamentally flawed. The assessment relies on generic assumptions, incomplete data, and a limited understanding of the Socioeconomic dynamics of tourism in Dumfries and Galloway. It fails to conduct comprehensive surveys of visitor behaviour, does not evaluate site-specific impacts on iconic attractions, and neglects cumulative effects from other wind farms in the region. These deficiencies undermine the credibility of the conclusions and the ability of decision-makers to assess the proposal's full implications.

This section evaluates the methodology, highlighting key shortcomings in data collection, stakeholder engagement, and impact modelling.

3.2 Data Collection Deficiencies

1. Lack of Visitor Surveys

- **Findings**:

- The appendix does not include primary data from visitor surveys to understand how the proposed development might influence visitor behaviour or perceptions of the area.

- **Critique**:
  - Visitor surveys are critical to gauging potential changes in tourism patterns, particularly given the proximity of turbines to high-value assets such as the **Dark Sky Park**, **Bruce's Stone**, and the **Southern Upland Way**.
  - Without direct feedback from visitors, the assessment relies on speculative assumptions that fail to account for varying visitor sensitivities to wind farm developments.

2. Incomplete Economic Data

- **Findings**:
  - The appendix provides limited data on the economic contribution of tourism in the Cree Valley and surrounding areas, omitting key metrics such as the proportion of local GDP attributed to tourism or the number of tourism-dependent businesses.
- **Critique**:
  - A comprehensive economic baseline is essential to accurately assess the potential financial risks posed by a decline in visitor numbers or reduced visitor spending.
  - The omission of localised economic data neglects the dependence of rural communities on tourism revenue, particularly in areas like Newton Stewart and Bargrennan.

3. Over-Reliance on Secondary Sources

- **Findings**:
  - The assessment relies heavily on secondary data, including national tourism trends, rather than site-specific analyses of Dumfries and Galloway.
- **Critique**:
  - National trends do not account for the unique characteristics of the Cree Valley, such as its reliance on eco-tourism and outdoor recreation.
  - The failure to contextualise the assessment with regional data results in a misleading and overly optimistic evaluation of potential impacts.

3.3 Flaws in Stakeholder Engagement

1. Lack of Local Input

- **Findings**:
  - The appendix does not document engagement with key stakeholders, such as local tourism businesses, community groups, or conservation organisations.
- **Critique**:
  - Local stakeholders provide valuable insights into visitor preferences, seasonal patterns, and the economic dependencies of the tourism sector.
  - The exclusion of these perspectives demonstrates a lack of due diligence and limits the assessment's relevance to the affected communities.

2. Absence of Visitor Feedback

- **Findings**:
    - The assessment does not incorporate feedback from visitors who frequent the region's iconic attractions.
- **Critique**:
    - Understanding visitor perceptions of wind farms is critical to evaluating the potential impact on destination appeal, particularly for eco-tourists and outdoor enthusiasts drawn to the **Dark Sky Park** and **Southern Upland Way**.

3.4 Impact Modelling Deficiencies

1. Neglect of Site-Specific Impacts

- **Findings**:
    - The assessment does not evaluate how specific attractions, such as the **Galloway Forest Park** and **7Stanes network**, will be affected by turbine visibility or ecological changes.
- **Critique**:
    - These sites are central to the region's tourism economy and cannot be dismissed without detailed analysis of visitor behaviour, spending patterns, and reputational risks.

2. Failure to Address Perception-Based Impacts

- **Findings**:
    - The appendix assumes that wind farms have a negligible impact on tourism but does not account for perception-based effects, such as reduced landscape appeal or negative media coverage.
- **Critique**:
    - Perception-based impacts are particularly relevant for eco-tourism destinations, where visitors value unspoiled natural landscapes and tranquillity.

3. Lack of Cumulative Impact Analysis

- **Findings**:
    - The appendix does not evaluate how Glenvernoch, in combination with **Kilgallioch**, **Blair Hill**, and other wind farms, will affect regional tourism.
- **Critique**:
    - Cumulative impacts on landscape aesthetics, visitor experiences, and tourism-related infrastructure must be assessed to understand the broader implications for Dumfries and Galloway as a destination.

3.5 Non-Compliance with Best Practices

1. **VisitScotland Guidelines**:
    - Emphasise the need for robust, evidence-based assessments of tourism impacts, including stakeholder consultations and visitor surveys.
    - The appendix fails to meet these guidelines, limiting its credibility.

2. **Environmental Impact Assessment (Scotland) Regulations 2017**:
    - Require comprehensive Socioeconomic assessments, including cumulative effects, which are notably absent from the appendix.

3.6 Recommendations for Methodological Improvements

1. **Conduct Visitor Surveys**:
    - Gather primary data on visitor preferences, sensitivities to wind farm developments, and anticipated changes in behaviour.
2. **Expand Economic Baseline Analysis**:
    - Provide detailed localised data on tourism's contribution to the Cree Valley economy, including employment, business dependencies, and visitor spending patterns.
3. **Engage Local Stakeholders**:
    - Include input from tourism operators, community groups, and conservation organisations to ensure the assessment reflects local realities.
4. **Evaluate Site-Specific Impacts**:
    - Conduct detailed analyses of how turbines will affect the appeal of key attractions, such as the **Galloway Forest Park**, **Dark Sky Park**, and **Southern Upland Way**.
5. **Incorporate Perception-Based Impacts**:
    - Assess how changes to landscape aesthetics and destination reputation may influence visitor decisions.
6. **Include Cumulative Impact Modelling**:
    - Evaluate the combined effects of Glenvernoch and adjacent wind farms on the region's tourism economy, visitor experiences, and infrastructure.

SECTION 4: IDENTIFICATION OF FLAWS IN IMPACT ASSESSMENT

4.1 Overview

Appendix 14.1 underestimates the potential impacts of the Glenvernoch Wind Farm on tourism in the Cree Valley and surrounding areas. The assessment dismisses significant risks to visitor behaviour, local economies, and the reputation of iconic attractions. This section identifies critical flaws in the impact assessment, focusing on economic, perceptual, and cumulative risks that were inadequately addressed or entirely omitted.

4.2 Economic Risks

1. Underestimation of Tourism's Economic Importance

- **Findings**:
    - The appendix provides limited analysis of tourism's economic contributions to Dumfries and Galloway, focusing on high-level statistics rather than localised data.
- **Critique**:
    - Tourism accounts for over **10% of local employment** in Newton Stewart and surrounding areas, making it a critical economic driver.

- A decline in visitor numbers, even by a modest percentage, could result in significant economic losses for accommodation providers, restaurants, and activity operators.

2. Neglect of Indirect Economic Impacts

- **Findings**:
  - The assessment focuses on direct impacts, such as visitor spending, but does not evaluate indirect effects on supply chains and ancillary businesses.
- **Critique**:
  - Tourism sustains a wide range of local enterprises, including retail shops, outdoor equipment suppliers, and transportation providers. A decline in tourism revenue would have cascading effects on these sectors.

4.3 Perceptual Risks

1. Visual Intrusion on Key Attractions

- **Findings**:
  - The appendix dismisses the visual impact of turbines on attractions such as the **Galloway Forest Park** and **Dark Sky Park**, arguing that visitors are unlikely to alter their plans due to wind farms.
- **Critique**:
  - Iconic attractions like **Bruce's Stone** and the **Southern Upland Way** rely heavily on their natural and historical appeal. Turbine visibility risks diminishing the visitor experience, particularly for eco-tourists and outdoor enthusiasts who seek unspoiled landscapes.

2. Failure to Address Destination Reputation

- **Findings**:
  - The assessment does not evaluate how perceptions of industrialisation could harm the Cree Valley's reputation as a tranquil and natural destination.
- **Critique**:
  - Negative media coverage and word-of-mouth about wind farm impacts could deter future visitors, particularly international tourists drawn to the region's unique Dark Sky designation.

4.4 Ecological and Recreational Risks

1. Habitat Disruption

- **Findings**:
  - The appendix overlooks how habitat changes caused by turbine construction and operation could affect wildlife tourism.
- **Critique**:
  - The Galloway Forest Park's wildlife, including red deer and golden eagles, is a major draw for visitors. Habitat disruption could reduce wildlife sightings, diminishing the appeal of nature-based activities.

2. Impact on Outdoor Recreation

- **Findings**:

- The assessment does not adequately consider how turbine noise, shadow flicker, and construction activity will affect outdoor experiences such as hiking, cycling, and stargazing.

- **Critique**:
  - Visitors to the **7Stanes network** and **Southern Upland Way** seek tranquillity and immersion in nature. Turbine-related disturbances risk degrading these experiences, leading to a decline in repeat visitation.

4.5 Cumulative Risks

1. Overlapping Impacts from Adjacent Developments

- **Findings**:
  - The appendix does not account for the cumulative impacts of Glenvernoch and other nearby wind farms, such as **Kilgallioch** and **Blair Hill**, on the regional tourism economy.

- **Critique**:
  - The proliferation of wind farms in Dumfries and Galloway risks creating a perception of widespread industrialisation, deterring visitors and harming the region's tourism brand.

2. Long-Term Regional Impacts

- **Findings**:
  - The assessment does not consider the long-term effects of reduced visitor numbers on community resilience and investment in tourism infrastructure.

- **Critique**:
  - A sustained decline in tourism revenue could result in business closures, job losses, and reduced funding for conservation and cultural heritage projects.

4.6 Mitigation Failures

1. Lack of Tourism-Friendly Mitigation Measures

- **Findings**:
  - The proposed mitigation measures focus on generic landscape restoration but do not include tourism-specific actions, such as visitor information programs or alternative viewing points.

- **Critique**:
  - Effective mitigation must address visitor concerns directly, including providing clear information about turbine impacts and ensuring accessibility to key attractions during construction.

2. Inadequate Engagement with the Tourism Sector

- **Findings**:
  - The appendix does not document any consultations with local tourism operators or destination management organisations.

- **Critique**:
  - Collaboration with the tourism sector is essential to developing informed and targeted mitigation strategies that align with local needs.

4.7 Recommendations to Address Flaws

1. **Comprehensive Visual Impact Analysis**:
    - Assess turbine visibility from key tourism assets, including the **Dark Sky Park**, **Bruce's Stone**, and **Southern Upland Way**, using advanced visualisation tools.
2. **Visitor Behaviour Surveys**:
    - Conduct primary research to understand how wind farm developments may influence visitation patterns and perceptions of the Cree Valley.
3. **Economic Impact Modelling**:
    - Develop detailed models to quantify potential economic losses from reduced visitor numbers, accounting for both direct and indirect effects.
4. **Cumulative Impact Assessment**:
    - Evaluate the combined effects of Glenvernoch and adjacent wind farms on the region's tourism economy and reputation.
5. **Stakeholder Engagement**:
    - Collaborate with local tourism operators, conservation groups, and community organisations to ensure the assessment reflects local priorities and concerns.
6. **Tourism-Specific Mitigation Measures**:
    - Propose actions such as enhanced visitor information programs, alternative viewpoints for key attractions, and investment in tourism infrastructure to offset potential impacts.

SECTION 5: CONSEQUENCES FOR THE LOCAL TOURISM ECONOMY

5.1 Overview

Tourism is a cornerstone of the Cree Valley economy, providing significant employment, revenue, and Socioeconomic stability. The potential impacts of the Glenvernoch Wind Farm, as inadequately assessed in Appendix 14.1, threaten to undermine this critical sector. The consequences extend beyond immediate disruptions during construction and operation, posing long-term risks to the region's reputation, visitor numbers, and local businesses. This section evaluates the key risks to the tourism economy, focusing on employment, economic output, and the preservation of Dumfries and Galloway's unique cultural and natural heritage.

5.2 Risks to Employment and Economic Output

1. Decline in Visitor Numbers

- **Key Risks**:
    - Reduced visitation due to visual and perceptual impacts of turbines on iconic attractions, such as the **Galloway Forest Park**, **Dark Sky Park**, and the **Southern Upland Way**.
- **Implications**:
    - Even a modest decline in visitor numbers could have a substantial economic impact. For example:
        - A **5% decline** in visitors could result in a loss of over **£11.7 million** annually for Dumfries and Galloway's economy, based on 2022 visitor spending figures.

- Rural areas reliant on eco-tourism, such as Newton Stewart and Bargrennan, are particularly vulnerable to such losses.

2. Job Losses in Tourism-Dependent Sectors

- **Key Risks**:
  - Declining visitor spending will disproportionately affect accommodation providers, restaurants, and activity operators, which collectively account for **10.1% of employment** in Dumfries and Galloway.
- **Implications**:
  - Job losses in tourism-dependent sectors could exacerbate economic inequality in rural communities, where alternative employment opportunities are limited.
  - Ancillary industries, such as retail, transportation, and food supply chains, would also experience indirect job losses.

5.3 Impacts on Local Businesses

1. Financial Strain on Small Enterprises

- **Key Risks**:
  - Reduced visitor spending will disproportionately affect small, family-run businesses that lack the financial resilience to absorb revenue losses.
- **Implications**:
  - Business closures in rural areas would reduce the diversity of services available to both residents and tourists, further diminishing the region's appeal as a destination.

2. Reduced Investment in Tourism Infrastructure

- **Key Risks**:
  - Declining revenues may lead to reduced investment in tourism infrastructure, such as trail maintenance, signage, and visitor facilities.
- **Implications**:
  - The degradation of infrastructure risks creating a negative feedback loop, where poorer facilities discourage repeat visitation, further reducing economic activity.

5.4 Reputational Damage

1. Loss of Destination Appeal

- **Key Risks**:
  - The industrialisation of iconic landscapes risks damaging the Cree Valley's reputation as a tranquil, unspoiled destination for eco-tourists and outdoor enthusiasts.
- **Implications**:
  - Negative media coverage and visitor dissatisfaction could deter new and repeat visitors, particularly from international markets.

2. Perception of Over-Development

- **Key Risks**:
    - The proliferation of wind farms in Dumfries and Galloway, including Glenvernoch, **Kilgallioch**, and **Blair Hill**, risks creating a perception of over-development, which conflicts with the region's branding as a nature-based tourism destination.
- **Implications**:
    - Visitors seeking remote and untouched landscapes may choose alternative destinations, such as the Scottish Highlands or the Lake District.

5.5 Risks to Iconic Attractions

1. Visual and Ecological Impacts on Key Assets

- **Key Risks**:
    - Turbine visibility and associated noise risks diminishing the visitor experience at attractions such as:
        - **Bruce's Stone**: A historic site with cultural significance tied to Robert the Bruce's legacy.
        - **Dark Sky Park**: The presence of aviation lighting on turbines threatens the park's reputation for pristine night skies, critical to its appeal for stargazing tourism.
- **Implications**:
    - Loss of visitor satisfaction at these sites could result in declining visitor numbers and reduced revenue for local tourism operators.

2. Disruption to Recreational Activities

- **Key Risks**:
    - Construction noise, turbine shadow flicker, and operational noise may disrupt recreational activities, including hiking, cycling, and wildlife observation.
- **Implications**:
    - Visitors seeking peace and tranquillity in the Galloway Forest Park or along the Southern Upland Way may avoid the area, opting for destinations unaffected by such disturbances.

5.6 Broader Regional Impacts

1. Erosion of Community Resilience

- **Key Risks**:
    - The loss of tourism revenue would reduce funding for community initiatives and conservation projects that rely on visitor spending.
- **Implications**:
    - Reduced community investment would exacerbate rural depopulation, particularly among younger generations seeking employment opportunities elsewhere.

2. Long-Term Decline in Visitor Loyalty

- **Key Risks**:

- Visitors dissatisfied with their experiences due to turbine impacts are less likely to return or recommend the destination to others.

- **Implications**:
  - A decline in visitor loyalty risks undermining long-term growth in the region's tourism economy, reducing its competitiveness with other destinations.

5.7 Recommendations to Mitigate Risks

1. **Enhanced Visitor Engagement**:
   - Conduct targeted marketing campaigns to reassure visitors about the availability and quality of local attractions despite the development.
2. **Restoration and Offsetting**:
   - Commit to landscape restoration and ecological offsetting measures to mitigate visual and ecological impacts on key attractions.
3. **Infrastructure Investment**:
   - Allocate funding to improve tourism infrastructure, such as trail networks and visitor facilities, to enhance the overall visitor experience.
4. **Stakeholder Collaboration**:
   - Partner with local tourism operators and conservation organisations to develop mitigation strategies that align with community priorities.
5. **Tourism-Friendly Planning**:
   - Redesign turbine layouts to minimise visibility from key attractions, such as Bruce's Stone, the Southern Upland Way, and the Dark Sky Park.

SECTION 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Overview

The Glenvernoch Wind Farm, as assessed in Appendix 14.1, poses significant and unmitigated risks to the local tourism economy in Dumfries and Galloway. Tourism is not only an economic driver for the region but also a cornerstone of its identity, community resilience, and future sustainability. The inadequacies in the tourism impact assessment—ranging from insufficient data collection to a failure to address site-specific and cumulative impacts—highlight a fundamental disregard for the Socioeconomic importance of tourism in the Cree Valley. The risks to iconic attractions, visitor behaviour, and destination reputation cannot be dismissed, and the current assessment fails to provide the robust analysis required to support the proposal.

Additionally, the **Dumfries and Galloway Local Development Plan 2 (LDP2)** has concluded that turbines of the height proposed for the Glenvernoch Wind Farm are **not suitable for this location**. This critical policy determination underscores the incompatibility of the proposal with the region's landscapes, Socioeconomic framework, and tourism objectives.

6.2 Key Findings

1. **Methodological Failures**:
   - The assessment omits critical visitor surveys, stakeholder engagement, and site-specific analyses, leading to flawed conclusions about visitor behaviour and economic impacts.

2. **Non-Compliance with Policy and Legislation**:
    - The appendix does not align with Scotland's national tourism strategies, including **Scotland Outlook 2030**, or with regional frameworks such as the **South of Scotland Responsible Tourism Strategy**.
    - The conclusion in **LDP2** that turbines of this scale are unsuitable for this location directly contradicts the proposal's viability.
3. **Risks to Iconic Attractions**:
    - Visual, perceptual, and ecological impacts on the **Galloway Forest Park**, **Dark Sky Park**, and **Southern Upland Way** threaten the appeal of these key assets, which are central to the region's tourism proposition.
4. **Economic Vulnerabilities**:
    - Reduced visitor numbers and spending would disproportionately affect rural communities reliant on tourism, leading to job losses, business closures, and reduced investment in infrastructure.
5. **Cumulative Impacts Ignored**:
    - The assessment fails to evaluate the combined effects of Glenvernoch and adjacent developments, such as **Kilgallioch** and **Blair Hill**, on the regional tourism economy.

6.3 Recommendations

1. Rejection of the Current Tourism Impact Assessment

- The conclusions of Appendix 14.1 must be rejected due to its failure to meet statutory and policy requirements and its underestimation of the proposal's impacts on tourism.
- Approval of turbines deemed unsuitable for this location under **LDP2** would undermine the region's planning policies and set a dangerous precedent for future developments.

2. Comprehensive Reassessment

- A revised tourism impact assessment must include:
    - **Visitor Surveys**: Conduct primary research to understand how wind farms influence visitor perceptions, behaviour, and spending.
    - **Economic Modelling**: Quantify potential revenue losses and employment impacts based on reduced visitation and spending.

3. Cumulative Impact Evaluation

- Assess the combined tourism impacts of Glenvernoch, **Kilgallioch**, **Blair Hill**, and other developments, focusing on visitor perceptions of over-development and industrialisation.

4. Enhanced Mitigation Measures

- Propose site-specific actions to minimise impacts on key attractions, including:
    - Turbine re-siting to reduce visibility from iconic locations such as **Bruce's Stone** and the **Dark Sky Park**.
    - Investment in infrastructure enhancements to improve the visitor experience and offset any negative perceptions.

5. Stakeholder Engagement

- Collaborate with local tourism operators, community groups, and conservation organisations to develop mitigation strategies that reflect local priorities and address visitor concerns.

6. Destination Marketing

- Launch marketing campaigns to reassure visitors about the availability and quality of local attractions, emphasising the region's natural and cultural assets.

6.4 Closing Statement

The Glenvernoch Wind Farm proposal, as it stands, poses unacceptable risks to the tourism economy of Dumfries and Galloway. The inadequacies in Appendix 14.1 demonstrate a failure to understand the Socioeconomic significance of tourism in the Cree Valley, dismissing the potential for lasting harm to visitor behaviour, local businesses, and the region's reputation.

Tourism is a key pillar of Dumfries and Galloway's economy, supporting over **10% of local employment** and generating substantial revenue through eco-tourism, outdoor recreation, and cultural heritage activities. The visual and ecological impacts of the proposed wind farm threaten to undermine the region's appeal as a tranquil and unspoiled destination, jeopardising its competitive advantage in the tourism market.

The **Dumfries and Galloway Local Development Plan 2 (LDP2)** explicitly states that turbines of this height are unsuitable for this location. This conclusion reflects a careful assessment of the region's landscape character, Socioeconomic framework, and planning objectives. Ignoring this determination to approve the Glenvernoch proposal would not only contravene local policy but also risk significant damage to the region's tourism economy and community wellbeing.

For all the reasons mentioned, including the Socioeconomic, environmental, and objective planning matters raised throughout this objection, the Glenvernoch Wind Farm proposal must be **objected to in full**. Furthermore, any similar applications proposing developments of this scale and nature within the Galloway Hills must also be deemed **unacceptable** and rejected outright to preserve the region's landscapes, community resilience, and tourism economy.

This objection provides clear evidence that the current tourism impact assessment is inadequate and fails to comply with national and regional policy objectives. The proposal cannot proceed without a comprehensive reassessment that prioritises sustainable tourism growth, community resilience, and environmental protection. To approve the wind farm based on the current assessment would set a dangerous precedent, undermining Scotland's commitments to responsible tourism and economic sustainability.

Future proposals must address these gaps, ensuring that tourism remains a central consideration in planning and development, safeguarding the Cree Valley's unique natural and cultural heritage for generations to come.

SUPPORTING DOCUMENTS AND STATEMENTS FROM HANDS OFF OUR HILLS

This section consolidates all written documents and statements prepared by members of Hands Off Our Hills (HOOH) in support of the overall objection to the Glenvernoch Wind Farm proposal. Each document and statement have been meticulously crafted to address key concerns, provide evidence-based arguments, and reinforce the overarching objections outlined in the primary document. These contributions demonstrate HOOH's commitment to protecting the Galloway Hills and surrounding communities from the adverse impacts of industrial development.

SUPPORTING DOCUMENTS AND STATEMENTS FROM HANDS OFF OUR HILLS

This section consolidates all written documents, reports, and statements prepared by members and affiliates of **Hands Off Our Hills (HOOH)** in support of the overall objection to the Glenvernoch Wind Farm proposal. Each document has been meticulously crafted to address specific concerns, present evidence-based arguments, and reinforce the overarching objections outlined in the primary objection document. These contributions collectively provide a comprehensive, factual, and robust case against the proposed development, underscoring its incompatibility with Scotland's legal frameworks, environmental policies, and community priorities.

The Legal Relevance of Supporting Documents

The supporting documents and statements included in this objection are not supplementary in nature but integral to the evaluation of the Glenvernoch Wind Farm proposal. They are designed to provide expert analysis, factual data, and locally informed perspectives on critical issues such as:

- Environmental degradation, including impacts on **peatlands**, **biodiversity**, and **watercourses**.
- Socioeconomic harm, including risks to the **tourism economy** and community wellbeing.
- Legal and regulatory non-compliance, particularly with the **Electricity Act 1989**, **NPF4** and **Dumfries and Galloway LDP2**.

These documents are not generic expressions of opposition but detailed, evidence-based submissions that address specific aspects of the proposal, ensuring a well-rounded and legally robust objection. Each document directly supports the statutory obligations of decision-makers under **Schedule 9 (3,1,a)** of the Electricity Act 1989, which mandates the prioritisation of **natural beauty**, **flora and fauna**, and **community welfare** in energy infrastructure planning.

Key Contributions and Their Evidentiary Value

The following types of documents have been prepared and submitted by HOOH members and contributors:

1. **Expert Reports**:
    - HOOH's expert submissions include detailed analyses of ecological, hydrological, and geological risks. These reports draw on established scientific principles and regulatory guidance to highlight the inadequacies in the developer's Environmental Impact Assessment (EIA) and the irreversible damage the proposal would cause to **Class 1 and Class 2 peatlands**, sensitive watercourses, and protected species.
2. **Community Impact Statements**:
    - Statements prepared by local residents and community representatives provide firsthand accounts of how the proposed wind farm would negatively impact daily life, public safety, and the region's cultural heritage. These accounts are critical to fulfilling Scotland's **community-led planning principles** under NPF4.
3. **Tourism and Economic Assessments**:
    - Economic evaluations detail the risks to Dumfries and Galloway's tourism sector, which contributes over **£234 million annually** and supports over **10% of local employment**. These assessments highlight how visual and ecological impacts on key attractions, such as the **Dark Sky Park** and **Southern Upland Way**, would deter visitors and reduce regional income.
4. **Historical and Cultural Evaluations**:
    - Documents outlining the historical and cultural significance of the Galloway Hills demonstrate how the turbines would degrade the integrity of sites such as **Bruce's Stone** and ancient trails. These evaluations underscore the proposal's non-compliance with protections for cultural heritage.

5. **Regulatory Compliance Analyses**:
    - Comprehensive reviews of the Glenvernoch Wind Farm's compliance with **SEPA guidance**, **NatureScot's policies**, and the **Environmental Impact Assessment (Scotland) Regulations 2017** expose significant legal and procedural shortcomings, further discrediting the proposal.

Why the ECU Must Give Weight to These Documents

The **Energy Consents Unit (ECU)** is legally obligated to give due consideration to all supporting evidence submitted during the consultation process, particularly when this evidence:

- Highlights material deficiencies in the developer's application, such as flawed methodologies, omitted data, or policy contravention.
- Demonstrates compliance or non-compliance with statutory duties and regulatory frameworks.
- Reflects the voices and concerns of impacted communities, as required by Scotland's **community-led planning framework** and public participation principles.

The supporting documents and statements submitted by HOOH meet these criteria and are essential to the ECU's deliberations for the following reasons:

1. **Statutory Relevance**:
    - These documents substantiate how the Glenvernoch Wind Farm proposal fails to satisfy legal obligations under the **Electricity Act 1989**, **Schedule 9**, by undermining the preservation of natural beauty, ecological stability, and community welfare.
2. **Expertise and Credibility**:
    - The reports draw upon established scientific, economic, and regulatory expertise, providing credible and actionable insights. Their factual accuracy and professional quality render them legally sound and difficult to discredit.
3. **Alignment with National Policy**:
    - The evidence aligns with national planning frameworks, including NPF4 reinforcing the case for rejecting the proposal on grounds of environmental harm, economic risks, and policy non-compliance.
4. **Community Representation**:
    - The inclusion of community perspectives ensures compliance with Scotland's commitment to **inclusive and democratic decision-making**. These voices reflect legitimate and widespread opposition, further underscoring the proposal's incompatibility with local priorities.

The supporting documents and statements from **Hands Off Our Hills (HOOH)** are not just additional materials but key components of the overall objection to the Glenvernoch Wind Farm proposal. These documents present a comprehensive, evidence-based case, addressing ecological harm, economic risks, and planning non-compliance. Together, they strengthen the argument that the proposal is fundamentally unsuitable for this location and highlight the risks it poses to the environment, local communities, and the economy.

We respectfully ask the **Energy Consents Unit (ECU)** to give full consideration to these documents as part of its deliberations. They provide detailed insights into how the proposal fails to align with statutory obligations under the **Electricity Act 1989**, as well as national and regional planning policies. More importantly, they reflect the genuine concerns of local communities and experts who have contributed their knowledge and perspectives to ensure that every aspect of this objection is robust and well-supported.

REP 1.0.1: RENEWABLE POWER GENERATION IN DUMFRIES AND GALLOWAY

WRITTEN BY ALEXANDRA NEGREA ON BEHALF OF HANDS OFF OUR HILLS

Introduction

The opening paragraph of NPF4 - Part 1 states that "The global climate emergency means that **we need to reduce greenhouse gas emissions** and adapt to the future impacts of climate change. **We will need to respond to a growing nature crisis**, and to work together to enable development that addresses the social and economic legacy of the coronavirus pandemic, the cost crisis and longstanding inequality."

NPF4 Appendix C states that the priority for South Scotland is "To deliver sustainable places, Regional Spatial Strategies and Local Development Plans in this area **should protect environmental assets** and stimulate investment in **natural and engineered solutions to climate change and nature restoration**, whilst decarbonising transport and building resilient physical and digital connections."

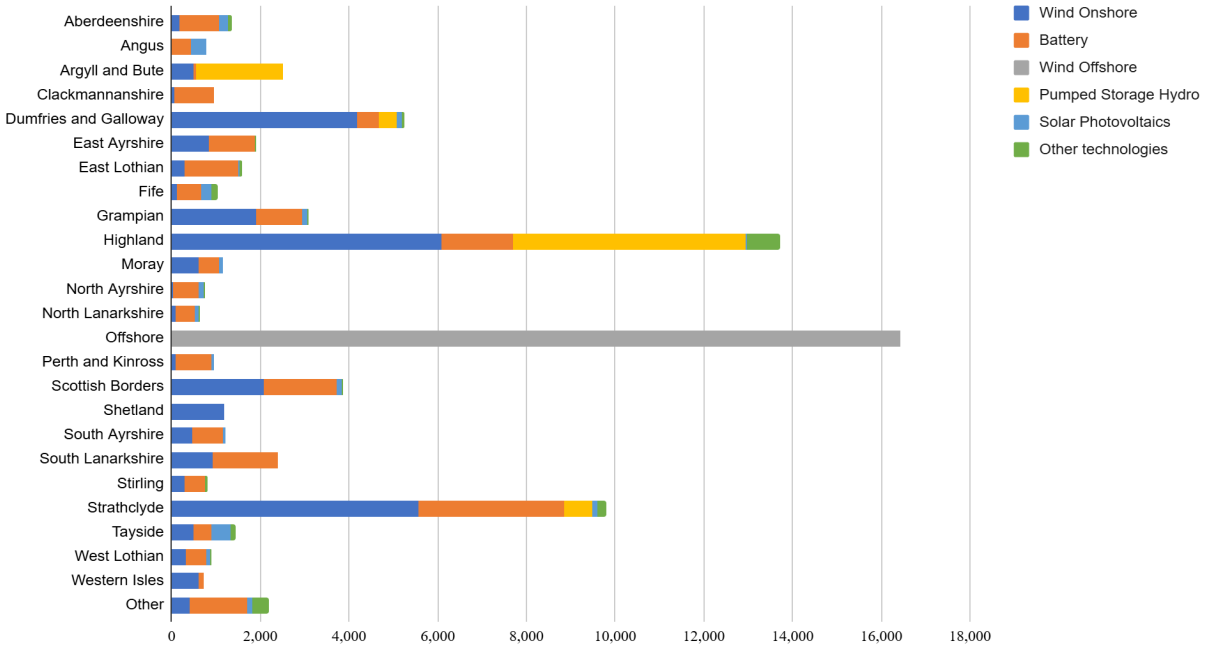
In this section, we summarise the significant contribution that Dumfries & Galloway makes in reducing greenhouse gases through the generation of renewable electricity. Given these extensive commitments, we would suggest that the major detrimental impact to the natural world, some unmitigated, of the proposed development at Glenvernoch outweighs its net contribution to the reduction in greenhouse gas emissions.

Recorded projects against Scotland-wide targets

The graphs below give an overview of the renewable electricity projects and their status as recorded in The Renewable Energy Planning Database ('REPD'), managed by Barbour ABI on behalf of the Department of Business, Energy & Industrial Strategy ('BEIS') - data to end September 2024, most recent data available. It is noted that these projects include electricity generation and storage, as well as projects still awaiting approval.

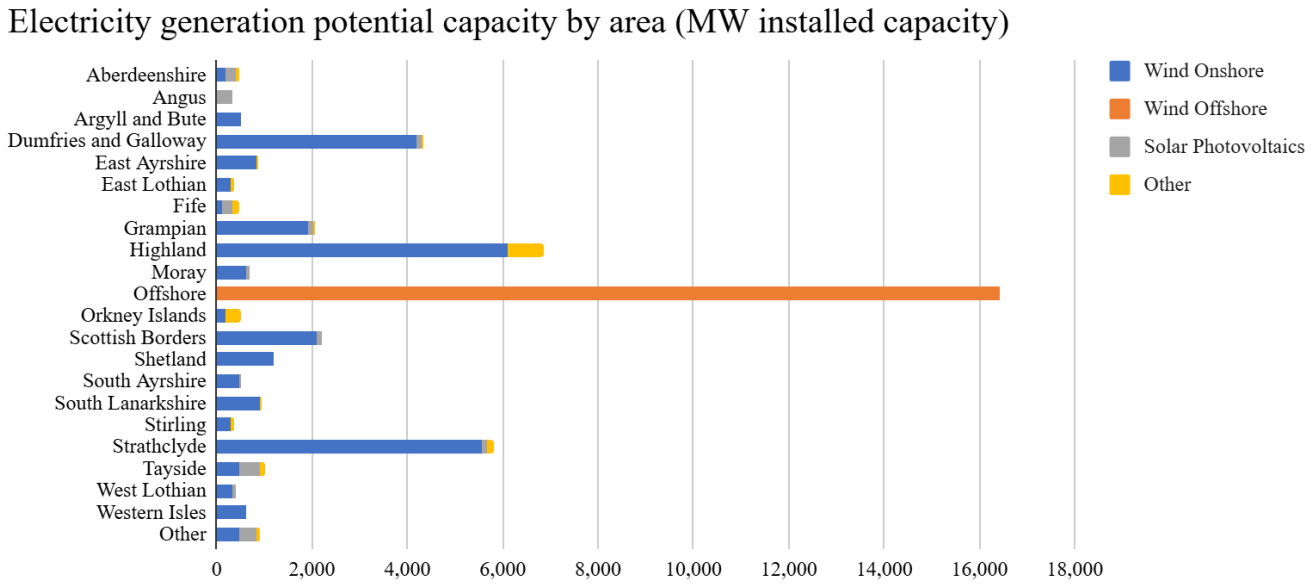
The combined in scope installed capacity is 76.6 GW, of which 5.2 GW are located in Dumfries & Galloway. Excluding offshore projects (16.4 GW), Dumfries & Galloway could potentially host 8.6% of all renewable energy projects, behind Highland (13.7 GW) and Strathclyde (9.8 GW). Projects in South Scotland, defined as Dumfries and Galloway, Scottish Borders, South and East Ayrshire, would represent 12.2 GW, or 20.2% of all onshore projects.

Renewable energy projects by area (MW installed capacity)

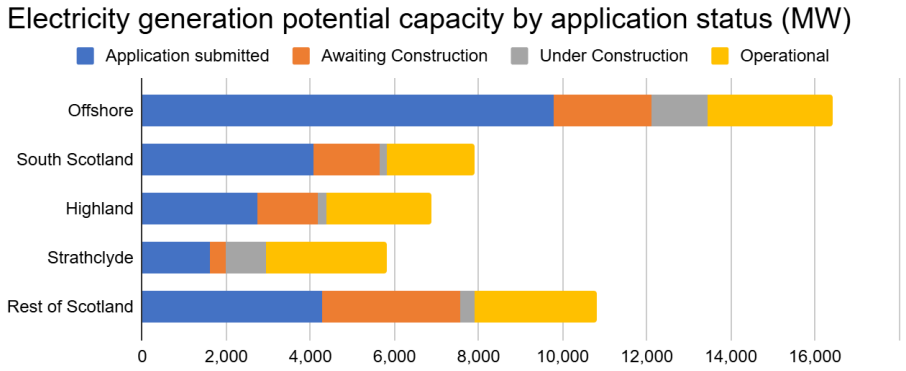


On 10/01/2024, the Scottish Government published its draft Energy Strategy and Just Transition Plan. Mr Michael Matheson, then Cabinet Secretary for Net Zero, Energy and Transport stated that "Scotland already has 13.4 Gigawatts of renewable electricity generation capacity. It is our ambition to deliver at least 20 Gigawatts of additional low-cost renewable electricity capacity by 2030 [...]".

Should all projects already submitted for approval by end September 2024 be approved, Scotland's renewable energy capacity would be 47.8 GW, 46.8% above the 33.4 GW target set for 2030. *Note: the graph below does NOT include the projects still at the Scoping stage, such as sites within 10kms of Glenvernoch: RES Blair Hill and E Power Shennanton.* South Scotland as defined above would bear the highest installation of onshore wind capacity (8.3 GW, 26.4%) ahead of Highland (6.9 GW, 22.0%) and Strathclyde (5.8 GW, 18.5%).



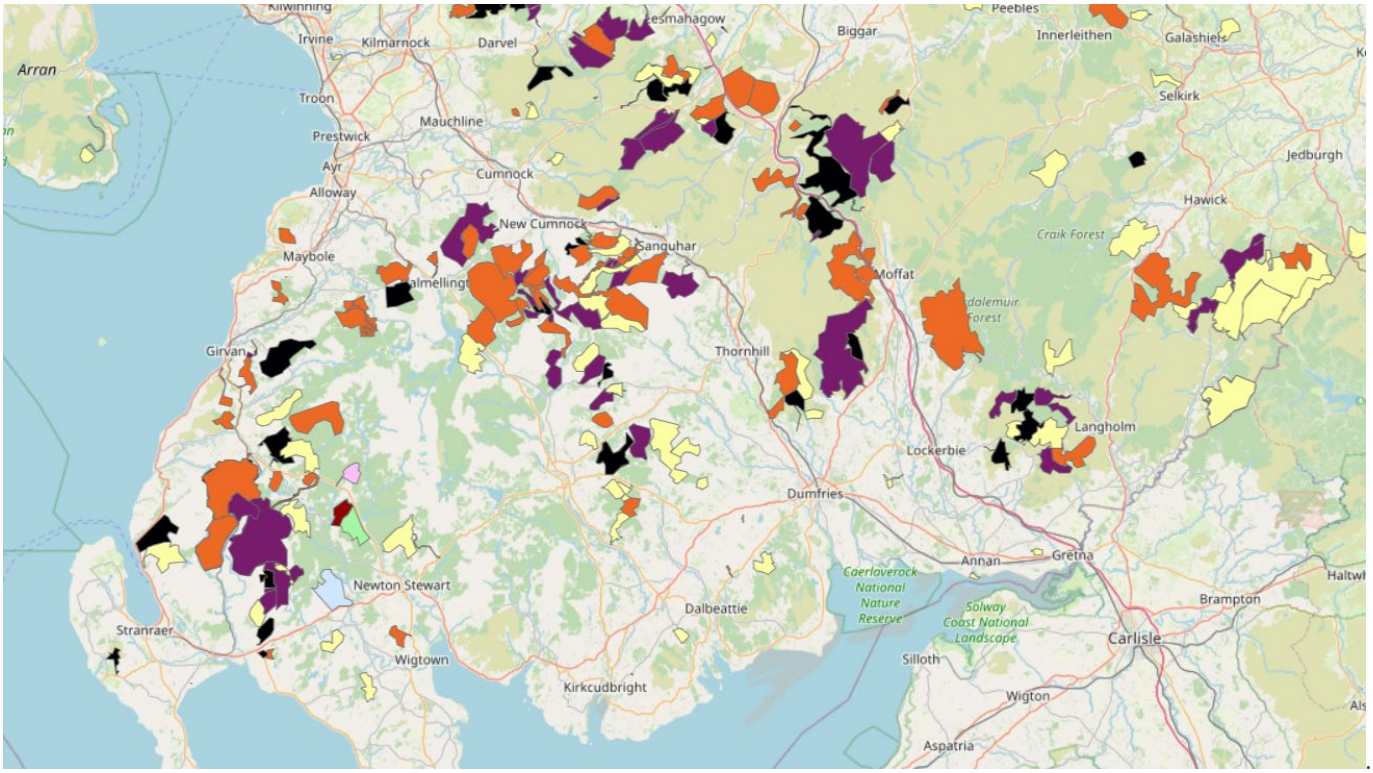
At the end of September 2024, 13.3 GW (27.9%) of developments are operational whilst 12 GW (25.1%) are still to complete construction. To achieve the stated policy target of 33.4 GW by 2030, only an additional 8.1 GW would need to be approved, versus a pipeline of applications of 22.5 GW. It is noted that 3 offshore wind applications already submitted represent 9.7 GW of potential installed capacity (Berwick Bank, West of Orkney and Ossian).



The pipeline of onshore wind applications is disproportionately targeted at South Scotland: 4,073.4 MW awaiting decision, versus 2,738.9 MW for Highland, 1,610.6 for Strathclyde and 4,283.0 MW for the rest of Scotland.

Onshore wind electricity in Dumfries and Galloway / South Scotland

Most developments are sited in the M74 corridor and around the Galloway Hills, preserving the Galloway Forest Park for nature. The proposed development at Glenvernoch, together with the expected applications at Blair Hill (RES) and Shennanton (E power) currently in Scoping, are encroaching on this as yet unspoiled part of the Galloway Hills, as illustrated on the map below. Note: map for illustration only, no master data source available.



For reference, 13 large schemes, approved by the Scottish Government under S. 36 are awaiting construction and 2 are under construction in South Scotland. They represent an installed capacity of 1,267.3 MW / 243 additional turbines. Taking into account smaller projects, a total of 1,747.1 MW are already approved across the region.

The impact of such a significant amount of construction work on the local rural road network and the quality of life of the residents should not be under-estimated. Neither should the carbon footprint of the (diesel powered) HGV traffic and other heavy machinery be ignored.

Operator (or Applicant)	Site Name	Technology Type	Installed Capacity (MWelec)	Development Status (short)	County	Planning Application Reference	Planning Permission Granted
Community Windpower	Sanquhar 2 Community Wind Farm	Wind Onshore	308.00	Awaiting Construction	Dumfries and Galloway	ECU00001801	31/8/2023
EDF Energy	Stranoch 2	Wind Onshore	84.00	Awaiting Construction	Dumfries and Galloway	ECU00000710	24/11/2021
Fred Olsen Renewables	Windy Standard III Wind Farm (Brockloch Rig Phase 2)	Wind Onshore	80.80	Awaiting Construction	Dumfries and Galloway	ECU00000335	23/3/2021
Boralex/Infinergy	Shepherd's Rig Wind Farm	Wind Onshore	70.20	Awaiting Construction	Dumfries and Galloway	ECU00000735	21/8/2023
EDF Energy Renewables	Troston Loch	Wind Onshore	67.20	Awaiting Construction	Dumfries and Galloway	ECU00001785	18/12/2020
Statkraft UK	Artfield Forest Wind Farm	Wind Onshore	67.20	Awaiting Construction	Dumfries and Galloway	ECU00003245	10/2/2023
ScottishPower Renewables	Kilgallioch Windfarm (Extension)	Wind Onshore	62.00	Awaiting Construction	Dumfries and Galloway	ECU00001996	8/12/2021
Scottish Power Renewables	Kilgallioch Windfarm (Extension - Solar)	Solar Photovoltaics	20.00	Awaiting Construction	Dumfries and Galloway	ECU00001996	8/12/2021
OnPath Energy Limited	Lethans Wind Farm	Wind Onshore	105.60	Awaiting Construction	East Ayrshire	ECU00001856	18/6/2021
North British Wind / Invenergy	Pencloe Wind Farm	Wind Onshore	81.00	Awaiting Construction	East Ayrshire	EC00003106	6/12/2018
REG Windpower Limited	Greenburn Wind Park	Wind Onshore	67.20	Awaiting Construction	East Ayrshire	ECU00002037	21/4/2023
Banks Renewables	Lethans Wind Farm Extension	Wind Onshore	66.00	Awaiting Construction	East Ayrshire	ECU00002221	8/8/2024
E.ON Renewables / Red Rock Power Limited	Benbrack Wind Farm	Wind Onshore	67.10	Under Construction	East Ayrshire	EC00002082	15/9/2017
Fred Olsen Renewables	Crystal Rig Wind Farm Phase IV	Wind Onshore	48.00	Under Construction	Scottish Borders	ECU00000607	24/3/2021
Scottish Power Renewables	Arecleoch Wind Farm (extension)	Wind Onshore	73.00	Awaiting Construction	South Ayrshire	ECU00001864	16/11/2021

Additionally, there are 35 large schemes already submitted to the Scottish Government under S. 36 as at 30/09/2024 for South Scotland, of which 4 are solar farms. If they were all to be approved, they would add 3,228.3 MW of installed capacity, but require the construction of 533 new turbines, some of previously undeveloped sites.

We would contend that, to meet the **twin** objectives of NPF4 and the priorities identified for South Scotland, some of these applications would need to be rejected in order to preserve some spaces for nature and wilderness in South Scotland. In this context, the natural value of the proposed Glenvernoch site would appear to outweigh the contribution it can make to addressing the climate crisis.

Operator (or Applicant)	Site Name	Technology Type	Installed Capacity (MWelec)	No. of Turbines	Development Status (short)	County	Planning Application Reference	Planning Application Submitted
Community Wind Power Limited	Scoop Hill Wind Farm	Wind Onshore	525.00	75	Application Submitted	Dumfries and Galloway	ECU00000533	12/11/2020
Muirhall Energy Limited	Teviot Wind Farm	Wind Onshore	350.00	53	Application Submitted	Scottish Borders	ECU00003249	20/5/2022
Renewable Energy Systems (RES)	Bloch Wind Farm & Battery Storage (Solway Bank Extension)	Wind Onshore	126.00	21	Application Submitted	Dumfries and Galloway	ECU00003463	2/11/2022
ScottishPower Renewables UK Limited	Euchanhead Wind Farm	Wind Onshore	126.00	21	Application Submitted	Dumfries and Galloway	ECU00002141	30/11/2020
Renewable Energy Systems	Longcroft Wind Farm	Wind Onshore	125.40	19	Application Submitted	Scottish Borders	ECU00004774	31/10/2023
EDF Energy	Dunside Wind Farm	Wind Onshore	108.00	15	Application Submitted	Scottish Borders	ECU00003436	16/6/2023
REG Knockodhar Limited	Knockodhar Wind Farm	Wind Onshore	100.00	16	Application Submitted	South Ayrshire	ECU00002153	26/5/2023
EnergieKontor UK Limited	Mid Moile Wind Farm	Wind Onshore	99.40	15	Application Submitted	Dumfries and Galloway	ECU00003405	14/2/2022
Vattenfall Wind Power Limited	Quantans Hill Wind Farm	Wind Onshore	96.00	14	Application Submitted	Dumfries and Galloway	ECU00003399	27/1/2023
Energiekontor (UK) Limited	Craiginmoddie Wind Farm	Wind Onshore	92.00	14	Application Submitted	East Ayrshire	ECU00002196	21/1/2021
Burcote Wind	Sandy Knowe Wind Farm	Wind Onshore	90.00	30	Revised application submitted	Dumfries and Galloway	Master Data error?	7/12/2012
Banks Renewables	Lethans Wind Farm	Wind Onshore	88.00	22	Revised application submitted	East Ayrshire	EC00002086	13/3/2015
ScottishPower Renewables	Carrick Windfarm	Wind Onshore	86.00	13	Application Submitted	South Ayrshire	ECU00003392	6/12/2021
Belltown Power Limited	Leithenwater Wind Energy Hub - Wind Farm	Wind Onshore	85.80	13	Application Submitted	Scottish Borders	ECU00004619	4/4/2024
Muirhall Energy Limited	Hopsrig Wind Farm	Wind Onshore	85.50	13	Application Submitted	Dumfries and Galloway	ECU00002160	23/10/2020
ESB Asset Development UK Ltd	Chesters - Millmoor Rig Wind Farm & Battery Energy Storage	Wind Onshore	78.00	13	Application Submitted	Scottish Borders	ECU00003426	28/11/2022
Coriolis Energy Limited	Greystone Knowe Wind Farm - Wind Farm	Wind Onshore	75.00	14	Application Submitted	Scottish Borders	ECU00003341	27/10/2021
EDF	Stranoch Wind Farm	Wind Onshore	72.00	28	Revised application submitted	Dumfries and Galloway	EC00005254	24/1/2013
Blue Energy Company / BayWa r.e. UK Limited	Cloud Hill Wind Farm	Wind Onshore	66.00	11	Application Submitted	Dumfries and Galloway	ECU00003461	3/10/2023
EDF Energy Renewables	Cloich Forest Wind Farm	Wind Onshore	63.00	14	Application Submitted	Scottish Borders	ECU00003288	30/6/2021
Falck Renewables / REG Windpower	Knockkippen Wind, Solar & Battery Farm	Wind Onshore	60.00	12	Application Submitted	East Ayrshire	ECU00004523	24/6/2022
Fred Olsen Renewables Limited	Lees Hill Energy Park	Solar Photovoltaics	60.00		Application Submitted	Scottish Borders	ECU00004571	16/4/2024
E Power Ltd	Ditcher Law Wind Farm	Wind Onshore	59.40	9	Application Submitted	Scottish Borders	ECU00004890	8/8/2023
Statkraft UK Limited	Knockcronal Wind Farm	Wind Onshore	59.40	9	Application Submitted	South Ayrshire	ECU00002181	17/11/2021
EDF Energy Renewables (formerly Partnerships for Renewables)	Cloich Forest Wind Farm	Wind Onshore	54.00	18	Revised application submitted	Scottish Borders	WIN-140-1	12/10/2012
Muirhall Energy Limited	Loganhead Wind Farm	Wind Onshore	53.80	8	Application Submitted	Dumfries and Galloway	ECU00002161	10/11/2021
Statkraft UK Limited	Tweed Valley, Southern Uplands - Oliver Forest Wind Farm	Wind Onshore	50.40	7	Application Submitted	Scottish Borders	ECU00004669	30/8/2024
Fred Olsen Renewables	Windy Standard I Repower	Wind Onshore	49.60	8	Application Submitted	Dumfries and Galloway	ECU00003324	7/12/2022
Fred Olsen Renewables	Scawd Law Wind Farm	Wind Onshore	48.00	8	Application Submitted	Scottish Borders	ECU00002111	22/12/2022
ScottishPower Renewables	Harestanes South Windfarm Extension	Wind Onshore	45.00	8	Application Submitted	Dumfries and Galloway	ECU00002185	7/12/2020
Locogen	Loch Fergus Farm - Solar Farm	Solar Photovoltaics	40.00		Application Submitted	South Ayrshire	ECU00004855	3/7/2023
Fred Olsen Renewables Limited	Lees Hill Energy Park	Wind Onshore	36.00	6	Application Submitted	Scottish Borders	ECU00004571	16/4/2024
Muirhall Energy Limited	Teviot Wind Farm	Solar Photovoltaics	34.00		Application Submitted	Scottish Borders	ECU00003249	20/5/2022
Executive Resource Group	Sandy Knowe Wind Farm Extension	Wind Onshore	21.60	6	Application Submitted	Dumfries and Galloway	ECU00003274	18/8/2022
Falck Renewables / REG Windpower	Knockkippen Wind, Solar & Battery Farm	Solar Photovoltaics	20.00		Application Submitted	East Ayrshire	ECU00004523	24/6/2022

END OF REPORT: Renewable power generation in Dumfries and Galloway

REP 2.0.1: GLENVERNOCH HISTORY REPORT – DECEMBER 2024

WRITTEN BY BARRY DONNAN ON BEHALF OF HANDS OFF OUR HILLS

My name is Barry Donnan. I am a professionally qualified historian, holding a B.A. (Hons) in History with a special research interest in Robert the Bruce and the Scottish Wars of Independence. I am a published author and have written on various historical aspects of the Carrick/Galloway Highlands.

In 2016 I successfully led a campaign to have Bruce's Stone relisted by Historic Environment Scotland (HES) after its unusual delisting by its predecessor body Historic Scotland in 2007.

The comments on my petition below highlight the importance of the monument, its fabric and setting by visitors to Glentrool. All aspects are firmly embedded in the national historical consciousness, with many different layers of meaning.

https://www.change.org/p/historic-enviroment-scotland-relist-bruce-s-commemoration-stone-at-loch-trool/c

Bruce's Stone

Bruce's Stone, Glen Trool is a commemorative monument dedicated to the Scottish King Robert the Bruce or Robert I who reigned from 1306 until his death in 1329. The unique granite monument celebrates Bruce's first victory over a significantly larger English force in Glen Trool in March/April 1307, at a time when the odds were massively stacked against him and his tiny army. Tradition says that King Robert commanded the ambush from the exact spot where Bruce's Stone stands.

In 2016 HES sent me a letter confirming Bruce' Stone would be relisted at Category C.

https://portal.historicenvironment.scot/apex/f?p=1505:300:::::VIEWTYPE,VIEWREF:designation,LB52395

Historical Context for Bruce's Stone

During the process of relisting, I provided the following evidence to HES -

On 31 May 1929 a time capsule was placed underneath the main stone containing several medieval coins from the reign of various Scottish and English monarchs – Robert I, Alexander III Edward I and King George V. (Reported in The Galloway Gazette, 1/6/1929).

The main stone comprising the moment is a Loch Doon glacial erratic, signifying the close historical connections between King Robert's Earldom of Carrick, Loch Doon Castle and his victory in Glentrool in 1307, during the Scottish Wars of Independence. (1296-1328).

The Cradle of Scotland's Independence

Andrew McCormack, a Newton Stewart writer and the main proponent of the monument being erected in the Glen states the following – 'Glentrool is the Cradle of Scotland's Independence. It may be defined in a rough and ready way thus: Draw a straight line connecting the remote ends of Lochs Trool and Doon. From the centre point, describe a circle. All the country within the circle represents the cradle. The canopy of the cradle is the Brucean Castle – or Doon Castle, as it is usually called.' (McCormack, A. Galloway: The Spell of its Hills and Glens).

Bruce's Stone Unveiling Ceremony 5 June 1929

A crowd of three hundred people gathered for the unveiling ceremony on a warm summer's day. Several local dignitaries were involved. Notably historian Sir Herbert Maxwell of Monreith. Sir Herbert was also the Chairman of the Royal Commission on the Ancient and Historical Monuments of Scotland (1906 – 1934).

The date of the unveiling was set to coincide with the six-hundred-year anniversary since the death of King Robert I in Cardross. Sir Herbert called 'Glentrool – The true cradle of Scotland's Independence,' in his speech and in a special booklet sold at the gathering to help raise funds for the Bruce monument.

Sir Herbert then introduced the Historiographer Royal for Scotland Sir Robert Rait CBE, historian and Chancellor of Glasgow University. Sir Robert gave a long speech. 'Glentrool is the Orleans of the Scottish Wars of Independence. We dedicate this memorial to the great King Robert in thankfulness that the Scotland which he saved and preserved the freedom which was lost for a brief space and was gloriously regained by the succession of victories which began on Raploch Moss and Glentrool.' (The Scotsman, 6 June 1929).

Points to note on the monument listing by HES

Setting

'The monument is situated on an elevated and remote spot on the north side of Loch Trool, with far-reaching views to the east and west along the loch. It is situated in an unaltered, prominent and spectacular setting across the Loch from the most likely site of the battle and its position is therefore an important part of its interest.'

Close historical associations

'The criteria for listing state that close historical associations with nationally important people, or events whose associations are well-documented, where the physical fabric is also of some quality and interest, can be a significant factor. The fabric should also reflect the person or event. The Bruce's Stone monument was erected to commemorate King Robert the Bruce, King of Scotland from 1306-1329, who secured Scotland's independence from England and was a nationally important figure in the history of Scotland. The fabric and design of the monument is relevant to the battle.'

Age and Rarity

'This granite monument was erected on 5 June 1929 to commemorate the victory of Robert the Bruce at the Battle of Glen Trool in 1307 and was paid for by public subscription. 1929 was the 600th anniversary of Bruce's death and the erection of this memorial was one of several events in the country at the time to mark the occasion. A report in the Galloway Gazette of 15 June 1929 notes that a crowd of over 300 spectators attended the ceremony, including the historian Sir Herbert Maxwell and Professor Robert Rait, the Historiographer Royal for Scotland and Professor of Scottish History and Literature at Glasgow University from 1913-1929. The newspaper also reports that a leaden casket containing ancient and modern coins was placed beneath the large boulder.

A report in the Dundee Evening Telegraph of 15 May 1929 records several events that were organised around the country for the 600th anniversary of Bruce's death, including commemorations at Cardross Castle in Dumbarton where Bruce died, and at the Borestone, at the field of Bannockburn, near Stirling. A bronze statue of Bruce in a niche at the gatehouse of Edinburgh Castle was also unveiled as part of these commemorations.

The Battle of Glen Trool, considered more of a skirmish by some historians, took place around March/April 1307 and was an early victory for Robert the Bruce in his fight for Scottish independence from the English and Edward I in the campaign known as the First Wars of Independence. The inscription on the stone states that the battle at Glen Trool opened the campaign and that it terminated with the Battle of Bannockburn in 1314. The wars did not finally end, however, until the signing of the Edinburgh-Northampton Treaty in 1328, which recognised Scotland as an independent kingdom.

In 1306, Robert the Bruce crowned himself King of Scotland and a number of battles and skirmishes followed between Bruce and his supporters and those who opposed his claim, including Edward I of England. Following defeats in 1306 at Methven (Perthshire) and Dail Righ (Ayrshire), Bruce went into hiding, possibly to the Western Isles. He returned to the mainland in 1307 to fight for his claim and he eventually established a camp at Glen Trool. Bruce used guerrilla type warfare tactics at this point, hiding himself in the hills and making it hard for the English troops to know his exact whereabouts. They were aware of his presence in the area, however, as a previous skirmish at Moss Raploch, now on the east side of Clatteringshaws Loch, had ended with victory for Bruce. A large erratic boulder at the site (currently owned by the National Trust of Scotland) is also named Bruce's Stone and is traditionally thought to be where he rested after the battle.

At Glen Trool, Bruce gained advantage over the English troops, who were led by the Earl of Pembroke, by taking higher ground. Popular tradition tells that Bruce ambushed the English soldiers by throwing boulders down on them. Taken by surprise, the English troops fled. Bruce's Stone is positioned to overlook the most likely site of the battle.

The anniversary of Robert the Bruce's death saw a number of monuments erected to commemorate his significance in Scottish history. An equestrian statue in Stirling, one of the most significant monuments to Bruce, came slightly later for the 650th anniversary of the Battle of Bannockburn. It is listed at category A (LB49860). Bruce's Stone can also be placed in the wider context of the period.

The 1920s was a significant period in memorialisation and commemoration following the huge impact of the First World War. The Scottish National War memorial was opened in 1927, and by this date thousands of memorials to Scotland's fallen, varying in scale and architectural ambition, had been erected in every community across the country.

While the design of the Bruce's Stone monument is informal, its concept - built up of large stones found in the area – directly reflects how the battle is thought to have been fought with boulders. Its setting and location also add significantly to its special interest. Moreover, Bruce's Stone can also be considered an important marker of the contemporary growing interest in Scottish nationalism and national identity, as it was erected shortly after the Scottish National Party was founded in 1928.' (HES Listing Report, Bruce's Stone).

https://portal.historicenvironment.scot/apex/f?p=1505:300:::::VIEWTYPE,VIEWREF:designation,LB52395

Summary

Historic Environment Scotland note the following points –

- 'with far-reaching views to the east and west along the loch. It is situated in an unaltered, prominent and spectacular setting across the Loch from the most likely site of the battle and its position is therefore an important part of its interest.'

- 'The fabric should also reflect the person or event. The Bruce's Stone monument was erected to commemorate King Robert the Bruce, King of Scotland from 1306-1329, who secured Scotland's independence from England and was a nationally important figure in the history of Scotland. The fabric and design of the monument is relevant to the battle.'

- 'While the design of the Bruce's Stone monument is informal, its concept - built up of large stones found in the area – directly reflects how the battle is thought to have been fought with boulders. Its setting and location also add significantly to its special interest. Moreover, Bruce's Stone can also be considered an important marker of the contemporary growing interest in Scottish nationalism and national identity, as it was erected shortly after the Scottish National Party was founded in 1928.'

Opinion on proposed Glenvernoch Windfarm

- The Glenvernoch windfarm proposal submitted to the ECU (ECU00004892) by Energiekontor on 19/11/24 for 13 turbines at 200 meters is grossly negligent and will have a major significant impact on Bruce's Stone, its far-reaching views and its historical fabric and enjoyment by tourists both international and domestic.

- Energiekontor have claimed in a planning history document (https://energiekontor.co.uk/wp-content/uploads/PDFs/glenvernoch/02-Planning-History.pdf) that their current proposal addresses concerns about the view from Bruce's Stone, which led to 'The Hill of Ochiltree by E.On' being refused in 2009.

- Energiekontor state the following 'Views from Bruce's Stone and Loch Trool are limited to three turbines. Whereas the Hill of Ochiltree site had all 10 turbines visible from Bruce's Stone and Loch Trool showing.'

- The above claim is false, misleading and is a major deliberate misrepresentation by Energiekontor in stating they have addressed previous historic concerns. It is my view that this alone should halt the proposal in its tracks.

- In Vol II. EVIA by Energiekontor Bruce's Stone, Glentrool (https://energiekontor.co.uk/wp-content/uploads/Vol-2-Viewpoint-9-Bruces-Stone-Glentrool.pdf) Eight turbines are visible from Bruce's Stone. No 7, 6, 8, 9, 10, 11, 12,13, represented in a static format. These will of course be spinning and will destroy the cultural heritage and impact on the view from Bruce's Stone. The representation is not accurate given the height of proposed development and two further turbines would also be visible.

- Bruce' Stone is a key location on The Robert the Bruce Trail 'Western Trail,' which runs across the entire region. (https://www.brucetrust.co.uk/trail.html). The proposal will destroy this tourist attraction and well-established historical trail dating from 2009.

- As the Mountaineering Council of Scotland state in their objection with regards Bruce's Stone 'This location shows the difficulty of using single viewpoint locations since the views change notably depending on location (not least altitude) and also whether the extensive young roadside birches are in leaf or not.' Many walkers, climbers and tourists do not simply arrive at the monument. Many arrive after a circular walk round Loch Trool, or after climbing many of the local hills such as The Merrick, or by bike, or even by kayak or pack raft. This has not been considered in the EVIA.

Battle of Glentrool 1307 (Steps O'Trool)

Directly opposite Bruce's Stone lies the Steps O'Trool which I will refer to as the battle site. HES state this is the 'likely site' of the action and battle referred to on the Bruce monument. Both the monument and the battle site lie within the 10km buffer zone. Andrew Nicholson the council archaeologist and the contractor archaeologist employed by EnergieKontor have approached the monument and battle site in a negligent and highly unprofessional manner. In a Freedom of Information request I made to the council regarding communication between the two – the council archaeologist simply sates 'There are no designated battlefields within the 10km buffer zone.' The site remains undesignated due to the limitations of desk-based research by HES; however, it could be designated at any time in future. This also in no way diminishes the battle site or its nationally important history.

Historical Context

https://canmore.org.uk/site/63574/glen-trool

In 2017 I asked HES to consider Steps O Trool for listing and protection.

'The Battle of Glen Trool is considered by some historians to be a turning point in the First Scottish War of Independence, and the first clear example of the guerrilla warfare tactics Bruce took which would eventually lead to his victory at Bannockburn in 1314. The battle is also notable because of the involvement of several historically important individuals, not only Robert Bruce himself, but his close friend and ally James Douglas, Sir John Wigton, Sir John de Vaux and Lord Robert Clifford, 1st Baron of Clifford.

The tactics employed by Bruce at Glen Trool are also important. By using guerrilla tactics and forcing his enemies into difficult and unknown terrain, thus restricting the ground available for manoeuvre, Bruce demonstrated his increasing confidence in his abilities and the growing strength of his forces. Ultimately Bruce was able to overcome the much larger English army and inflict heavy casualties on them.' (HES).

Several important points and research emerged that have direct bearing on the historical fabric of Glen Trool and the battle site:

- Robert Bruce left the Glen after his victory in 1307 to fight and win another battle at Loudoun Hill in Ayrshire before returning to Glen Trool.

- Professor Archie Duncan states in his footnotes to *The Bruce* written in 1375 that a second battle was fought at Glentrool in June 1307.

- 'Significant physical remains and/or archaeological potential Although no artefacts relating to the battle have yet been reported, there is potential for surviving archaeological remains to be located. Although the potential areas of the battlefield have seen some alterations since the battle, such as the ploughing of land for forestry, large areas of the potential landscape do not appear to have been significantly disturbed. Among the archaeological evidence which may survive is evidence of broken and lost equipment from the melee combat once the two forces were fully engaged and during the rout. There is also the potential for organic material to have been preserved by the water at Loch Trool, although such deposits may also have been destroyed by erosion.' (HES).

Cultural Association

Bruce's Stone, which overlooks the scene of the battle, is a tablet of stone on which an inscription commemorates the battle of Glen Trool and ascribes a date of March 1307; however, other sources put the date at June of that year. The stone is located at the end of a short trail along a craggy hillside overlooking Loch Trool. In more recent times, the 700th anniversary of the Battle of Glen Trool was commemorated with pipers and oral histories on 31 March 2007 by a contingent of Bruce descendants and historians who met at the top of the glen by the side of Bruce's Stone. Bruce's Stone is designated as a listed building at category C (see LB52395 for the listed building record). Another large boulder known as Bruce's Stone is located in the centre of a moss at nearby Craigencallie, which Bruce is said to have leaned against while awaiting his men to collect the booty left behind after they had made a surprise attack and once again defeated an English army (Johnston 1834-45, 125) (HES).

Material Culture

There are literally thousands if books and articles which reference Robert Bruce and Glentrool. This body of evidence must be considered as historical evidence too.

Perhaps the earliest – written by the father of Scottish literature – John Barbour in 1375 is likely the first recorded mention of Glentrool.

'He stayed in Glentrool for a while, going very often to hunt and relax, to get venison for themselves, for the deer were in season.'

Opinion on proposed Glenvernoch Windfarm

The Glenvernoch windfarm proposal will severely impact on Bruce's Stone and Steps O Trool battle site (1307) which as we have seen cannot be treated as separate from each other in historical terms. It will also destroy the Cradle of Scotland's Independence and its associated cultural history reaching back to 1307 and nationally important figures on both Scottish and English sides. Such a proposal will radically alter its setting and understanding forever. At the same time this will remove education and understanding of our past for forthcoming generations.

More broadly both archaeologists have failed to protect and mention any of the above. On Glenvernoch, Garchew, Bargrennan and almost every site and historical remains within the 10km buffer zone they have sought to diminish with a blanket approach of 'minor and not significant,' impact by the proposed development. These sites have survived for hundreds and sometimes thousands of years. They can show us how we lived in the past and are part of cultural fabric of the Galloway Highlands and its fringes. They must be protected at all costs.

Barry Donnan.

END OF REPORT: Glenvernoch History Report – December 2024

REP 3.0.1: COMMENTS ON ENERGIEKONTOR WSP SOIL SURVEY FOR GLENVERNOCH WIND FARM

WRITTEN BY TONY RIDEN ON BEHALF OF HANDS OFF OUR HILLS

These are critical comments about the EnergieKontor (EK) Planning Application Document, Technical Appendix 12.2: Stage 1 Soil & Peat Management Plan, July 2024.

At their Public Exhibition consultation in Newton Stewart in September 2023, one of the EK display panels stated: '*All turbines proposed as part of Glenvernoch wind farm avoid areas of deep peat. This has been informed by detailed peat depth surveys carried out at the site.*' This is not true.

The EK commissioned Soil & Peat Management Plan by WSP openly states that the Glenvernoch wind farm site has '*peat and peatlands present within the Proposed Development*'. '*The peat survey recorded* (circa)*72% of depths at less than 0.4m considered as organic peaty soil. Approximately 16% recorded peat within range of 0.4 to 1.0m and 12% recorded depths of over 1m.'* These are significant depths of peat, exceeding NatureScot specification required to be less than 0.4m. The presence and significant depths of peat at the specified 'indicative' locations has also been verified by Hands Off Our Hills, and has found that at least 12 of the proposed 13 turbine locations have significant depths of peat, with depths over 0.5 metre and more than 3.0 metres in some of the turbine 'indicative' locations specified in the EK plan (see accompanying spreadsheet and note descriptions at the end of these comments). The site is not an acceptable development site due to the significant displacement of peat. All 13 turbine locations are not pin-point locations, they are each the size of a football pitch at 100m x50m, to be excavated for concrete and steel turbine bases and significant hard-standing for construction cranes and machinery. This will amount to excavating and shifting many 10's of 1,000's of tonnes of peat and peatland habitat. The word 'indicative' is the word given and used by EK, suggesting they have not pin-pointed the turbine locations at the stage of submitting the Planning Application, and may move the locations as they may want. This is not an acceptable planning protocol or procedure.

Instead of acknowledging the excess of peat and moorland Sphagnum bog habitat as being inappropriate for the proposed turbine sites, the WSP survey suggests '*Peat Avoidance*', and yet openly states, '*it has not been possible to entirely avoid peat areas*'.

The WSP survey suggests '*Minimising Disturbance*', yet openly states, '*Where peat and peatland excavation is unavoidable, excavation would be in accordance with good practice*', but then goes on to say, '*The exploration of further opportunities for minimising disturbance through embedded design and micrositing would be undertaken following the completion of detailed design post-consent, and would be provided in a later revision of this SPMP'*, which is a completely insubstantial assurance and an unacceptable proposal.

WSP go on to say under '*Restoration: that a site-specific peat balance assessment has concluded that excavated peat and peat soil can be reused as part of the reinstatement of the Proposed Development*'. Peat balance assessment figures are given in unspecified units. However, any excavation, digging or disturbance of peat releases carbon into the atmosphere. Instead of actively absorbing and sequestering atmospheric carbon, exposed peat dries out, the soil biome micro-fauna would be killed by desiccation, exposure to air and UV sunlight, and is the absolute antithesis of helping climate change and Net Zero. Damage to peat and peatland habitat must not be permitted.

In the WSP Introduction, they refer to several of the Planning Policy, Legislation, Guidance and Good Practice, such as NFP4 Policy 5, but then go on to contradict this policy and guidance by proposing excavating 13 turbine bases and construction hard-standings, each 100m x50m (each the size of a football pitch), disturbing and excavating 10's of 1,000's of tones of peat and as they indicate in their accompanying Planning document Figure 12.4 GWDTE, the Ground Water Dependent Terrestrial Ecosystem of more than 50% of the entire site is predicted to be adversely affected. This is totally ecologically unacceptable and in breach of NFP4 Policy 5[c], guidance and legislation, where '*The generation of energy from renewable sources that optimises the contribution of the area to greenhouse gas emissions reductions targets*'. Given the excessive damage and disturbance proposed by the development to peat, peatland and the destruction of Sphagnum bog mosses and the peat soil biome, this will in no way contribute to greenhouse gas emissions reductions.

Under 'Mitigation Hierachy, 1.2.7', WSP quote Scottish Environment Protection Agency and NatureScot to '*avoid areas of peatland, carbon-rich soils and peatland habitat* ', and to '*Minimise peat excavations/disturbance … and avoids or minimizes wind farm infrastructure within areas of peat*.' Again, the development proposals completely flout and go against this guidance.

Under '*Priority Peatland*', NatureScot are again quoted with *M1 Sphagnum, Bog pools, M18 Erica-Sphagnum, and communities of wetter peat with Purple Moor Grass, Bog Myrtle and Cross-leaved Heath and M19 Heather-Cottongrass*, all of which have been found to be present in most of the proposed turbine locations and interlinking trackway developments, infrastructure, substation and temporary compounds. It is stated that the substation would require 3,600 sq m excavated down to load bearing stratum, and for the construction compounds 5000sq m excavated down to load bearing stratum. Again, this is not acceptable for ecological damage and destruction of priority peatland habitat and must not be permitted. Even the construction requirements of the access point with the A714 public road carriageway has been assessed by SYSTRA in EK Appendix 11.2 Site Access Design Capping Layer Requirements and the drawings indicate that beneath the road '*Inadequate foundation materials encountered within sub-grade (made ground, peat, organic material and soft soils (Cu<40kPa) to be removed to competent strata and proof rolled with resultant void infilled with Class 1 engineering fill*'. If ground conditions for required load-bearing are like this on the A road, then the hillside, peat, bogs and burns will not be suitable without excessive engineering, all adding to the colossal carbon footprint of this unacceptable development in an inappropriate location.

In 5.2.11 WSP state that cable trenches have not been included within the peat balance assessment, ignoring all the damage and disturbance cable trench digging will/would entail.

The measurement of peat depths given by WSP in their Tables 2.1, 5-1 and 5-2 are all contestable as under-estimations of the depths of peat. Peat measurements taken by HOOH investigation in the light of the Planning Application determined that the depths of peat are in fact at least marginally deeper and in some cases significantly deeper, for example T4 and T5 locations.

In Tables 5-1, 5-2, 5-3, 5-4 and 5-5, WSP do not give units of peat and soil excavation, merely numbers, which are of 1,000's and 10's of 1,000's: are these cubic metres, metric tonnes, truck-loads or what? Whatever, the flagrant disregard of the natural habitats, environment, soil biome, and natural existing tranquility of the site to be quantified in excessive industrial engineering terms and 'balances' is a complete misnomer , and absolutely unacceptable with respect to SEPA and NS peat and peatland policies, legislation and guidance, and must not be permitted.

In Table 5-6, WSP use the term '*Micrositing*' for turbine locations. A location measuring 100 metres x 50 metres cannot be described as 'micrositing'. That is a disingenuous misleading understatement of intent and must be refuted with the contempt it deserves, and not be permitted.

Finally, in Section 6, WSP give a '*Disclaimer': The peat extraction and re-use volumes are intended as a preliminary indication. The total peat volumes are based on a series of assumptions for the infrastructure layout and peat depth data averaged across discrete areas of the Proposed Development. Such parameters can still vary over a small scale and therefore local topographic changes in the bedrock profile may impact the total accuracy of the volume calculation. The accuracy of these predictions may be improved though further detailed site investigation (post consent). It is therefore important that the SPMP remains a live document throughout preconstruction and construction phases and is encapsulated within a wider CEMP. The SPMP and volumetric assessments can be updated as more accurate information becomes available. The purpose of this report is to ensure that there has been a systematic consideration of peat management and a quantitative assessment throughout the development process.'*. That 'peat volumes are based on a series of assumptions', that 'data averaged across discrete areas', that 'parameters can still vary', that 'topographic changes in the bedrock profile may impact the total accuracy of the volume calculation [assumption] and that 'consideration of peat management' has been in complete disregard of national policy applicable to this site.

In summary, peat, peatland, soil biome, Sphagnum bog, peat moorland habitat, peat carbon-capture and sequestration, rainwater catchment, absorption, retention, hydrology, tributary water-courses directly feeding into the **River Cree and Lower Cree SSSI**, and all the ecosystem services benefitting the local biodiversity, local residents, visitors, local tourism and economy are all under threat by the proposed development by EnergieKontor. For all these reasons, (and many, many more) the Planning Application must be refused.

The table attached is based on information given by EnergieKontor in their Planning Application documents, using EK's turbine numbering, easting and northing Ordnance Survey map co-ordinates, the rotor diameter and tip height (it is not clear why these

were included here by EK, but the way these heights have been tabled is yet another disingenuous representation of the reality that 'Tip Height' is actually height of the towers, plus the length of the blades 155/2 = 77.5m, giving actual total Tip height of 200m) and the findings of the soil type and surface features, soil depth measured with a soil auger and measuring pole, and the vegetation classification types present at each location. These were assessed and assimilated during the active period of the Planning Application on dates in late December 2024 and early January 2025 by members of the Hands Off Our Hills team, and is also evidenced by a series of labeled photographs taken during this survey.

'INDICATIVE' TURBINE LOCATIONS PROPOSED BY ENERGIEKONTOR AT GLENVERNOCH

STUDY CONDUCTED BY SIAN MCKINNON, PAUL COMACCHIO AND TONY RIDEN ON BEHALF OF HANDS OFF OUR HILLS

Measurements were conducted between Dec 24 – Jan 25 on each proposed turbine coordinate of Glenvernoch Wind Farm.

Turbine	Easting	Northing	Rotor Diameter	Tip Height	Soil Type / Features	Soil Depth	NVC Vegetation Classification
T1	236,168	571,679	155m	122.5m	**Peat on all sides of rock outcrop**	**Up to 1.0m**	**Purple Moor Grass - Bog Myrtle - Heather**
T2	235,498	571,188	155m	122.5m	**Peat and Castle Stewart Burn**	**1.0m+**	**Purple Moor Grass - Bog Myrtle - Heather**
T3	235,649	571,858	155m	122.5m	**Peat and burn**	**1.0m+**	**Purple Moor Grass - Bog Myrtle - Heather**
T4	235,584	572,437	155m	122.5m	**Deep peat and burn**	**3m+**	**Bog Myrtle – Purple Moor Grass - Heather**
T5	234,878	572,026	155m	122.5m	**Deep peat**	**3m+**	**Purple Moor Grass - Bog Myrtle - Heather**
T6	234,640	572,479	155m	122.5m	**Deep peat. Elevated site**	**1.2m**	**Heather – Lichen –Purple Moor Grass**
T7	235,346	572,861	155m	122.5m	**Peat. Near Cairn. Elevated site**	**Up to 0.8m**	**Purple Moor Grass – Heather - Lichen**
T8	235,065	573,190	155m	122.5m	**Peat**	**Up to 1.0m**	**Purple Moor Grass – Bog Myrtle - Heather**
T9	234,360	572,903	155m	122.5m	**Peat**	**Up to 0.5m**	**Semi-improved grazing**
T10	234,908	573,677	155m	122.5m	**Peat**	**Up to 0.5m**	**Purple Moor Grass – Bog Myrtle -Heather**
T11	234,198	573,322	155m	122.5m	**Peat**	**Up to 1.0m**	
T12	234,463	573,898	155m	122.5m	**Peat. Large burn**	**Up to 0.8m**	**Wood-pasture. Large burn**
T13	233,856	573,713	155m	122.5m	**Woodland peaty-loam. Large burn**	**0.1m**	**Wood-pasture. Large burn**

TABLE SHOWS PEAT DEPTHS AT EACH TURBINE COORDINATE PROPOSED BY ENERGIEKONTOR

More Information:

T1: Site surrounded by peat on 3 sides of a granite knoll. Peat depth up to 1.0 metre.

T2: Site is peat with Castle Stewart Burn running nearby. Peat depth 1.0m+ Turbine and Stand Construction at location T2 will affect the water flow and catchment and water quality of the burn, with high risk of contamination with the close proximity of the burn, with peat leaching, risk of diesel and oil spillage and leaks from machinery, potentially into the River Cree and Lower Cree SSSI and into the estuary at Wigtown Bay.

T3: Site is peat with a burn nearby. Peat depth 1.0m+ Any construction at site 3 or turbine will risk diesel oil spillage and leakage and cement contamination into the burn running near and from it.

T4: Site is deep peat with old Bog Myrtle. Peat measured to at least 3.0m depth but may be deeper. This is a completely inappropriate site for a turbine due to the elevation and deep peat disturbance and displacement.

T5: Site is deep peat measured to at least 3.0m depth but may be deeper. This is also a totally inappropriate site for a turbine due to the deep peat disturbance and displacement.

T6: Site is deep peat to depth of 1.2m on an elevated position with Heather and rich Lichen communities.

T7: High elevation near a rocky outcrop. Peat up to 0.8m. This site may also have archaeological significance with the presence of a 'Cairn' and being the 'summit' of the site.

T8: Elevated position. Peat up to 1.0m depth. Dense thicket of Bog Myrtle shrubs.

T9: Raised pasture. Peat at 0.5m semi-improved gazing.

T10: Expanse of Purple Moor Grass tussocks and Bog Myrtle. Peat up to 0.5m depth.

T11: Peat up to 0.9m depth.

T12: Peat up to 0.8m depth. Thickets of mature Bog Myrtle, an elevated pasture with water courses traversing the area, evidence of flooding, and freshwater pond - acidic bog areas, with the large burn dropping directly into the River Cree and Lower Cree SSSI.

T13: An elevated pasture with very thin woodland-peaty-loam topsoil in close proximity to old Hawthorn, Willow, Rowan, Alder and Ash woodland-pasture.

SUMMARY

All but one of the turbine sites are located on peat at a depth of at least 0.5m. It is stated in the Soil Survey document produced by WSP for EK that the whole site is covered in intermittent peat. Of the 12 sites with peat, 9 have more than 0.5m, 4 have peat at a depth of at least 1.0m or more, and 2 sites have peat at least 3m or more. There is peat throughout the area interspersed with rock outcrops. There are numerous burns, flooded areas of Sphagnum Bog and freshwater ponds. There are intact historic dry-stone walls, and older broken historic stone walls or ruins. There are large boulders within the landscape of geological and possible archaeological interest. Between T12 and T13 there is a very large burn which flows directly down to the River Cree and Lower Cree SSSI, which is surrounded by mature Hawthorn, Ash, Willow, Alder and Rowan, and wood-pasture, which is a very scarce and valuable habitat for biodiversity. None of this precious an extensive bio-diverse, moorland peatland, rich in Sphagnum bog mosses, and acidic bog-plant communities, with a rich and diverse ecosystem, including a plethora of Red and Amber-listed bird species breeding and feeding on the site. The peat must not be disturbed, as this irresponsible action would result in releasing atmospheric carbon, expose the soil biome to open air and ultra-violet sunlight, killing the billions of microscopic life-forms within the soil, degrading the nature of the soil, and risking catastrophic run-off contamination to the adjoining River Cree and Lower Cree SSSI with diesel oil, concrete and steel lime and rusting pollutants and micro-plastics from disintegrating nacelle blades over time.

None of this environmental destruction, industrialisation and contamination is acceptable in this location and must not be permitted.

EVIDENCE PHOTOS TAKEN AT GLENVERNOCH WIND FARM PROPOSED SITE:

These photographs are a selection of many evidence photos and videos taken of and during the HOOH site visit and survey and illustrate the wild and natural landscape and peat moorland habitat value and importance of the site to help combat climate change. Due to the limitation of file size, only a select few are included here:

1. View of Glenvernoch from Knockville Farm 24-12-2024.

2. T1 location. Peat auger 1m deep. 24-12-2024.

3. T2 location peat-bog with Heather and Bog Myrtle by Castle Stewart Burn 24-12-2024.

4.T2 location. Peat auger plug over 1m deep. 24-12-2024.

5.Extensive Heather and Sphagnum bog 24-12-2024.

6. Sphagnum cuspidatum, peat-forming bog-moss 24-12-2024

7. Moorland peat-bog and burn between T3 and T4 locations 24-12-2024.

8. Moorland burn between T3 and T4 locations 24-12-2024.

9. Peat-forming bog-moss Sphagnum capillifolium 24-12-2024.

10.Rich diversity of Lichen species on rock outcrops, sensitive to pollution 24-12-2024.

END OF REPORT: COMMENTS ON ENERGIEKONTOR WSP SOIL SURVEY FOR GLENVERNOCH WIND FARM

REP 4.0.1: HISTORICAL AND ARCHAEOLOGICAL OVERVIEW OF GLENVERNOCH FARM AND SURROUNDING AREAS

WRITTEN BY JOHN GARDINER ON BEHALF OF HANDS OFF OUR HILLS

GLENVERNOCH FARM

Pont – Glenbarranach
Birthplace of Margaret Wilson, Wigtown Martyr.
Born 1667 approx. Executed Wigtown May 1685.
1684/85 up to 100 troops billeted on farm searching for Covenanters.

Foot Path (Pack Horse Route)

Through route from direction of Beoch passing Glenluckloch and Craigie before leading via Glenvernoch down to the fords across the Cree at Black Rack, Clachaneasy.
O.S. Map 1847, Wigtownshire Sheet 3.
Although listed as a footpath, this is an old pack horse route.

Black Rack Fords (Clachaneasy)

Old ford 200 yards downstream, new ford 100 yards upstream of Clachaneasy Bridge.
O.S. Map 1847, Wigtownshire Sheet 3.
Wigtownshire O.S. Name Books, Penninghame Parish:
"Black Rack Ford on the Cree at Clachaneasy."
Observations of interest: "At one time much used by smugglers."

The Diel's Dyke

Possibly part of a long-running earthwork.
After crossing Ochiltree Hill, can then be traced on Glenvernoch Fell.
O.S. Map 1847, Wigtownshire Sheet 7.
Listed by the Ancient Monuments Commissioners, 1912 Inventory of Wigtownshire No. 394.

Pont: Refers to Timothy Pont, one of Scotland's first map makers.
A lot of his field studies were undertaken in the 1590s, although the maps weren't published until 1654 by Blaeu.

GLENLUCKLOCH + CRAIGIE – OLD FARM SETTLEMENTS

Glenluckloch

Reg. Gt Seal, 1506, Clonluchauch.
Rot. Scacc., 1462, Clenlontaig.
1457, Clunluchak.
Charter, 1719 Glenluckoch.
(*The Place Names of Galloway* by Sir Herbert Maxwell.)

Maxwell seems to trace this site back to 1457 ("Clunluchak").
This may well be worth highlighting as it is just at the end of the late medieval period.

Rot. Scacc. (*Exchequer Rolls of Scotland*).
Reg. Gt Seal (*Royal Seal of Scotland*).

Craigie

On Pont's map as Kragcoch.
(*Place Names of Galloway* – Maxwell.)

Current Site

The remains of both Glenluckloch and Craigie clearly shown.
Visible remains on site include ruined buildings, old dyked field systems, rig and furrow ploughing, and a corn kiln (NX 33949 73878).

Metal detecting this locality in Sept 2020 resulted in the finding of three hammered silver coins:

- Elizabeth I – 3½ pence, 1560 AD.
- Charles I – Possible 40 pence, around 1630.
- Charles I – 40 pence, 1637 AD.

These coins indicate earlier land occupation than the developer suggests.
I have these coins and details of locations were found in my possession.
I would suggest that any archaeology contained within this area is in severe danger of being lost or destroyed by this development due to the close proximity of two of the proposed turbines and associated access tracks, crane pads, borrow pits, etc.

KIRKHOBBLE – OLD FARM

The ruins of Kirkhobble Farm can be found within an enclosed grazing park just above Clachaneasy Wood.
Due to interpretation of the placename, it has been suggested that there may have once been a chapel in this vicinity.

A good number of old dykes, part of former field systems, can be traced in this area leading out onto what is now open hill grazing. Rig and furrow ploughing can be seen in places.

Maps

Kirkhobble: Pont Map – Kerychapell.
Ing. Ad Cap, 1645, Keirchaprell.
(*Maxwell, Place Names of Galloway*.)
O.S. 1847, Wigtownshire Sheet 3.
Ainslie's County of Wigtown Map, 1782.

Also mentioned on the County of Wigtown Map is Wood House of Kirkhobble a short distance away.
This may be what appears as Crungle on the O.S. 1847 Wigtownshire Sheet 8.

The remains of this can still be tracked within Clachaneasy Wood.

Canmore shows extensive areas of old field systems as being of interest, stretching from Kirkhobble to Craigie.

Kirkhobble, relating to the site of a chapel, can be found in P.H. McKerlie, *Land and Their Owners in Galloway*, Vol. 2, page 316.

Finds

When detecting in the Kirkhobble area, Aug 2020, I found a number of pieces of metal slag, indication of metalworking around that location in the past and suggesting the possible site of a bloomery.
This was close to an old sheep ree now on Knockville ground. Family tradition has it that this was the site of a building in the past.
I still have possession of the slag material.

KNOCKVILLE

Pont: "Knok vill."
(*C. Maxwell, Place Names of Galloway*.)

May 1645:
Robert, Viscount, son of John Gordon, Viscount Kenmure, had retour of Clonville.
(*From Penninghame: The Story of a Parish.*)

Summary

I have mentioned the references to place names within the development area from old maps, etc., as a way of highlighting earlier land use than the developers suggest. Unfortunately, the dates mentioned don't go as far back as I'd like.

The end of the medieval period is considered to be 1450.
The Diel's Dyke most likely is earlier than that.

It may be worth mentioning the dates referring to Glenluckloch and combining that with dates of the coins found as evidence of earlier land occupation than the developer claims, 1400s rather than 1700s.

The old pack horse route from Beoch (medieval site) to the fords, smugglers, Covenanters, government troops, the Diel's Dyke, historic placenames, in addition to the burial cairns, crannogs, etc., should all be considered as part of a rich tapestry of historic land occupation of this site.

A great asset to our nation's cultural heritage and worthy of being preserved, protected, and ultimately celebrated.

Regards,
John Gardiner

END OF REPORT: HISTORICAL AND ARCHAEOLOGICAL OVERVIEW OF GLENVERNOCH FARM AND SURROUNDING AREAS

REP 5.0.1: CRITIQUE AND OBJECTIONS OF CHAPTER 14: SOCIOECONOMICS

WRITTEN BY GILL FORSTER ON BEHALF OF HANDS OFF OUR HILLS

Introduction

This document is a critique of EnergieKontor's Socioeconomic Statement. It is important to highlight from the outset that chapter14 of the EIAR, is very light on detail and does not constitute a full assessment of the Socioeconomic effects of the proposed Glenvernoch development. It has not applied methodologies and appraisal techniques published by the Institute of Environmental Management and Assessment which includes policies and practices for assessing Socioeconomic effects within EIA's. The chapter does not provide a baseline of the Socioeconomic profile of the area and does not define and evaluate the significance of Socioeconomic effects during the construction and operational phases of the proposed development. It is simply a statement without any methodological structure and does not adhere to best practice guidance. There is however a stand-alone Tourist Impact Assessment prepared by Biggar Economics.

Assessment of Chapter 14 provides no evidence that there will be any significant socioeconomic benefit from the construction and operation of the proposed Glenvernoch windfarm. Also, the proposed development could do significant harm to the local tourist economy thus negatively affecting a fragile rural economy. **On that basis the proposed windfarm should be rejected.**

An industry endorsed 'best practice' socioeconomic assessment was prepared by another developer for the proposed Hill of Fare windfarm, in Aberdeenshire which is under consideration by the Scottish Energy Consents Unit. The Hill of Fare wind farm is a similar size in terms of turbine number and installed capacity to the proposed development. Despite the local population around the development and the wider local authority population being much larger compared to Dumfries and Galloway and therefore the developer having greater access to local contractors, they assessed the construction phase as **temporary minor beneficial and not significant** and the operations phase as **negligible and not significant** This provides compelling evidence that EnergieKontor's claim that the proposed development will bring economic benefits to the area is flawed.

Relevant policies

It is recognised that from UK and Scottish government policy that the move to net zero should maximise economic opportunities in that transition. But there is also a recognition that this needs to be balanced with significant protection of highly valued and sensitive landscapes, nature and human health. Not everything can be assigned a monetary value and it important to safeguard those assets that have extreme importance such as the natural environment and the rich biodiversity of flora and fauna which are continually under threat from man and often from excessive drives to maximise profit

There are number of national, regional and local authority development plan policies and initiatives that relate to socioeconomic impacts of wind farms.

National Planning Framework 4 (NPF4).

Although with the publication of NPF4 there is a presumption to consent renewable energy projects, it also very clear that it has to be 'the right development in the right place' . If developments including wind farms have detrimental effects on the economics of an area and the vibrancy and cohesion of communities they will be regarded as unacceptable. The following policies are relevant in this regard and the proposed development in contravention of them

Policy 4: Natural places

Policy 4a states *'Development proposals which by virtue of type, location or scale will have an unacceptable impact on the natural environment, will not be supported'*

Policy 4c states: *'Development proposals that will affect a National Park, National Scenic Area, Site of Special Scientific interest or a National Nature reserve will only be supported where'*

" ii Any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by social, environmental or economic benefits of national importance'

Due to the scale of the wind farm and its location in a highly valued landscape adjacent to the Galloway hills Regional Scenic Area and a Site of Special Scientific Interest and the receiving landscape character type LCT 174 being of too small a scale to accommodate very large turbines the proposed development contravenes policy 4a. Contravention of both policy 4a and 4c relate to the damaging adverse effects on the quality of the landscape without any significant social, environmental or economic benefits to justify this harm

Policy 11: Energy

Policy 11c states: "*Development proposals will only be supported where they maximise net economic impact, including local and community Socioeconomic benefits such as employment, associated business and supply chain opportunities*."

Chapter 14 provides no evidence of actual job creation. The construction phase is transient is unlikely to create any new sustainable employment and the operation phase provides minimal employment on a part time basis.

As there will be no net economic benefit and no sustainable employment opportunities provided by the proposed development the Glenvernoch farm should be rejected

POLICY 13: Sustainable Transport

Policy 13g states: "*While new junctions on trunk roads are not normally acceptable, the case for a new junction will be considered by Transport Scotland where significant economic or regeneration benefits can be demonstrated*."

The transport route to the Glenvernoch site has highlighted a number of significant modifications to roads. The modifications around Newton Stewart exiting A75 at the Barnkirk junction and from the minor road onto require significant modifications and are essentially new junctions.

The negligible socioeconomic benefits plus the detrimental effects on local business due to major impacts on the road work during the construction phase constitutes contravention of this policy.

POLICY 25: Community Wealth Building

Policy 25a states: "*Development proposals which contribute to local or regional community wealth building strategies and are consistent with local economic priorities will be supported.*

For example, improving community resilience; reducing inequalities; increasing spending within communities; ensuring use of local supply chains and services; local job creation;

supporting community-led proposals, including creation of new local firms; and enabling community-led ownership of buildings and assets.

Policy 25b states: "*Development proposals linked to community ownership and management of land will be supported*."

One of the local economic priorities of the area and Dumfries and Galloway as a whole, is growing the tourist sector, which is essential for fragile rural economies. The development would jeopardise these aims. There will be no significant net economic benefit from the proposed benefit in terms of job creation and increasing spending within communities. There are no plans to offer community ownership for the proposed wind farm. Community benefit funds are not material considerations in the planning system.

For reasons of contravention of the above policies the Glenvernoch wind farm should be rejected.

POLICY 29: Rural Development

Policy 29a states: "*Development proposals that contribute to the viability, sustainability and diversity of rural communities and the local rural economy will be supported*'

Policy 29b states: "*Development proposals should be suitably scaled and sited to be in keeping with the character of the area*."

The proposed development contravenes policy 29a and 29b. They produce no evidence of long-term, sustainable impacts on the local rural economy. The siting and scale of the proposed development is entirely out of character for the area, which borders the Cree Valley, Wild Land Area of the Merrick and the Galloway Hills which is the entrance to the economically important tourist areas of the Galloway Forest Park and the internationally recognised Dark Sky Park.

For reasons of contravention of the above policies the Glenvernoch wind farm should be reject

Dumfries and Galloway Council Local Development plan 2

Dumfries and Galloway's Council's LDP2 document Wind Energy Development: Development Management Considerations Supplementary Guidance and the associated Appendix C: Dumfries & Galloway Wind Farm Landscape Capacity Study 2020 provides guidance for assessing the suitability of turbines of differing sizes within the landscape.

Glenvernoch Fell where the development is proposed falls into LCT 17a' Plateau with Forestry Glentrool ' *The guidance states that Very Large Turbines (>150m) "could significantly diminish the distinctive character of the landscape which is indivisibly linked to its surrounding areas. Turbines of this height and associated infrastructure could be intrusive and potentially impact on the recreational, community and cultural appreciation of the landscape.*

This is a high quality, high value landscape, sensitive to erosion of character from wind energy development from large and very large turbines. The landscape at Glenvernoch is highly sensitive to intrusion from turbines including from adjacent LCTs which would have a strong visual influence on hill settings.

As there will no significant socioeconomic benefits from the proposed development and a risk of negative effects from loss of tourist income Glenvernoch farm should be rejected.

Socioeconomic Impacts of the development

Construction phase

Paragraph 14.27 states: '*The average construction cost per MW is estimated to be around 1.23 million +/- 15% (RenewableUK research) Based on the RenewableUK figure of £1.23 million per MW, the total construction value for the proposed development is in the region of £61.5 million'*. **This appears to be an error 1.23 x 86= 105.78 million not 61.5 million as Table 14.2 corrects and confirms (reading 105.5 million in the total row)**

Paragraph 14.30 states: '*Based on a 45 % UK share construction investment for the Proposed Development in the UK is in the order of £47.7million. Professional judgement and knowledge of the local and regional locations has been used in the assessment of geographical distribution and total UK investment. This represents a departure from the RenewableUK study paper methodology*.'

The applicant has chosen to deviate from the RenewableUK study paper methodology that found 7% of construction costs are spent at the local level (45% construction spend in the UK including 7% in the local area and 29% at the Scottish level) and assign a substantially greater proportion to both Dumfries and Galloway and Scotland as a whole. The reason for this irregularity is unclear other than through their 'professional judgement and knowledge of the local and regional locations and the adoption of a 'procurement pledge'. The procurement pledge is based on the 'likelihood of local contractors being used for the Balance of Plant works and grid work and will result in a spend of about 20% in Dumfries and Galloway (nearly 3 times the amount calculated by RenewableUK) and about a 42% spend in Scotland (representing a 31% increase). As mentioned above a similar size proposed development at the Hill of Fare in Aberdeenshire found, in their socioeconomic impact assessment, that there would be no significant net economic benefit from either the construction and operational phases of the development for Aberdeenshire or Scotland as a whole. This is despite the local area around Hill of Fare and Aberdeenshire having a much greater population and presumably a greater access to local firms and contractors that could contribute to construction. Indeed, Aberdeen is approx. 19 miles away from the Hill of Fare proposed site with all the construction support that a city of that size could potentially offer. Therefore, we conclude that EnergieKontor's 'Procurement Pledge' cannot be guaranteed and is purely speculative. **The economic benefits are grossly overstated and the 'Procurement Pledge' may represents a cynical and disingenuous attempt to influence consultees and no weight should be given to it**

Construction Employment

The applicant estimates that the level of employment for the proposed development will be 273 jobs including those in Dumfries and Galloway. At the Dumfries and Galloway level the construction phase could 'sustain' 144 jobs. **These figures have been arrived at by applying the Applicant's unguaranteed Procurement Pledge and therefore should be regarded with caution.**

Paragraph 14.36 states: *' It should be noted that although construction impacts are one-off in nature they will last for the duration of the project (no less than 12 months), thereby ensuring meaningful benefit to the local economy*'. However, the construction activity duration table, Table 3.3 presented in Chapter 3 does not appear to support this statement. Although there will be significant overlap of construction activities many of these are of short duration and some individual contracted firms will be on site for relatively short period of times, typically between 3-9 months dependent on the activity with the exception perhaps of the principal contractor. Also, some activities are of a part-time nature e.g. delivery of essential materials such as aggregates, water and other building materials. It is not clear whether these are included in the overall assessment of number of jobs. **Due to the short-term nature of the construction phase, it is unlikely that the proposed project will contribute to any meaningful increase in employment opportunities for local people.**

Operation

According to the applicant the operations and maintenance phase of the proposed development could sustain 15 jobs within Scotland with 7 being in Dumfries and Galloway providing 704,088 per annum in GVA. **This is a negligible and insignificant effect in Socioeconomic terms annually and over the lifetime of the proposed development**.

Local Benefits

As discussed above, the short-term nature of the construction phase and the low level of employment during the operations and maintenance phase for the proposed developments 35-year operation does not provide any meaningful employment opportunities for local people. People seek long term sustainable employment that allows them to live and work in the area and this proposed development cannot deliver this.

The business rates that are generated from the development go directly to the Scottish Government and then a proportion will be allocated to Dumfries and Galloway Council. Revenue from specific wind farms do not go back to the local area that hosts them but go back to the council for use in general services for the local authority. Therefore, generation of business rates cannot be deemed a significant net economic for the local area hosting a wind farm. **For this reason, generation of business rates by the Glenvernoch wind farm will not provide a net economic benefit for the local area.**

In paragraph 14.47 The applicant discusses contract opportunities in relation to construction employment and hosting Meet the Buyer events to make local, regional and national companies aware of the contracts available.

They identify a number of companies within 40 miles of the proposed development who could potentially benefit from these contracts. It appears that except for providing evidence that they have hosted meet the buyer event, it appears that no evidence post construction is required to prove the proportion of local firms that have received contracts during the construction phase A post construction employment report should be made available to ensure that developers are truly trying to employ people from the local area otherwise claims in application documents regarding the intent of sourcing employment locally should be regarded with caution. It is of course understood that every development will differ in relation to locally sourced employment due to its geographic location.

It is well known that developers employ principal contractors who they know have a proven track record in building specific infra structure project. This is understandable**. However, it cannot always be guaranteed that local firms have the capacity and/or meet the criteria set by the developers to win a contract for large infra structure projects. Thus, without this guarantee no significant weight should be given to the estimated levels for local employment that EnergieKontor have stated.**

Paragraph 14.50 states that the tourism sector and other services will benefit from the spend of contractors. The construction phase is of a short duration so at best could be minor beneficial but have no significance in terms of net economic benefit to local businesses

The operational phase in terms of economic benefit with regard to employment levels is insignificant. Employment from servicing requirements is part time in nature and visits for maintenance will be highly sporadic. The applicant has already stated that the wind farm is controlled remotely and only the occasional service/routine maintenance visit will be required or sporadically as needed.

Community Benefit Fund

Community Benefit Funds can be controversial and can create tensions in some communities. They are for some, more appropriately named community compensation funds that in fact do nothing to compensate for the loss of highly valued landscapes, loss of visual amenity and can be a threat to fragile ecosystems. Although welcome by some sections of communities bringing some minor benefit to small communities, they provide little meaningful inward investment that could stimulate sustainable investment and growth in a local area. Also, there are a large number of criteria to be met to qualify for a grant and they cannot help small private businesses to flourish which in turn helps villages and high streets. The majority of awards are under 5,000 pounds and most are one off payments. Although there are rare examples of awards that are regarded as capital investments these usually need to be match funded to make them successful.

It is of interest that EnergieKontor has made no reference to the £5000/MW that is usually required by developers to contribute to a Community Benefit Fund speaking instead of 'making an annual contribution to a Community Benefit Fund' A £5000/MW contribution based on the 86MW installed capacity should equate to a £430,000/annum contribution. This may well be an oversight by the authors but may indicate that they are planning to sell the wind farm on if constructed as they are planning with the recent completion of Phase 1 of the Pines Burn Wind Farm in the Scottish Borders. Also factored in should be the potential loss of tourist revenue that could occur if a wind farm is sited in an inappropriate location that will deter tourists

Environmental Benefits

The applicant has focused on the development's environmental benefits which include an Outline Biodiversity and Restoration and Enhancement Plan. This has been commented on in other parts of this Objection document specifically in the Ecology section. However, there is a real concern that there will be greater unnecessary damage to the environment from both the construction and operation of the development than the Enhancement plan could compensate for in a reasonable time frame.

The peat on the site is extensive and in a reasonable condition. The peatland chapter shows that avoidance has not been totally successful for a number of turbines and tracks. Also, the disturbance of peat for cable trenching has not been assessed and may well impinge on deep peat.

Any substantial removal of mature/ancient trees cannot be environmentally beneficial from both a carbon capture point of view or a biodiversity/habitat point of view. The planting of new trees will take decades to establish to first balance and then affect an enhancement.

The increase in flood risk is a major issue on the site, particularly with the volume of concrete and impermeable surfaces that will be introduced. These measures may cause unpredictable and potentially adverse outcomes.

Impact on Tourism

The importance of tourism in the Cree valley and surrounding area

Tourism is central to the economy of the Galloway area and to Dumfries and Galloway as a whole. In the Cree Valley and the Galloway hills, visitors are attracted by the unspoilt natural landscape, the flora and fauna and the many outdoor recreational activities on offer such as hill walking, visiting nature reserves, cycling, and mountain biking. The Galloway Forest Park is an important focus for the area and attracts 800,000 visitors per year. There is an inherent risk to the tourism sector in this area, and the forest park which has connectivity to the adjoining Glenvernoch fell, the Cree Valley and surrounding Galloway hills would no longer be the popular destination for the wide array of recreational pursuits it is renowned for.

Latest tourist statistics -VisitScotland 2023

Table :1 Overnight Tourism in Dumfries and Galloway 2023

Source :Great Britain Tourism survey 2023

	Overnight visitors	Total number of nights	Total overnight spend
Domestic visitors	**440,000**	**1513,000**	**£98 million**
International visitors	**44,000**	**216,000**	**£35 million**
Total	**490,000**	**1.73 million**	**£133 million**

Statistics show 87% visitors were domestic visitors, 13% were international visitors and 89% were repeat visitors. The high value of repeat visitors demonstrates the popularity of Dumfries and Galloway as a tourist destination.

It is interesting to note that the percentage of visitors staying in non-serviced accommodation including self-catering holiday rentals and camping, caravan and motor home sites stood at 66% in Dumfries and Galloway. This is higher than our nearest neighbours in the Scottish borders whose share of non-serviced accommodation users stood at 53%. This demonstrates the important contribution that small holiday rentals and camping sites contribute to the local tourist economy which may not be captured in the tourist related employment figures used by Biggar Economics, as many will not be VAT registered.

The number one reason given for visiting Dumfries and Galloway was 'the scenery and Landscape' standing at 78% (compared with 70% for Scotland as a whole), the second top was 'the history and culture' at 52% (compared with 48% for Scotland as a whole) and the third top was 'Outdoor activities available' at 31% (compared with 27% for Scotland as a whole). This demonstrates that the landscape and scenic beauty of the area in particular, alongside cultural heritage and availability of outdoor pursuits are the main motivations for visiting Dumfries and Galloway, more so than for Scotland as a whole where these drivers are still are of very high importance.

In relation to the western area of Dumfries and Galloway, the popularity of the Galloway Forest Park is highest by far at 385,437 compared to the next most popular which is Mabie Forest at 63,291. The visitor numbers to the park only come second to Gretna Green's Famous Blacksmith shop with visitor numbers at 772,488. (all figures from 2019 data Visit Scotland Insight Department (2021) This attraction benefits from high accessibility, being close to the M6/M74 motorways entering Scotland. The Galloway Forest Park is therefore a major attraction for this part of Dumfries and Galloway and a vital part of the local tourist economy.

The proposed development at Glenvernoch lies within 400m of the Galloway Forest Park boundary and the distance to the nearest turbine is only 1 km The proposed development is in very close proximity to a number of iconic hills within the Galloway Regional Scenic Area. If consented, it would pose a very real threat to the tourist industry in the area and have a highly significant effect on the local economy. **For this reason, Glenvernoch wind farm should be rejected.**

Relevant policies and strategic initiatives related to tourism

There are a number of policies and recent strategic initiatives that seek to grow the Dumfries and Galloway tourism sector substantially recognising its many diverse assets.

Dumfries and Galloway Council Local Development Plan 2

The importance of tourism to the local economy of the Cree valley and Dumfries and Galloway is highlighted in the Dumfries and Galloway Local Development Plan 2

4.8 Tourism is a key sector within Dumfries and Galloway's economy. The quality of tourism attractions, facilities and accommodation is integral to the performance of this sector. Planning has an important role of supporting the tourism economy throughout Dumfries and Galloway, whilst safeguarding the tourism assets of the region and ensuring sites are suitably serviced.

4.10 Dumfries and Galloway is fortunate to have two international designations in the Biosphere and Dark Sky Park. The main objectives of the designation of the Biosphere are conservation, learning and research, and sustainable development. These are unique tourism and ecological assets which require safeguarding to ensure future development proposals which require planning permission do not adversely impact upon these unique tourism assets.

The Galloway Forest Park received Gold Tier Dark Sky Park Status from the International Dark Sky Association in 2009 due to the exceptional quality of the night sky in this area. This award demonstrates how clear the night environment is in the park and gives international recognition to its unique qualities. Due to the continuing increase in light pollution nationally, it is estimated that 80% of the UK's pollution will never see a true dark sky. The Dark Sky Park (DSP) is therefore an important and unique natural resource that should be protected. **The inclusion of red aviation lights on 6 of the turbines close to the Dark sky park buffer zone and within the transition zone constitutes a real threat to its international designation.**

Dumfries and Galloway Regional Tourism Strategy 2016 – 2020 States:

'Tourism is worth £302m to the local economy supporting 7,000 jobs The sector is a resilient and important contributor to the economic and social sustainability of the area. Tourism is one of Scotland's most enduring industries and is recognised by many as the most sustainable long-term sector of the Scottish economy.'

Their mission statement incorporates the following aims:

- Increase the value of tourism from £300m to £330m.
- Increase the volume, length of stay and extend the season from 2.43m tourist visitors to 2.6m visitors.
- Increase direct and indirect jobs from 6,969 to 7,300.
- Build our reputation as a place to return to and be recommended.

Two important growth sectors were identified

• **Nature based tourism** - develop the rich and diverse product associated with the region's natural landscape (forest, hills, river, coast and lochs) and iconic international designations such as Galloway and Southern Ayrshire Biosphere and Dark Skies.

• **Outdoor activities** - develop focussed attractions and promotions offering innovative ways to enjoy the outdoors including walking, cycling, mountain biking, country sports, golf and other pursuits ie angling.

Scotland Starts Here: A Responsible Tourism Strategy for the South of Scotland 2024-2034 States:

The South of Scotland has much to offer and is uniquely well positioned to be the 'go to' rural destination for the 14 million people within 2-4 hours travel of the region. We are a welcoming, green, authentic, rural escape: these are sought-after attributes in an increasingly busy, noisy, time-poor, stressed, urban and digital world. Visitors have the space and freedom to relax and unwind how they wish, whether through quiet rural immersion, engaging our unique culture and heritage, or embracing our outdoor and adventure offerings.

Cree Valley Community Action Plan 2020-2025 Cree Valley Community Council November 2020 States:

The South West of Scotland has often been overlooked as a tourism destination, with many visitors heading to the more widely marketed and promoted 'Highlands and Islands' of Scotland. However, the South West of Scotland which was designated as a UNESCO Biosphere in 2012, has a rich natural and cultural heritage in its own right. Being less well known, its roads, its hills, its beaches are all quieter but the quality of authentic experiences that can be enjoyed are all there if only people knew where to go and what to see.

The take home message from all of these strategies is that the tourism sector has the ability to grow if we take advantage of our natural assets and maximise our potential.

The Cree Valley Action Plan recognises as a priority that 'Projects are needed to bring visitors to the area'

Critique of Tourism Impact assessment prepared by Biggar Economics.

This section critiques Biggar Economics Tourist Impact Assessment for the proposed Glenvernoch Wind farm within the Cree valley.

Policy statements

Biggar Economics report quotes:

The Scottish Government's National Strategy for Economic Transformation highlights low productivity as an important challenge for the Scottish economy. The committed transition to a net zero economy represents a key opportunity for the country to boost productivity rates through the investment and creation of job opportunities in addition to creating new sustainable tourism opportunities. *The development of Glenvernoch wind farm will contribute to achieving these aims.*

We challenge the underlined statement and fail to see how the development will create 'new sustainable tourism opportunities. This is highly contentious and would imply the wind farm itself would attract tourists. On the contrary, the industrialisation of an unspoilt and valued landscape in and around the proposed development, which attracts 800,000 visitors per year to the Galloway Forest Park alone would be highly detrimental to the economic well-being of the area. Also as discussed in the previous section, the construction phase of the development is of such a transient nature, job creation is negligible and the operation phase will support minimal employment that will be inherently part time in relation to the Glenvernoch site. In a socioeconomic analysis submitted by another developer for a similar sized project, the estimate for local employment in the operational phase was 1-2 part time jobs.

Biggar Economics Tourist Impact Assessment methods in relation to wind farms

Biggar Economics produced their first report on the potential relationship between Tourism and Onshore wind in Scotland in 2016 covering 18 windfarms for the period 2009-2013. This report was updated in 2017 to include 10 new wind farms and revisited the 18 wind farms from the first study applying the most recent data and statistics available from 2015 for the period 2009-2015. Their latest report was released in 2021 covering 44 wind farms (16 new wind farms and revisiting 28 from the 2017 study) for the period 2009-2019

All 3 studies concluded '*there is no relationship between the development of onshore wind farms and tourism employment at the level of the Scottish economy, at local authority level nor in the areas immediately surrounding wind farm development'*

The study design and methodology has been consistent for all reports and has also been applied to assess the potential effects of the proposed Glenvernoch wind farm on the tourist economy in the area surrounding the development incorporating the main settlement of Newton Stewart.

The study approach assesses tourist related employment as an indicator of the health of the tourist economy, using publicly available statistics at the Scottish level, local authority level, and within a 15km radius of the specified wind farm.

However, since the first report was published the study design and methodology has been widely criticised by both the John Muir trust and Mountaineering Scotland. The key concerns for the John Muir trust were

- The use of tourist employment statistics as an indicator of performance of the tourist economy is flawed because

  (1) It fails to include micro businesses and family run holiday let businesses which can be a substantial part of a rural tourist economy

  (2) Many tourists related businesses are used by residents as well. Indeed, Biggar Economics conducted an earlier study that showed 50% of the tourist related spend in Stirling (i.e contribution to tourist related activities) came from residents.

(3) Although out with Biggar Economics control, businesses that benefit from tourist spend are not included in the Scottish Government sustainable tourist employment SIC codes that are listed in BE's Table 5.1. This misses the significant economic contributions made by tourists to gift shops, retail food outlets, and petrol stations.

- The misuse of ONS statistics for purposes that they were not designed for. ONS warns that data estimates taken from smaller geographical areas should be treated with caution as there may be significant sampling errors. Despite these caveats, Biggar Economics have chosen to assign significant weight to data related to the local 15km areas surrounding wind farms

- The research design is not 'granular' enough to create reliable evidence of local tourist displacement effects around wind farms.

They conclude that a robust empirical study by a genuinely independent and professional research institute is needed to assess the actual performance of local tourism in remote areas around wind farms. The study should also contain control cases in areas of similar characteristics but with no wind farm developments

Mountaineering Scotland produced a review in 2017 'Wind farms and Tourism in Scotland'

Key findings were

- The effects of wind farms on tourism are subtle and complex and depends on

(1) The characteristics of the proposed development alone and cumulatively

(2) The nature of the local tourism offers and market

(3) The characteristics of local tourists.

- 25% of tourists in Scotland are particularly drawn by the quality of upland and natural landscapes.

- Wind farms do have an impact on tourism but it is most evident 'in areas where large built structures are dissonant with expectations of desired attributes such as wildness or panoramic natural vistas'

- In areas of higher quality landscape, both the landscape and those visiting it might have higher sensitivity to wind farms than would be expected in areas of more modest landscape quality.

- In relation to Southern Scotland in particular, it is believed there is strong evidence of displacement of hill walkers to other areas not as affected by wind farms.

We agree with all of these key points. The landscapes within and surrounding the Cree Valley such as Glenvernoch fell are high value, high sensitivity landscapes which draw tourists whose motivation to visit is because of the scenic quality and unspoilt nature of the landscape. If tourists are displaced to other upland areas this will be to the detriment of an already fragile local economy

There has been no primary research into the relationship between tourism and wind farms since the Scottish Government commissioned the 'Moffat study' conducted by Glasgow Caledonian University in 2008. This study failed to find any evidence of negative impacts on wind farms. However, it was conducted at a time when the installed capacity in Scotland was 1.73GW and the installed capacity in 2023 was 9.58GW

The study did however conclude that there was evidence of local displacement of tourists where wind farms operated and their surveys showed that for those tourists who were positive or neutral to windfarms, there was a 'tipping point' where an increase in the number of turbines changed their opinion from acceptable to unacceptable.

The study also acknowledged that the planning system at the time had largely protected more sensitive landscapes from development and that the study findings may have been affected if this had not been the case.

Biggar Economics: Newton Stewart - Local Tourism Economy

The Biggar assessment applies the same methodology to assess the local tourist economy in Newton Stewart and surrounding areas as their previous reports using a 15km radius study area around the proposed development. This takes in parts of South Ayrshire also

Section 5.3 deals with Sustainable tourist employment and found that in 2022 Newton Stewart employed 160 people in the tourist sector accounting for 10.2% of the total employment in the town and 10% in the wider 15km study area. This is comparable to Dumfries and Galloway as a whole (10.1%) and more than across Scotland (8.7%)

Table 5-1 shows the breakdown of tourism related employment in the town and the wider area. The table illustrates perfectly how much tourist related activity is not captured by using tourist related employment as a metric because it misses most of the smaller private and self-employed holiday let businesses that are not registered for VAT or the PAYE scheme that make up a significant number of holiday accommodation provision in the area. The table shows there is no 'tourist employment' in holiday and short stay accommodation or camping parks in Newton Stewart which is clearly not the case and this holiday accommodation is generating income for family run businesses while attracting tourists to contribute to the local economy.

It would also appear that Minnigaff which lies on the other side of the Cree and is part of the Newton Settlement Envelope has been missed with regards listing of holiday accommodation. In addition, some holiday properties that have been listed as part of the wider area e.g. Brewery House are in the Northern part of Newton Stewart and well within the town settlement.

Newton Stewart's Tourist Proposition

Within Newton Stewart and surrounding area. The report identifies and describes

1. Tourist assets including Galloway Forest Park and the many assets it incorporates such as visitor centres, cafes, wildlife watching, fishing walking cycling including mountain biking trails and star gazing
2. Accommodation availability comprising 7 Hotels and B and B's, 18 self-catered lodges/cottages. 1 Hostel* and 2 caravan and campsites
3. Core paths and other recreational paths including the Southern Upland Way within the 15km study area
4. 11 Caravan and Camping sites in the wider area not including the 2 near Newton Stewart

*Please note this hostel closed down several years ago and is now a private residence highlighting that reliance on desk-based studies/examination of out-of-date web sites can lead to errors in the data.

Tourist Impact Assessment

Newton Stewarts tourism economy

The report correctly states that one of the important drivers of the tourism economy in and around Newton Stewart is the Galloway Forest Park. However, there are many other reasons people come to the area including water sports, fishing, and touring the wider area but using the Newton Stewart area as a base. The Machar's is a very popular place to visit, with Wigtown Scotland's book town hosting the internationally renowned annual book festival. The Wigtown story is an example of the regenerative powers of increased tourist numbers to the local economy and highlights the importance of tourism in this part of Galloway. Wigtown was struggling in the nineties and becoming Scotland's book town has transformed it once more into a vibrant community which is still continuing to improve. **Inappropriately sited and large-scale wind farm developments such as the proposed Glenvernoch wind farm could seriously damage tourism growth and may in fact reverse it in this instance.**

The report discusses a range of activities that motivate people to visit the park and then conclude that these elements of the park's visitor proposition would be unaffected.

Of particular contention is:

Paragraph 7.1.1 -Spending Time Outdoors This states '*The proposed development will not change the availability of opportunities to do this but it is possible it could affect the experience of visitors with a particular aversion to wind farms if views from the park were significantly affected*.' We challenge this comment. Views experienced while travelling to and from the park and in the area generally, are equally as important to the visitor experience and may have a bearing on their motivation to visit at all. The main route from Newton Stewart to and from the park via the A714, a promoted tourist route will have high visibility of the turbines dominating the landscape for long sections of the road both North and South. There is also both high and medium visibility from areas within the park itself particularly on a higher ground including Bruce's stone, a promoted viewpoint where 7 turbines will be in view, with 2 particularly prominent. This is borne out by the applicants own LVI assessment (refer to vp3 part2 A714 junction with minor road to Glentrool, vp9-Bruce's stone, vp13-Garlick Hill, and vp14-Lamachan Hill)

Paragraph 7.1.3 Wildlife watching the report identifies two wildlife visitor centres within the park where people can view and interact with two native species- wild goats and red deer. These are popular destinations but the whole of the Galloway Forest Park and surrounding area is a motivation for people to visit and observe the rich array of flora and fauna, particularly those people who have a love of nature. The proposed development itself is on land that supports a diverse range of species, and is adjacent to the Wood of Cree nature reserve which is very popular with visitors and residents for wild life watching. The Galloway Park boundary lies approximately 1 kilometre from the nearest turbine and 400 metres from the site boundary. It is likely that the proposed development would detract from the experience of wild life watchers in the area surrounding the development due to the effects of potential wild life displacement, visual intrusion and noise.

Paragraph 7.1.4 Stargazing. Conceding that this is beyond the scope of the assessment the report states ' *the scale of the park is such that even if the proposed development were to have a significant effect on light levels there would be alternative locations nearby with no visibility of the proposed development that would ensure the visitor experience would not be affected*' Significant effects on light levels from 6 red aviation lights will be experienced as the proposed development is extremely close to the dark sky park buffer zone and within the transition zone. The status of the Galloway Dark Sky Park which has an internationally recognized designation and was awarded a Gold Tier award could be compromised, along with the economic benefits it generates. Dark Sky rangers are employed to host star gazing events within the park of which two are close to the development, The Glentrool Hive in Glentrool village itself and at the Glentrool visitor centre.

Attractions

The report goes onto list attractions in Newton Stewart and the urban periphery and how the development may impact them.

Of particular contention are

Paragraph 7.2.3: Bruce's stone

'*The primary motivation for most visitors is likely to be its historic associations with Robert the Bruce. This will not be altered by the proposed development. While views of the surrounding countryside are likely to be part of the visitor experience, one of the pictures featured on the visitor page about the attraction on the Forest and Land Scotland website appears to show a group of wind turbines in the distance. This suggests that views of turbines are already part of the visitor experience at this attraction. For these reasons there is no reason to expect the behaviour of visitors to this site to change because of the proposed development*.'

Although the historic association with Robert the Bruce is important the viewpoint is promoted for its scenic quality of views over the loch to the hills beyond. The proposed development would introduce turbines into the view approximately 9 kilometres away and would have a detrimental impact on the experience of visitors enjoying the views up the loch. The turbines comprising the Wigtownshire cluster are in the distance approximately 18 kilometres away and by virtue of their smaller scale have little visual impact that would detract from the visitor experience.

Paragraph7.2.4: 7 Stanes Mountain biking

The location of the trails means that many parts of the 7Stanes routes would have theoretical visibility of up to 13 turbines. However, it is reasonable to expect that the primary focus of most visitors to this attraction will be staying on their bike and navigating the trail safely rather than looking at the view. It is therefore very unlikely that the proposed development would have a effect on the experience of many users and therefore no reason to expect visitor behaviour to change.

Although it is appreciated thar riders will wish to concentrate on staying on their bike, particularly in the most challenging sections, the setting of the mountain biking experience is equally important. There will be potential for visibility of all thirteen turbines from the higher sections of the trails and this could detract from the enjoyment of the experience. The 7 stanes trails cater for all abilities and most riders, other than the most advanced thrill seekers, will likely be enjoying the setting and views out from the forest park.

Accommodation in Newton Stewart

The Report summarises how certain accommodation market their properties to draw in tourists and conclude that the development will not affect their businesses as the most important consideration is the proximity to the town centre. However, the types of tourists that are motivated to visit the area, and use Newton Stewart and the surrounding area as a base are usually focused on outdoor activities like exploring the forest park, exploring the multitude of waymarked trails, hill walking, cycling and wild life watching. The development could seriously comprise the income streams of these businesses if visitors decide to holiday elsewhere.

Accommodation in the wider area

This section of the report identifies accommodation providers in the wider area and states

'*Views of the surrounding countryside are likely to be a more important feature of the visitor proposition for accommodation providers out with Newton Stewart than they are for providers within the town*.'

As identified in the applicant's residential visual amenity assessment there are 16 properties within 2 km of the development that will have high visibility of the turbines. Of these, 12 are deemed to have major adverse effects that are significant. Borgan cottage is a holiday cottage that lies approximately one kilometre from the nearest turbine. The view of the turbines is so extensive that 2 individual photomontage sheets were required to illustrate the view (see vp19 part 1 and 2:The minor road outside Borgan cottage) and yet the applicant concludes in relation to this view and other severely affected properties *' it is not the case that any of the effects would be of such a scale so as to become dominant or overbearing*' We contest this and from a holiday let perspective it would certainly make it an unattractive holiday experience for the majority of people due to the very close proximity of the turbines dominating a very large portion of the view from the front of the property and also the effects of shadow flicker, turbine noise and in darkness hours highly intrusive red strobing aviation lights.

Also, the economic contribution of visitors in motor homes to the area is significant, as witnessed by the large number of motor homes parked in Newton Stewart in the summer months and indeed also at other times of year. Although they do not contribute directly to accommodation providers, they often use local holiday parks and contribute to the local economy via spend in restaurants, cafes and gift shops in Newton Stewart and the surrounding area. Motor home users are drawn to the area by the unspoilt and wild landscapes and the ability to get off the beaten track. **The introduction of industrial scale turbines as proposed at Glenvernoch into the local landscape area may well displace them elsewhere to the detriment of the local economy in Newton Stewart and beyond.**

The report concludes that '*any changes arising would only affect a small number of individual providers and would have no effect on the overall number of visitors staying in the local area*' We contest this, although the quality of holiday accommodation is very important to the visitor experience, people visit the area for the quality of the landscape, access to nature and outdoor pursuits and the proposed development is likely to significantly harm the visitor experience and reduce the overall numbers of tourists to the area.

Also, a large proportion of the visitor accommodation in the area are individual holiday lets or small clusters of holiday accommodation that do not show up in the tourist employment statistics which seem to be the mainstay of Biggar's argument that wind farms do not affect tourism in a negative way. Tourist employment only forms part of the picture of the makeup of tourist economy in Scotland and the UK. The application of Tourist Employment as a metric to indicate the health of the tourist economy clearly is in adequate when there are many private self-employed holidays let operators and microbusinesses as is the case in the Newton Stewart area. New independent research is needed into the true impacts of onshore wind on the tourism industry and more accurate metrics to capture true visitor behaviour and spending habits than are currently available.

Recreational routes

The report assesses the effect of the development on the numerous recreational routes within 15km of the development

The report concludes, '*that these routes would be largely unaffected and if there are visitors with an aversion to wind farms, there are plenty of alternatives in the area'*. The applicants own LVIA show many of these routes, which are popular with tourists, will be adversely affected thus harming the local economy.

Of special note:

7.4.1 Long distance routes

The Southern Upland Way is a promoted long-distance route. This section of the route crosses very close to the trig point of Glenvernoch fell with the nearest turbine only 360 metres away. The view would be dominated by turbines looking mainly South East towards the Galloway hills. Although there are other windfarms in view along the SUW, many are carefully sited and none are of the scale and industrial size of the proposed development. This would set a precedent along the route particularly in this western section and could potentially deter users from stopping in the area for accommodation and supplies. Also as highlighted in the report, sections of the SUW are used by general visitors to the area, walking for the day which according to the report states '.. *these visitors could include people with a strong aversion to wind farms. However, there are ample alternative walking routes in the local area so it would be possible for these visitors to avoid the proposed development should they choose*' Such dismissive conclusions are inappropriate and under values the importance of promoting the whole area as a tourist destination.

7.4.2 Woodland walks

Wood of Cree

This Site of Special Scientific interest is a RSPB reserve and adjoins the Galloway oakwoods Special Area of Conservation (SAC). The woods and nature reserve are very popular with visitors and locals alike and there are many trails, some leading out onto moorland with panoramic views of the Galloway hills. A very popular trail through these woods takes visitors out onto Mill Hill, a popular spot with a bench which affords 360-degree panoramic views of the open landscape and the Galloway hills. This spot lies approximately 3.5 kilometres from the proposed development and the turbines will be seen as highly visible incongruous structures in the landscape. Despoilation of iconic views is highly likely to deter some tourists from visiting the area as a whole and certainly may deter them from returning. Again, this will have a negative impact on the local tourist economy.

7.4.3 Glen Trool

Loch Trool is described as '*one of the real gems of the Galloway Forest Park'* by the Walk Highlands website. The circular routes of Water of Trool and particularly the Loch Trool trail, will certainly experience views of the turbines at certain points detracting from the scenic quality of the landscape and the perception of an unspoilt environment which tourists visit the area for. Reduced visitor foot fall will certainly impact on the local economy.

7.4.5 Prominent Hills

Both the Merrick and Cairnsmore of Fleet which are approximately 14 kilometres and 13 kilometres respectively from the proposed development will experience views from the summits of these two iconic hills, The Merrick in particular is noteworthy as the highest summit and is climbed by many visitors per year. The wind farm will be perceived as being a highly noticeable incongruous feature in the foreground of the view with the smaller distant wind farms having no significant impact. Also, the report states with regard views from these 2 hills 'Information available online about this route highlights the views available from the route, however the views highlighted are of the Cree Estuary and the Solway Firth, both of which are located in the opposite direction to the proposed development' Human vision is designed to detect incongruities and motion in their field of view. The eyes will be drawn to the turbines in the relative foreground (see vp12 Merrick).

It of note that Garlick Hill, and Lamachan Hill were not incorporated into the assessment. Although considerably smaller than The Merrick and Cairnsmore they are important with regards assessment of effects on tourism due to their position within the Galloway Forest Park itself and the close proximity of the development to these hills. The summit of Garlick hill and Lamachan hill being 7 and 9 kilometres to the nearest turbines respectively (see vp 14 and vp13).

Conclusions on the Tourist Impact Assessment for the Proposed Glenvernoch Wind Farm

The Tourism Impact assessment concludes that '*the development of the proposed Glenvernoch wind farm is not expected to lead to negative effects on the local tourism economy*'

We contend these conclusions for a number of reasons

- Biggar Economics has concluded that there is no evidence that wind farms have negative impacts on local tourism economies based on studies conducted between 2008 and 2021. However, their study design and methodology has been widely criticised for lacking the sensitivity to detect displacement effects of tourists from areas around wind farms
- The use of Tourist related employment as an indicator of the health of tourist economies, although purported to be the best measure currently available, fails to give a true profile of the contribution of tourists to the economy particularly at a local level.
- The use of tourist related employment as a metric has failed to capture the contribution of the large number of family run holiday lets that provide accommodation and attract visitor spend into the area.
- The Tourist Impact assessment for Newton Stewart and surrounding area has down played the importance of its natural assets, including the unspoilt and scenic quality of the landscape and access to outdoor leisure activities, as a motivation to visit. Preferring to focus on Newton Stewart town centre and proximity to local facilities as the draw for tourists. This is clearly not the case.

In relation to this last point Biggar discuss motivations for visiting the park and conclude 'that there is no reason to expect the proposed development to substantially affect visitor behaviour' but concede that some visitors who have an aversion to wind farms may avoid certain routes or accommodation with significant visibility but there are 'sufficient alternatives within the local area to ensure this would not affect the tourism economy as a whole'. The proposed site is highly visible from numerous areas in and around the forest park and from a large number of recreational routes, including promoted roads such as the A714, the NCR7 cycle route, the Southern Upland Way as well as many shorter promoted trails and core paths and from all nearby hills. The wind farm will dominate the landscape from may vantage points and will impact a very high number of people not just a few, who come to enjoy the breath talking scenery and special qualities of the local landscape which can only be found in this part of Galloway. Thus, this may result in a significant displacement effect, with people deciding to go elsewhere and not return to the area with a detrimental effect on the local fragile economy. Indeed, the most recent VisitScotland survey found that 89% of visitors to Dumfries and Galloway were return visitors. **Therefore, it is important not to deter these regular tourists from visiting the area.**

All of these factors above should give sufficient cause for a new independent primary research project to be commissioned to thoroughly investigate the effects of wind farms in landscapes that are popular tourist destinations and the impact they have on the local tourism economy, the economy at local authority level and at the national level. This is particularly relevant at this time as there are number of strategies at both local and national to increase visitor numbers in all areas of Scotland.

Based on a thorough examination of EnergieKontor's Socioeconomic statement and Biggar Economics' Tourist Impact Statement we would argue that the proposed Glenvernoch wind **farm will have a significant adverse effect on visitor numbers to the area and thus to the local economy which is heavily reliant on tourism and therefore should be refused.**

END OF REPORT: CRITIQUE AND OBJECTIONS OF CHAPTER 14: SOCIOECONOMICS

REP 6.0.1: ECOLOGY, HABITAT AND SPECIES OF NATIONAL CONSERVATION CONCERN

WRITTEN BY TONY RIDEN AND PAUL COLLIN ON BEHALF OF HANDS OFF OUR HILLS

Ecology, Habitat and Species of National Conservation Concern found at Glenvernoch

The proposed area of Glenvernoch Wind Farm covers an area of semi-improved, unimproved acid grassland, bog with mixed broadleaved trees and shrubs, scattered across an attractive undulating landscape, consisting of dry knolls, damper valleys, plus areas of peatland with associated vegetation. It will have soils which have been undisturbed for centuries and in places never having been disturbed. These ancient soils will support a rich complex structure of fungal-hypae, invertebrate populations and a range of acid loving plants that stretch back contiguously for hundreds of years, and critically are vitally important for sequestration of atmospheric carbon.

This habitat type and associated wildlife has witnessed considerable losses in the recent past to forestry. Over 30% of Dumfries & Galloway land area has been converted to plantation forestry, the highest percentage of any region in the UK. The Upper Cree catchment is the highest planted of any catchment with 80% now in forestry. The considerable number of Wind Turbines across SW Scotland, in excess of 1,000, have been developed on similar such ground bringing further losses to an already depleted habitat. A habitat that in the recent past was rich in breeding waders, Black Grouse, and supported large numbers of rare birds of prey, at some of the highest densities in the UK. (Ref: Galloway and the Borders by Derek Ratcliffe 2007; various writings by Donald Watson; and Jack Gordon's Birds of Wigtownshire 2016)

The wildlife, especially breeding waders that remain, represent fragile and considerably depleted populations which are now at risk.

The decline in ground nesting birds across the immediate area and wider region has been exacerbated by the shift from hay to silage on the richer lower grounds, decimating formerly huge breeding numbers of Skylark, Meadow Pipit, Lapwing and Oystercatcher. This factor alone increases the importance of the remaining pairs still breeding on the less intensively managed hill moorland sites like Glenvernoch.

Residents of the Cree Valley have lived and worked here for many decades. Bird life and wildlife has been recorded and observed, annual movements of special cherished birds passing through and breeding in this much-loved valley. The rare Atlantic Oak Woodlands habitat (Ref: https://www.inyourarea.co.uk/news/laughing-badger-wildlife-ancient-uk-rainforests-rare-woodland-under-threat) has been improved and through the Cree Valley Woodland Trust linked and extended to create one of the largest contiguous native broad leaved woodlands anywhere in Scotland, stretching 18kms from Newton Stewart to Loch Trool. Bats have been studied, with 100 bat boxes located along the length of the Cree, and additional maternity bat roosts monitored, along with acoustic monitoring.

There is a strong population of Otters along the Cree and Waters of Trool. Badgers are numerous and thriving. Pine Marten are present in all the woods and forests. It is hard if not impossible to believe these species do not wander onto Glenvernoch regularly. Additionally, Water Vole (protected under Schedule 5 of the Wildlife and Countryside Act 1981) have been recorded on Glenvernoch as recently as 2024.

The proposed development is within a few hundred yards of these precious woodlands and habitats which support high biodiversity including populations of national significance. It is hard to believe that these massive turbines with associated noise and vibration will not impact adversely on the rich and fragile biodiversity of this area – thereby defeating the core objective of NatureScot, to reduce biodiversity loss.

Wood Warbler and Pied Flycatcher that winter in Africa, both breed in neighbouring oakwoods at densities and numbers which make them not just locally significant but nationally significant in a Scottish context.

Comments and notes on Energie Kontor (EK) Glenvernoch Windfarm

Environmental Impact Assessment Report - Volume 1, Chapter 8 Ornithology

The numbered references are from the EK EIAR.

8.2 The EIAR disingenuously and incorrectly states that, 'the proposed wind farm does not lie within any sites or areas designated or recognised for their international or national ornithological value'. In 8.3 the EIAR contradict their own words saying: 'The assessment identified 16 Valued Ornithological Receptors present within the proposed wind farm site or the core study area. These were: Goosander, Osprey, Goshawk, Red Kite, Hen Harrier, Peregrine, Merlin, Oystercatcher, Golden Plover, Lapwing, Snipe, Curlew, Common Sandpiper, Barn Owl, Long-eared Owl and Common Crossbill'. In fact, the entire proposed development site is within, and potentially central to, the candidate Galloway National Park selected by the Scottish Government as the strongest bid to become Scotland's next National Park. This is under present public consultation by NatureScot and designation does not preclude that the location and regional area is of National Park landscape quality along with all the natural biodiversity and bird and wildlife inhabiting the region. The Glenvernoch site also immediately adjoins a designated Regional Scenic Area (RSA), the Galloway Hills Dark Sky Park, the UNESCO Galloway and South Ayrshire Biosphere, and is recognised for both national and international ornithological value and would be an overwhelming impact visually and with noise, flicker and infrasound. EK fail to even mention or acknowledge that the River Cree is also a Site of Special Scientific Interest (SSSI) and that the proposed development site has immediate rain-water run-off and tributary burns within less than 100 metres of the SSSI that would be a serious risk of contamination and industrial plant pollution or deterioration of the fisheries interest and value.

EK acknowledge that the Wood of Cree SSSI is within 370 metres of the proposed development site. The 13 turbines are 200 metre high on elevated ground of around 150 metres. EK state that they predict there will be 'no significant effects on the SSSI'. However, the effects would be very significant from both the construction phases with noise, machinery, industrial plant, peat land and rock excavations, dust, significant river water extraction for concrete, and in the production phase with blade rotation noise, shadow/light flicker, infrasound vibration aerial collision risks, ice-fling risks, a potential risk of turbine tower or blade failure in close-proximity to the SSSI, and ultimately noise and disturbance of decommissioning stages. Any, and all, of these will impact on the wild nature, biodiversity, tranquillity and high scenic quality of the adjoining SSSI's and Galloway Regional Scenic Area and Special Protection Area (SPA). EK say it would not impact on the Galloway Moors SPA because it is 18 kilometres away, but the 13 proposed turbines each at 200 metre height (656 feet) on hillsides of around 150 metres elevation, the will mean they will dominate the area and present significant landscape visual impact, noise and infrasound disturbance and collision risk for raptor species known to breed and frequent this area and region, including the 16 species listed in 8.3 and additionally territories of Golden Eagle.

8.4 EK say, 'effects on all the VOR's ('Valued Ornithological Receptors') is Not Significant', but other than 'best practice' do not say how they would mitigate against any noise, peat and rock excavation, dust, machine, crane-plant, river-water extraction, ice-fling risk, blade collision, perpetual turbine noise, flicker or infrasound. Infrasound alone from wind turbines is a real issue, with known harmful effects on people, livestock, wildlife and birds as described in scientific research publications such as ref: https://www.sciencedirect.com/science/article/pii/S2210670722006126

8.6 EK say their surveys have found significant Schedule 1 protected bird species breeding on the Glenvernoch site, but have not made this information public. How can the public make a judgement if even redacted information is withheld? This is tantamount to withholding vital information that should be available for public to see, even if redacted, so that a fair representation of the EIA can be made. Not to avail this information in any form is completely unacceptable and erodes the democratic process for scrutiny and comment of an unknown significant environmental impact.

8.11 It is clear that from the 16 VOR's identified (but not necessarily publicly disclosed) from the survey, that all 3 relevant pieces of statutory legislation in Scotland, as stated, are applicable. This would indicate that the proposed wind farm would be in violation of each of the referenced legislations and should therefore not be permitted.

8.18, 8.19, 8.20 Viewpoint surveys amount to a pitiful 6 hours per month throughout the periods of survey. Although this may have conformed to the EIA requirements, there are around a total of 720 hours in a month, so to only survey for 6 hours suggests significantly many more birds, records and data will have been missed and will have given an inadequate representation of the ornithological presence and use of the site and area. Most bird migration for example, happens at night. Despite this shortfall in survey time, in 8.27 'Collision Risk Modelling, was not undertaken', due to low numbers of flights recorded'. This could have been written as 'due to inadequate survey time'. If this is upheld as an acceptable survey coverage and assessment, it is a potential gross injustice to the species known to use and recorded on the site and in flagrant violation of the respective wildlife protection legislation given as relevant and applicable.

8.30 States: 'guidance on the assessment of effects, particularly pertaining to birds, has been taken from NatureScot guidance (SNH 2006 & SNH 2017)'. So, this EIA report and the EK application is based upon out-of-date guidance that is 12 and 7 years out of date. The more recent and up-to-date guidance publication that has been completely overlooked, ignored and not made reference to, is NatureScot 'State of Nature Report 2023'. A relevant extract from page 5 of the 'State of Nature Report 2023' says, **'Nature needs space to live and flourish, but around the globe we humans have decreased and diminished those spaces. This is especially the case in the UK. There are substantial negative consequences of living in a nature-depleted country. These include impacts on human health, and direct costs associated with adaptation to lost and damaged ecosystem services. For example, pollinating insects are worth millions of pounds to UK agriculture, and their population declines threaten food production. Recent years have seen severe flooding in the UK arising from development in areas prone to flooding and climate change.**' There are enormous costs both of allowing continued degradation and repairing damage, *so it is far more cost-effective to avoid causing damage in the first place.'*

8.44 'Cumulative Effects' paragraph statement only mentions and discussed existing windfarms. It does not mention the cumulative effects of the additional windfarm proposals around the Cree Valley area ('Blair Hill', 'Shennanton' and 'Balunton Hill') that are also anticipated to be submitted in Planning Applications early in 2025. The real prospect is that if EK were to be given permission for Glenvernoch, then this would set precedence for the other windfarm companies to follow suit and further exacerbate the blight of industrial wind turbines in the Galloway Hills. This prospect is completely unacceptable for all the reasons of protecting the special recognised landscape quality, rich local biodiversity, protected Schedule 1 bird species, and all the other reasons that this is absolutely the wrong place for any industrial windfarm developments and associated infrastructures, of pylon-lines, Battery Storage Units, road-widening, noise and pollution and should not be permitted for the numerous adverse impacts on this special local environment.

8.53 Says 17 VOR's were recorded, whereas in 8.3 it was said there were 16 VOR's. This is another inaccuracy and inconsistency of the survey and EK EIA report. What is the missing species or error?

8.54 – 8.105 Of the pitiful 6-hours a month survey time, the species of conservation concern that are recorded as using the Glenvernoch site, and have been categorised as of 'Local importance' include: 'Oystercatcher, Golden Plover, Lapwing, Curlew, Snipe, Barn Owl, Long-eared Owl, Nightjar and Crossbill.' These are all species of Conservation Concern present either breeding or using the Glenvernoch site. The list and survey have not picked-up Woodcock, Fieldfare, Redwing, Skylark, Tree Pipit, Grasshopper Warbler, Cuckoo, Wheatear, Whinchat, all of which have been recorded on the site, with large numbers of Woodcock using as a feeding site in winter months, as well as a local breeding population, and with male Cuckoo recorded calling on site during the breeding season. The survey did not pick up that the Cree Valley is a migration route for Whooper Swan, Shelduck, Pink-footed Geese, and many other species in both autumn and spring.

8.112, 8.113 The vegetation is described as, 'Complex mosaic of acidic grassland, blanket bog, mire and rush pasture habitats. These vegetation classifications are all indicative of moorland peat soils. Peat and the vegetation, particularly of 'blanket bog, mire', should not be disturbed or damaged, and be must kept intact, as this one of the most significant natural atmospheric carbon sequestration systems, as described in this scientific paper from 2019, Ref: https://www.sciencedirect.com/science/article/abs/pii/S0048969719307375 Indeed, the Hill of Ochiltree Eon windfarm application was refused because of potential damage to the peatland soils. This planning application must be refused too for this reason. To permit the proposals to go ahead would be counterproductive against the very purpose of trying to meet the UK's target of Net Zero carbon emissions.

8.115 to 8.140 In describing 'Disturbance and Displacement', to bird species, including Schedule 1 protected species and species of conservation concern, recorded either breeding or using the proposed development site, as being 'minor impacts', 'negligible impacts', as 'not significant', of 'negligible effect' on numerous counts, is a flagrant disregard shown for wildlife, of despicable opinionated arrogance focused on profit and financial gain at whatever the environmental cost. It exemplifies ignorance of international and national wildlife legislation and respect for other life-forms. These accounts are truly sickening reading and representation. Whoever has written them should be brought to account by legal investigation with the EU and Scottish Wildlife Acts quoted in 8.11 of the EIA report.

8.197 How can a few short hours of survey and observation from a viewpoint be sufficient evidence to quantify a conclusion that only a matter of periods of seconds be accepted as a legitimate time-set to conclude that 'Collision Risk Modelling' is unlikely to be significant'. This is an unacceptable data set and conclusion.

8.203 to 8.211 Gives comparable data sets and environmental impacts of the several other windfarms either already operating or scoping in the region. This comparison is nothing short of an imaginary, self-congratulating excuse of justification, that has no foundation on reality of fact of the environmental damage these industrial-scale wind turbines inflict on the local residents, local communities, local businesses, local environment, wildlife, detrimental impact and landscape ruination of a National Park quality environment under present consultation for National Park status. To quote an extract again from NatureScot State of Nature Report 2023**, 'National Parks and Areas of Outstanding Natural Beauty [now National Landscapes] are landscapes designated for a range of purposes including conserving natural beauty, wildlife and cultural heritage; and providing opportunities for public enjoyment, understanding and recreation. Where there is conflict between purposes, conservation is supposed to take priority'.**

8.211 to 8.213 In 'Mitigation' the conclusion of all the significant findings of the short periods of survey, is that there is nothing to mitigate. 8.211 'As no potentially significant effects have been predicted it is not considered necessary to include any mitigation measures'. 8.213 'In order to minimise the risk of harming or disturbing breeding birds, vegetation clearance works will not be undertaken during the breeding season (1st March to 31st August inclusive) unless a checking survey by an appropriately qualified ornithologist has shown active nests to be absent immediately prior to the start of works'. This is open to a dereliction of duty toward breeding habitat and bird species known to use the site, and an unbelievable cop-out of environmental responsibility that would need to be overseen very carefully. EK are attempting to be justified by a very questionable, inadequate and unreliable survey and report, that does and says little of how important the site location, the area and region is, for bird-life, natural biodiversity, quiet recreation, wildlife tourism, nature conservation sites, quiet, peace, tranquillity, the real fragility of the last remaining fragments of the Wood of Cree SSSI native ancient oak woodland ecosystem, the River Cree SSSI Atlantic Salmon, Brown Trout and Sparling spawning fisheries, the reason why protected species such as Otter and Osprey breed and source fish locally, and the special landscape qualities of the candidate Galloway National Park, and all the other many special qualities of this area.

Again, I cite the following references of NatureScot 'State of Nature Report 2023', page 39, **'Impact – species and habitats'**

'Woodland - Rainforest along Britain's Atlantic coastline; the Woodland Trust seeking to treble the area of native woodland in favourable ecological condition by 2030; and the Caledonian Forest Restoration Project, which aims to restore the ancient woodland of the Scottish Highlands. Woodland restoration has positive impacts on a variety of UK species. For example, diversifying woodland structure and age, increasing the proportion of native tree species, and increasing the area of canopy openings can benefit bird species such as the Willow Warbler, Marsh Tit and Redstart.'

Grassland - positive impacts on a range of species, including birds, insects, and plants. For example, allowing natural regeneration of grasslands or sowing grass and wildflower seeds into arable fields in southern England improved moth abundance and species richness. Similarly, restoring landfill sites to grasslands and then managing them by mowing or grazing benefits a variety of bird communities. Lapwing, Redshank and Curlew populations all benefit from the restoration and management of lowland wet grassland by encouraging natural hydrological conditions and processes.'

Glenvernoch and the Cree Valley area are good examples of these habitats and all of the named species are present and breed in this area. Any windfarm development would adversely impact on both these nationally valued habitats and species.

Continuing with the following relevant extracts from NatureScot 'State of Nature Report 2023', page 63 **'SCOTLAND'**

Key findings (include):

- 'Average 15% decline in species' abundance: For 407 terrestrial and freshwater species, abundance across Scotland has fallen by 15%, on average, since 1994'.

- 'Strong decreases in plant and lichen distributions: Since 1970, the distributions of 47% of flowering plants, 62% of bryophytes (mosses and liverworts) and 57% of lichens have decreased, compared to 27, 25 and 34% of flowering plants, bryophytes and lichens respectively, that have increased in distribution.'

- '11% of species are threatened: Of 7,508 species in Scotland that have been assessed using IUCN Red List criteria, 11% have been classified as threatened with extinction from Great Britain'.

'The species abundance indicator for Scotland covers the period 1994 to 2021. Ecologically, this is a very short timeframe and the findings need to be considered in the context of previous historical losses highlighted in this report. For example, the indicator does not capture the impact resulting from historic woodland losses, forestry expansion or the intensification of agricultural management following the second world war'.

In local context, the Cree Valley area has a significant wealth of species and rich biodiversity, of local, national and international importance, that need to be protected from damage and disturbance of industrial-scale wind-farm developments.

Pages 65 to 66 'Change in species abundance'

Despite the comparative rich-biodiversity and favourable habitat conditions in Scotland being the best in the UK, declines in species has still occurred in average species abundance, including moths, wildfowl, wintering water-birds, waders, farmland birds, vascular plants, bryophytes and lichens. The Cree Valley biome is home to all of these plants and animals and should be protected from damage and disturbance from industrial-scale wind-turbine developments.

Page 70 'Non-native species and disease'

'Non-native species and disease: The ongoing outbreak of Highly Pathogenic Avian Influenza (HPAI) in wild birds is the most serious ever recorded. The impact in the winter of 2021/2022 on the population of Barnacle Geese that come from Svalbard to winter on the Solway in Scotland was devastating, with around a third of the population dying.'

In local context again, Icelandic Pink-footed Geese and Whooper Swans annual migration routes include the Cree Valley area and hills on route to and from their traditional wintering grounds in Wigtown Bay and sites around the Solway Coast. The numerous and huge sizes of wind turbines proposed would seriously risk fatal strikes with numerous rotating turbine-blades, and should not be permitted.

'Raptors have experienced marked declines in breeding success linked to HPAI, particularly Golden and White-tailed Eagles. The ongoing impact of HPAI is difficult to predict, but this novel additional pressure on our wildlife emphasises the need for resilient ecosystems and species populations.'

Finally in local context, both Golden Eagle and White-tailed Eagle have been recorded in the Cree Valley area and frequent the Galloway Hills as part of their territories, particularly from the successful South of Scotland Golden Eagle Project based in the South of Scotland. These iconic birds of prey have been brought back from the brink of extinction in the UK and are very susceptible to fatal aerial collisions with rotating turbine blades, as has recently been the reported case of Sparky, a 3-year old Golden Eagle from the area killed by collision with a wind turbine in Galloway. Again, for the sake of these iconic birds, these industrial-sized turbines should not be permitted in this area.

Further Comments on: Ornithology EIA Survey work. (EIA text is in blue)

It is noted that 2 Vantage Points were selected for this site, presumably deemed necessary due to the undulating nature of the ground and difficulty of seeing all parts of the site from any given point. This means that not all the site or all the birds were visible during all the 288 hours of observations, so the Vantage Point can never be 100% accurate. A surveyor may spend 3 hours at a VP in a 6 hour day. Maintaining perfect concentration and coverage over this period is impossible. When engaged in monitoring an observer following a certain bird can easily miss another flying over a different part of the site. Dusk and dawn observations, which are necessary, are naturally conducted in poor light, making observations of all but the largest birds very difficult to impossible, especially over undulating ground. Birds will have undoubtedly been missed and any calculation of potential collision risk will be of an inaccurate system and prone to error. Calculations of birds at risk of collision (Collision Risk Window) by EK have been based on the 288 hours of observations, but the calculations assume that all birds over all of the site were viewable for 288 hours. This is not the case, as 2 Vantage Points were required to see all parts of the site, and with no allowance of reduced visibility in failing light.

Key Red listed species which breed on or near the site, Curlew, Lapwing, Golden Plover, Oystercatcher and Snipe, have been documented by the EIAR with Collision Risk Assessments. These calculations have been made using the full 288 hours over the whole 2 years which considerably reduces the risk, as the birds will not be present for much of this calculated time. The birds are only in the area during the breeding season, for 3 months, mainly mid-March to mid-June, and during a period of exceptionally

long day length. Therefore, the risk of collision for these species which are present for a short period during long day light hours will be considerably higher than the figures presented in the EIA report.

Spreading the VP surveys evenly through the whole year is weighted in favour of the shorter day light days of winter when fewer birds are present and a greater percentage of daylight hours is monitored. Compared to the same observational hours during the much longer days of summer. Therefore, a smaller percentage of the daylight hours are monitored in the summer than the winter, when the greatest risk of collision by the Red Listed species which breed here in the summer, is during these long days March-June.

For these species of breeding wader to calculate the Collision risk the recorded observations should therefore not be divided by 288 but by (288/4=72) 72 and then multiplied by the daylight hours. During the spring/summer say 14 hours a day for 3 months (14x30x3=1,260). This would give an actual risk of collision during the 3 months the birds are using the site, and gives a far greater potential risk than the small 0.01 to 0.03 given in the document, indeed many hundreds of times higher and therefore significant.

Consultation Royal Society for the Protection of Birds

8.49 The RSPB Scotland Conservation Data Management Unit held no data, on any key species, that had been recorded within 2km of the Glenvernoch proposed Wind Farm (6km for Golden Eagle), between 2017 and 2023.

The above statement given by EK is incorrect and out of date. There are at least 3 records of Golden Eagle near to Glenvernoch in 2024. A single female from the Eagle Moffat Release Project has been residing in the region for at least the past 18 months or more and tracking data from her satellite shows that she wanders widely from Cairnsmore to Loch Trool area has been sighted over Brigton, NX 3674, flying NW over the River Cree on to the Glenvernoch site. In spring 2024, a Golden Eagle was sighted grounded by low cloud at Minniwick NX3777 in Nov 2024. Tracking data confirms that the satellite tagged female has and does visit Glenvernoch within 1Km of proposed turbines, and is therefore at risk. An additional bird was sighted at the Drannandow Farm winter of 23/24 just about 6km from the nearest proposed turbine. Another Eagle species also roam through the area, with records of White-tailed Eagle in the Cree Valley.

There are currently 2 resident pairs of Golden Eagle in the Galloway Hills plus this additional female which has been seen with a potential mate on a number of occasions and other birds from the Release Project, that have been monitored wandering into the Galloway Hills and beyond. It is likely with increasing numbers of eagles that the frequency of them roving into the Glenvernoch site to hunt will increase. White-tailed Eagle has also been recorded over the Cree Valley in recent years. Disturbance, displacement or loss of any eagle from this area would be a serious conservation travesty.

Golden Plover (blue indicates taken direct from the EIA report)

8.77 Golden Plover is a Scottish Biodiversity Species. The UK breeding population of Lapwing is estimated to be approximately 42,500 pairs (Woodward et al. 2020; Balmer et al. 2013) and the wintering population approximately 410,000 individuals (Woodward et al. 2020). Golden Plover is a scarce upland breeding species in Dumfries & Galloway, but a common wintering species on the coast (Warren 2024).

Note: error above, naming Lapwing, but should read Golden Plover in the report.

The discovery of 4 pairs of breeding Golden Plover near to the proposed wind farm is very interesting as this is now an extremely rare breeding species especially on the lower moors of Wigtownshire and has been lost from other Wind Turbine sites in the region where they used to breed prior to developments. It is now a very rare breeding species across all of D&G and 4 pairs is very significant.

Black Grouse – None were recorded during or by the EK Ornithological Survey, but during the 1980's and 1990's, when the forestry to the south was still young, 10 birds lekked on Glenvernoch (right near proposed T9 and T11). This indicates the suitability of this site for the species and potential for restoration.

Curlew - similarly the site held 2-3 breeding pairs, prior to the dramatic decline of the species across the region.

Nightjar – a rare bird in D&G and Scotland as a whole, but increasing. During the 1980's-90's 7 pairs of Nightjar bred just south of Glenvernoch in Penninghame forest, immediately on the border and within a few hundred meters of the proposed wind farm.

As the trees matured the birds moved just a couple of kilometres further south and are likely to return as the adjoining forest is clear felled. This process of recolonisation by Nightjar is beginning to happen and Nightjar are highly likely to be present during the lifetime of this proposed project. It is known that Nightjar forage over large areas and have been recorded hunting over the Cree valley and probably still hunt over Glenvernoch at night.

Migrating birds and Nocturnal birds

There has been no assessment of nocturnal use of the site by birds. Nocmig recording along the Cree in Newton Stewart has shown that a number of species move through the area at night these include Curlew, Water Rail, Common Scoter. Other birds heard migrating at night include Sandwich Terns, Whimbrel, hundreds of Fieldfares and Redwing, Whooper Swans moving under the cover of darkness, and it is well known that many birds migrate at night. It is thought that many of these especially the waders and waterfowl are likely to follow the river systems and valleys through the region thus avoiding having to climb over the higher mountain ranges. None of this has been monitored and all these birds are at increased risk of collision due to the darkness, and indeed many may be drawn to the navigation lights if installed on the turbines.

There is no mention of Woodcock in the report Red listed under Birds of Conservation concern. A crepuscular-nocturnal species which breeds in the neighbouring woods and during the winter, especially late Oct to mid Nov, when large numbers arrive in the Cree Valley from northern Europe. A bird which may shelter in the woods during the day but will flight out to feed at night on surrounding grasslands and bogs including Glenvernoch. This is a species which we know migrates through the region in very large numbers and moves at night. An example of that: 9 were recorded in about 40 mins flighting west over Knockville-Crungie Wood on to Glenvernoch one evening in Feb 2024. Omission of this species from the report is quite surprising if not alarming and perhaps demonstrates the lack of and difficulty of nocturnal, crepuscular observations. Similarly large flocks of Snipe and Jack Snipe occur during migration along the Cree often in flocks more than 100. They are likely to settle on to the bogs of Glenvernoch during the winter period. It is remiss that none of these have been recorded by the EK Ornithological Survey.

Omission of the EIA report is the inability of the public/local communities to access information.

Technical Appendix 8.1: Ornithology Technical Appendix

This is a huge omission for anyone trying to assess the data. We could not look at weather conditions or even location of the Vantage Point surveys or walkover routes or indeed buffer zones. No assessment can be made of the extend of dead ground from each VP or how far the VPs are from the furthest points. No flight lines are presented, or timed data sheets. It seriously compromises the readers ability to fully understand the data presented and therefore seriously undermines the summaries presented in the report for each Species of Conservation Concern.

The Assessments of Birds at Risk ie Collision Risk Windows for Key Birds of Conservation Concern are seriously flawed. No allowance has been made for percentage of dead ground not viewable from the key Vantage Points, or seasonality of many of the Key Species. Breeding waders will be present for a shorter period than the 288 days and the long day lengths during the spring/summer when they are present makes them far more at risk of collision. The Assessments presented assume full coverage for all of the 288 hours and that the species is present for 12 months of the year which is clearly not the case.

Nocturnal species, there are several species of regional conservation concern that are present and primarily nocturnal. While surveys were carried out for Nightjar and Owls and breeding locations identified, there was no assessment of these species nocturnal movements whilst out hunting, or assessment of their real risk of turbine collision. Both Nightjar and Long-eared Owl are migratory species with the ability to travel long distances at night, both for migration and can conduct long local hunting sorties over several kilometres within the Cree Valley area.

Migration – many bird species which migrate do so at night bringing an increased risk of collision with moving turbine blades. There has been no assessment of these important night-time movements across the site or through the Collision Risk Window. The Cree Valley is known as a migration route cutting through the hills allowing birds to move from the Solway and Wigtown Bay north to the Clyde. The Cree Valley is known to support important numbers of passage Snipe, Woodcock, wintering Wildfowl, Swans and Geese. Nocturnal recordings (nocmig) have recorded night-time movement of Water Rail, Common Scoter, Greenshank, Sandwich Tern plus large groups of wintering thrushes Fieldfares and Redwings passing along and over the Cree Valley.

Other Bird Species UK Red List – The EIA report is seriously flawed with respect to other UK Red List of conservation concern which breed on the site. These include Cuckoo, Grasshopper Warbler, Whinchat, Skylark, Tree Pipit, Redpoll and Mistle Thrush, all of which breed on the site, some in large numbers. These species are likely to be seriously disturbed during construction, decommissioning and operational phases. Collision is a direct threat; displacement may also be caused by noise and vibration as well as hazards for nocturnal migration. Fieldfare is UK Red listed species, that passes through the site in large numbers and feeds on the grasslands of Glenvernoch throughout the winter, often in association with Redwings, which are UK Amber listed. Both move in large flocks of thousands at night and therefore at serious collision risk at this site. Additional Amber list species which occur on the site, and most breed, include Whitethroat, Sedge Warbler, Kestrel, Song thrush, Redstart, Wheatear, Dunnock, Meadow Pipit, Grey Wagtail, Bullfinch, Reed Bunting, Wren and Woodpigeon. None of these have been documented in the report.

The smaller passerines are far more difficult to monitor over large distances, due to their small size, more likely to be drawn into rotating blades, especially with aviation lighting. The EIA report has ignored all but Crossbills, and even these at range will be difficult to both identify and accurately monitor as they fly through the site. Crossbill is a highly eruptive species, its distribution in D&G largely governed by cone crops, thereby shifting from year to year, at some point in the 35year project plan, they are likely to pass through the site in large numbers. All passerines will be under-recorded during Vantage Point surveys, due their small size and the viewing distances involved.

Loch Ochiltree is a known to be frequented by breeding and moulting flocks of Greylag and Canada Geese, it is regularly used by Cormorant and occasionally by Osprey to hunt fish. The Loch attracts both wintering and migrant groups of Whooper Swan. All these species make flights through the proposed site to the Cree Valley and are at risk of collision with moving turbine blades. It is quite remarkable that these species have not been recorded during the rather limited Vantage Point surveys.

Pink-footed Geese migrant along the Cree Valley in their thousands each spring, multiple groups of 50-350 can regularly be seen heading north often at turbine blade height some of these flight lines are likely to pass through the proposed site.

Vegetation and Habitat Surveys NVC.

The EIA report 9.69 gives an extremely brief table of habitats/NVC classifications. These are not presented in detailed map form. The classifications may be contained within the inaccessible Technical Appendix, but are certainly not available to the reader – so of very little value and impossible to comment on. This is a serious omission and fails to let the reader fully comment or understand the complexity of the various communities present. Google Earth illustrates the rich mosaic of differing vegetation sites and complex ridges and valleys that are present none of which appears to be documented or at least available to the public. **This is surely a ploy to hide important information from scrutiny and to say it is to protect sensitive bird species that have been found is a complete nonsense.**

T1 and the pink strand illustrated on the bat map Appendix 9.2 indicates the access track from the A714, passes very close or through an area of attractive wet grassland over which appears to have been peat cutting and now supports a rich diversity of sedges and acid grassland plants, including the Whorled Caraway Carum verticullatum found in only 246 10km sq. in GB.

T9 and T11 are right on the edge of the most extensive area of peat blanket bog, which held the main Black Grouse lek 1980s-1990s. Shifting of peat soils here to enable the foundations could impact the hydrology of this notable area.

Bats Appendix 9.2

3.1.3 Song Meter Minis (SM minis) were used to record the data, set to record 30 minutes before sunset and 30 minutes after sunrise. On the third iteration of surveys for the autumn survey period AudioMoth (v1.2.) were also used due to technical faults in two of the SM minis.

It is noted that recordings were taken over a 1-year period and May-Oct. 11 audio recorders Song Meter Minis were deployed 2 of which failed and were replaced by audiomoths.

No acoustic meters were placed in the region of T1, T2, T3, T4 which all sit near to forest edge, a recognised favoured location for bats to forage. A significant length of forest edge nearer to the core area of the Cree Valley with potential roosts Cadorcan, Knockville, Glenhapple and areas known to be well frequented Penninghame ponds. Known maternity roosts occur at Penninghame Farm and Penninghame house.

Failure to locate detectors in this key region is a significant and unacceptable omission.

It is also noted that detectors were deployed for 12 consecutive nights for each recording period.

SNH guidance (below in green)

5.2 Bat activity surveys (taken from SNH guidance)

Surveys should capture a sufficient number of nights with appropriate weather conditions for bat activity (i.e. temperatures of 10ºC and above (8ºC in Scotland) at dusk, maximum ground level wind speed of 5m/s4 and no, or only very light, rainfall to fulfil the minimum requirements in Section 5.2.1. In practice, particularly in more northerly latitudes, there will be limitations on the number of suitable nights and some surveys may need to take place over longer periods which sample a range of conditions.

3.3.1 The autumn survey period was undertaken in October which experienced periods of adverse weather conditions such as heavy rain and strong winds. This likely resulted in the detector failures. Bats are also unlikely to be active during such weather conditions. Autumn surveys should be completed by the end of October (NatureScot, 2021); statics were collected on 30 October 2023 and, therefore, the survey could not be repeated (taken from the Bat Survey Report)

Recent summer/autumn weather has been awful and it seems unlikely that 12 consecutive nights deployment would achieve 10 good nights as outlined by SNH guidance as a minimum requirement. Weather data is not available in the report. So we don't know if suitable conditions were indeed met. If fact 3.3.1 in the Bat report admits to the survey being incomplete and the late date prevented the survey being repeated.

The Survey Report for this EIA is incomplete and does not fully meet SNH Guidance 5.2 set out in green SNH guidance above.

4.1.1 Statics were deployed at each of the eleven turbine locations in the three seasons in line with best practice guidance. Table 5, details the dates of deployment and table 6 provides details of total number of bat passes recorded at each detector location. (taken from the Bat Survey Report)

Error in the EIA report: Only one table 'Table 5' actually shown. The total number of passes per location of deployed audio meter ie. 'Table 6' is missing. So effectively table 6 has become table 5 and table 5 is missing altogether.

The report refers to 9 species of bat being recorded but only lists 8.

8 species of bat were recorded. Of these Whiskered Bat is extremely rare in D&G, Leisler's Bat a rare species in Scotland is quite common in the Cree Valley, found in 10% of occupied bat boxes which we check on a regular basis. Natterer's is also common in the Cree Valley with several known roosts and regularly found in bat boxes in the autumn. Daubenton's is regular if not common along the River Cree. Both Leisler's and Noctule are recorded whenever static detectors are deployed along the length of the Cree and wider area. Both species seem widespread in the Cree valley both being high flying species which hunt over open country are very vulnerable to collision with wind turbines.

The Cree Valley is one of the richest areas in Scotland for bats. All bats are at risk of being sucked into fast moving blades with Leisler's, Noctule being of particular risk and the report notes both Soprano and Common Pipistrelle of being at high risk of collision or fatal lung air pressure collapse.

T3 and T7 have recorded the most Leisler/Noctule activity and T7 the only one to record Whiskered Bat. T9, T6, T8 have recorded the most passes combined of all bat species, it is noticeable that these are in the central core area of the proposed project. Indicating activity across the whole site and not confided to the outer boundaries.

The Proposed Turbines are therefore a serious risk of collision with particularly Leisler's and Noctule bats, with high risk of collision with the other species, Common Pipistrelle, Soprano Pipistrelle, Natterer's, Brown Long-eared.

The static recorders themselves have a limited range or distance over which recordings can be made depending largely of the volume of sound emitted by the bats. Brown Long-eared is notoriously quiet if not silent, so highly likely to be missed by any static detector. It is highly unlikely that the recorders will capture all bats flying over the site and only hope to make a small representation of the presence of bats over a limited area. The recordings do highlight that bats use the whole site at not just the forest edges.

Turbines located along the edge of a principal bat river corridor known to be of great value in a Scottish context to a range of bats is reckless from a bat conservation point of view and will result in casualties and death.

Noise Pollution, Vibration and Light Pollution

General – The report fails to address or mention any potential effect that wind turbine noise or vibration may have on the wildlife. There are various papers which show that there is an effect https://www.sciencedirect.com/science/article/pii/S1364032122006852 Noise pollution from wind turbines and its effects on wildlife: A cross-national analysis of current policies and planning regulations.

It currently seems difficult to understand the long-term effect of noise and vibration on ground nesting birds, bats and other animals in neighbouring habitats. It is hard to believe that there is no effect and a precautionary approach of no turbines in this precious area adjoining SACs and SSSI's supporting a rich biodiversity would be environmentally sensible.

There is no mention of effects of lighting, which is believed to be required on these large turbines. Night-time lights are a known hazard for attracting migrating birds and this is likely to exacerbate collisions and deaths, as well as seriously detracting from the Landscape and Dark Skies Park.

Appendix 9.4 Outline Biodiversity Restoration and Enhancement Plan

A commendable management plan especially for the peatland restoration aspects and conifer removal. It would be great if no Turbines were to be constructed which involves huge quantities of concrete pumped in to the ground with associated large carbon footprints. These lumps of concrete and reinforcing iron will remain in place for ever.

There are serious reservations about encouraging increased numbers of already threatened breeding waders to a site where they will be at risk of collision with moving turbine blades.

What are the guarantees of this mitigation work continuing for the full length of the project, especially as it is thought that the current project developer is likely to sell the site on to some other company which will not be obliged to commit to any mitigation work, once development has permission. It is noted that the mitigation restoration report regularly refers to a management committee to include RSPB, although RSPB have not as yet been consulted, the report seems to be seeking credibility by naming an as yet unconfirmed potential partner, which may never happen.

3.1 Management Objectives – Installation of peat bunds

The nature of peat is that it is very soft when saturated, any bunds or dams made with peat would be subject to damage and compaction by trampling of livestock, both cattle and sheep, leading to collapse of the dams, erosion, and subsequent loss of material into water courses. All peat workings would need to be protected from livestock until fully vegetated and stabilised, which could take several years. If grazing is to continue over the whole site damage pollution is inevitable unless serious measures are take to exclude stock from large areas which in itself will effect vegetation types encourage encroachment by tree saplings.

Errors in Restoration Report.

1.2.6 Ornithology chapter in EIA is 8 not 10 as stated.

2.3.4 Although known to be present, no Water Voles or Otter have been recorded on the site survey. Water Voles have been found on the site. Otters frequent Castle Stewart Burn and frequently lay up during the day on the southern edge of the River Cree meadows and are resident along the Cree. The residential property 'Otters Holt' across the A714 from the development site is so named for good reason.

2.3.6 A range of bird species was recorded utilising the Site or wider Area (see Chapter 10: Ornithology).

Species of conservation concern or identified as an important ornithological feature included the following breeding waders: curlew, lapwing, snipe as well as wintering golden plover.

Error: Chapter 10 should read chapter 8 and Golden Plover is a key breeding species and is not mentioned as a wintering species as this report incorrectly states.

There is no mention or assessment of Golden Eagle which is now known to visit the site and has been recorded in the buffer zone within 6km on at least 3 occasions over the past 12months.

3.1.2 Riparian corridors and planting of low density non-broadleaf trees. This surely should be *broadleaf* trees.

Planting of riparian corridors across the site whilst appearing good for wildlife would indeed encourage bats further onto the site in greater numbers putting them at significantly higher risk of collision with turbines and death

Comment

4.5.3 Wader scrapes – these seem to be only in the riverside meadows along the River Cree, where Otter and Mink activity would negate any positive effect, and a long way from the core breeding grounds to the west of the road. This project seems cosmetic and unlikely to deliver in any substantial way for breeding waders.

4.5.3 Predator Control – The loss of waders from the region was initially from habitat loss, followed by increased predation as Crow, Raven, Buzzard, Peregrine, Fox, Badger and now Pine Marten, have increased dramatically largely as a result of increased afforestation and decline in game keepers. Many of these predators have protected status, so control as outlined in the mitigation, is not an option for those protected species. Whilst an employed keeper using licensed technics may have an impact it may be limited.

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9.4 Overall, the effects of the proposed development on non-avian ecology features of local or higher value, or which are legally protected, are not significant in terms of the EIA definition (taken from EIA report)

This statement ignores that Water Voles although known to be present were not found during the survey, similarly Otter and Badger were not recorded but are present and resided in nearby buffer zone.

It ignores the presence of Golden Eagle which has been recorded on at least 3 occasions within 6Km of the site.

9.10 Technical Appendix 9.1 includes details of the location of species subject to persecution and therefore should only be made available to NatureScot. Technical Appendix 9.1 should not be placed in the public domain.

Appendix 9.1 not being available to the public is scandalous as much of the basic survey data, eg. Maps of survey areas is not sensitive and should therefore not be withheld. There are no species mentioned in the report which are subject to persecution, at least on a wide scale. This reasoning is deplorable and seems simply to hide important data which would otherwise be scrutinized. It would be simple to redact those specific locations from the Appendix and make the rest available to the public.

These Technical Appendices are fundamental to understanding the Survey Process which underlies the EIA removing them from public access is scandalous, fraudulent and a cover-up. The reason given for not making the available is bogus.

See 9.12 Survey Area detailed in Technical Appendix 9.1 Not available and fundamental to the understanding of the whole EIA report.

9.30 Full details of the Great Crested Newt surveys can be found in Technical Appendix 9.1.

Not available for assessment

9.33 Otter & Water Vole Surveys Full details of the Otter and Water Vole surveys can be found in Technical Appendix 9.1

Not available for assessment. No evidence of Water Vole or Otter was found. Water Vole evidence has been found by independent surveyors and Otter is known to be a regular and common resident on the Cree and all tributaries it is known to use day lying-up sites on the boundary of Glenvernoch and regularly uses Castle Stewart Burn.

9.37 Full details of the Red Squirrel surveys can be found in Technical Appendix 9.1

Not available for assessment

Red Squirrel are known to be common in all neighbouring broadleaf and conifer woods.

9.40 Full details of the Pine Marten surveys can be found in Technical Appendix 9.1

Not available for assessment

Known to be present in all neighbouring broadleaf and conifer woods.

There is no mention of **Crab Apples**. Recent surveys over similar ground within the Cree Valley have identified that many of the Crab Apples are of pure genetic ancestry and therefore of high conservation value. https://futurewoodlands.org.uk/wp-content/uploads/2024/09/2.-Worrell-Ecology-and-Genetics-of-Scotlands-Native-Wild-Apple.pdf

It is highly likely that similar trees will occur on Glenvernoch and should be a conservation priority.

Cumulative Effects

9.57 All operational and consented wind farm developments, plus those currently in planning, within 10 km of the Proposed Development were considered when assessing cumulative effects of the windfarm on ecology. Environmental Statements (ESs) and Environmental Impact Assessment Reports (EIARs) were used to gain ecological data from these wind farm projects. Data was not always available for operational windfarms and therefore the cumulative assessment has been made using the data available at the time of writing this ecology chapter (July 2024). No cut-off date was used for the ecological data that was included within the cumulative assessment.

When considering cumulative effect, the loss of this low intensity farmed acid grassland and bog should be considered, not just the effect of wind farms but recognising that 80% of the upper Cree catchment has been afforested making a huge loss of similar habitat and species across the region. This is now a fragmented and greatly diminished habitat of great value not just for ecology but also for archaeology, cultural heritage and landscape. Further losses will impact on the local tourist economy.

The data as admitted in the report is incomplete.

Consultation South West Scotland Environmental Information Centre

9.60 The South West Scotland Environmental Information Centre (SWSEIC) was able to supply details of one amphibian, one reptile and eight terrestrial mammal species that have been recorded within 2km of the wider Glenvernoch Site between 1960 and 2020. These species were: ▪ Smooth Newt; ▪ Slow-worm; and ▪ Red Squirrel, Otter, Hedgehog, Brown Hare, Natterer's Bat, Lesser Noctule, Common Pipistrelle and Soprano Pipistrelle.

Error: Lesser Noctule does not exist as a species, this should probably be Leisler's bat and Noctule bat. The area as outlined also has Mountain Hare, Adder, Water Vole, Brown Long-eared Bat, Daubenton's Bat, Water Shrew, Pine Marten as well as the more common mammals.

This error of Lesser Noctule shows a significant lack of understanding of basic ecology by the writer/editor and is worryingly indicative of lack of ecological awareness and understanding.

Field Surveys 9.62 onwards.

The lack of survey maps makes it impossible to scrutinize and difficult to comment on.

Pine Marten is in fact common in all neighbouring woods both broadleaf and conifer.

Badger is certainly present and abundant in the area including neighbouring Crungie Wood and in Glenhapple Wood and along the wooded Cree corridor including the west bank.

Otter is common on the Cree with at least 3 females and 1-2 males along the nearest stretch of the Cree and probably present on Castle Stewart burn right up to the Glenvernoch site.

Water Vole have been found on the Glenvernoch site – independent survey 2024

9.75 Bats – comment Whiskered Bat is very rare in D&G so is locally significant, Leisler's Bat is scarce across Scotland but with a strong population in the Cree valley. The proposal to plant more tree and riparian woodland across the site will encourage more

bats on to the site. The Cree Valley is a recognised important Valley for bats and this proposed Wind Farm could be very detrimental to the bat populations. Classing it as low risk when there are known roosts along the Cree Valley.

Numerous bat passes were recorded in the middle of the site and the failure to fully comply with SNH monitoring guidance due to failure of static detectors.

The failure to monitor turbine sites at the very SE corner of the site (T1, T2, T5) makes this survey very flawed. The inability to access weather data on the survey nights makes it impossible to fully understand the validity of this Bat Report.

9.106 The majority of habitats within the wider Glenvernoch Site, primarily open moorland, offer limited foraging potential for bats. The Site is therefore considered to have low potential for foraging and commuting bats with roosting opportunities appearing to be non-existent.

The two recorded turbine sites with most bat passes throughout the year were T8 and T9 both in the very middle of the site recording 1258 and 1689 passes respectively, which would indicate a regular passage of bats across the site.

The loss of just one bat these days is a grave loss, as numbers are plummeting across the UK. To class it as not significant is tragic for Conservation and Biodiversity as a whole.

The main driver for Green Energy was to reduce the Loss of Biodiversity – but this development will result in the loss of bats, birds, and undisturbed habitats over the 35 year project. The proposal to increase tree cover and riparian woodland on the site as part of mitigation or environmental enhancement will encourage bats, birds and insects nearer to the rotating blades, increasing the risk of death. The development would be an ecological disaster.

Turbine Locations

9.128 Current guidelines (NatureScot 2021) recommend that wind turbine blade tips should be more than 50m away from features likely to be used by foraging and commuting bats, such as trees, watercourses, and waterbodies. During the design of the turbine and infrastructure layout for Glenvernoch, suitable buffer distances were included to maintain separation of turbines and bat habitat

Turbines T1, T2, T5 have bases which are very close to the southern forest boundary where bats forage, estimated from the map put the turbines at 172.8m, 115.2m and 134m respectively from the forest edge. Therefore, when the blades align on a north-south axis the tips of the rotating blades are going to be very close to or within the 50m guidance distance from bat foraging. It is known that bats forage along this forest edge between T1 and T5. Turbines will generate their own aerodynamics and are likely to suck bats, small birds and invertebrates into the path of the blades, if they pass anywhere nearby.

9.131

To maintain a low collision risk, the Habitat Management Plan for the Site will maintain the habitats within 50m of the turbine blade swept radius in a state which offers poor foraging for bats. As the habitat on, or adjacent to, the Site changes, the habitat management methods will be reviewed to ensure that habitats within a 50m buffer of all turbine blade swept radius are unsuitable for use by bat species.

In the case described above the wind farm operators and landowners are do not have the right to maintain these trees near T1, T2, T5, as the trees are owned by Forest Land Scotland. Therefore this cannot be achieved.

Other Reptiles

Adder, Slow-worm, Common Lizard are common to regular throughout the Cree Valley and it is hard to believe these species do not occur on the site or have not been recorded in the EIA surveys. They have almost certainly been over-looked. Adder and Common Lizard were confirmed in the nearby Hill of Ochiltree surveys and their conclusion was that it is reasonable to assume that they occur throughout the site.

Connection to the Grid

There is no mention of underground cabling or connection to the grid – what impacts this will have on vegetation, the routes or structures that will be required.

END OF REPORT ECOLOGY, HABITAT AND SPECIES OF NATIONAL CONSERVATION CONCERN

REP 7.0.1: NOISE AND VIBRATION

WRITTEN BY DAVID SPRUCE ON BEHALF OF HANDS OFF OUR HILLS

We object to the proposal on the following grounds:

The impact of noise (especially amplitude modulation (AM)) has not been adequately assessed, using guidance that is discredited, out of date, and based on turbines that were significantly smaller. The impact of noise is likely to be excessive, adverse, and seriously disturbing to residents, and the fauna in the nearby sites of scientific interest

That the statement made in that Energiekontor has failed to consider scoped Shenannton and their own Balunton wind farm site which should form part of the cumulative assessment.

- Energiekontor make comments in that the vibration effect from construction activities and during operation will not be perceptible at residential properties. They have no way of knowing this and must produce evidence to validate the point.

- Energiekontor state that the noise that is emitted during the construction and decommissioning phases would be temporary and short term in nature. A period of 18 months cannot be considered temporary and can be not minimised through careful construction practices due to proximity to the local properties.

- Energiekontor state that in construction noise, it is unlikely that any form of mitigation will be required unless any major site access track works are required in the very close vicinity of residential properties, which would normally be avoided, yet they provide no evidence of this and the turbines are located close to properties.

Further investigation leads us to believe a new noise guidance document will be published in the Spring of 2025. In light of this, and the Irish landmark High Court (Co Wexford) ruling on noise from wind turbines, both of which could have implications for the operation of existing and future wind farms, the use of the existing standard ETSU-R-97 should be suspended.

The guidance for assessing and rating of noise from windfarms, ETSU-R-97 is nearly 30 years old and written by the onshore wind industry for the industry. The four UK Governments paid for an independent noise consultant, WSP, to review the guidance. WSP reported in February 2023 and highlighted several shortcomings, and that the past guidance is now unfit for purpose.

Objections relating to 'EIAR Chapter 10 'Noise' are related to NPF4 Policies 11 and 23.

POLICY 11: Energy (contravenes Policy 11e(i))

Policy 11e(i) states that: "Project design and mitigation will demonstrate how the following impacts are addressed …impacts on communities and individual dwellings, including…noise…"

POLICY 23: Health and Safety (contravenes Policies 23b, 23e)

Policy 23b states that: "Development proposals which are likely to have a significant adverse effect on health will not be supported. A Health Impact Assessment may be required."

Policy 23e states that: "Development proposals that are likely to raise unacceptable noise issues will not be supported. The agent of change principle applies to noise sensitive development. A Noise Impact Assessment may be required where the nature of the proposal or its location suggests that significant effects are likely."

Summary

We object to the proposal on the basis that the impact of noise (especially amplitude modulation (AM)) has not been adequately assessed, using guidance that is discredited, out of date, and based on turbines that were significantly smaller. The impact of noise is likely to be excessive, adverse, and seriously disturbing.

Since the replacement Guidance is yet to be published, the developers are continuing to use the discredited ETSU-R-97 legislation from 27 years ago when turbines were much smaller. The developer's noise document and its associated technical appendices have several areas that are a cause for concern:

1. Most of the reference citations in the chapter do not consider the latest research and evidence in several areas.

1.1. There is no mention of the review of ETSU-R-97 'The Assessment and Rating of Noise from Wind Farms' and subsequent good practice guides, by the independent consultancy WSP – 'A Review of Noise Guidance for Onshore Wind Turbines' released in February 2023. This review indicates that the current noise limits are based on outdated or insubstantial evidence and does not adequately address the adverse effects of Amplitude Modulation (AM), the most intrusive feature of turbine noise, and the use of an excessively high night-time background noise level 43 (dB).

1.2. In the EIAR Technical Appendix they attempt to "scope out" the important considerations of AM, low frequency noise impact and sleep deprivation/night-time noise limits.

1.2.1. The research paper, conducted around a large windfarm in Australia, in the Journal of Sound and Vibration, 2019, 'Prevalence of wind farm amplitude modulation at long-range residential locations' identifies audible indoor low-frequency tone AM for 16% of the test locations irrespective of power output and this percentage increased at night-time.

1.2.2. Any reference to the WHO Environmental Guidelines for the European Region 2018 in respect of sleep disturbance has been ignored as has the recommendations of the WSP report, that states existing controlling values and guidelines are based on evidence and guidance that is outdated.

2. A further indication of the inadequacy of ETSU-R-97 are the large numbers of nuisance complaints made since its inception. 600 noise related complaints were made between 2010 and 2015 from wind farm operations (Hansard Vol 598, 21 July 2015) and no doubt hundreds more since then (it has proven difficult to obtain data), however, there are several cases of statutory noise nuisance, relating to wind turbines, that have or are being fought in the English and Scottish courts at present, Officials from two Government departments; Housing and Environment, have joined the chief law officer in examining the judgement regarding Wind Energy Ireland, which represents most wind farm owners in the country. The ruling found that turbine noise – even if within planning regulation limits – could be categorised as a nuisance. That opens the possibility of compensation claims by people who say noise from turbines interferes with the enjoyment of their homes and daily lives.

In the case that gave rise to the ruling, nuisance was proven by two couples who lived close to a wind farm in Co Wexford. The case heard they were constantly stressed and sleepless, that one of the couples split up largely because of it and one party was left suicidal and remained under treatment for depression. High Court judge Ms Justice Emily Egan found they had established their right to receive damages from the company involved.

"This is wind turbine noise that an objectively reasonable person should not be expected to tolerate," she said.

The ruling is the first on the issue in Ireland and comes at a critical time in national plans to increase the generation of renewable electricity.

This reveals the ineffectiveness of ETSU-R-97 and the planning consent process. In respect to AM, any use of a planning condition is an extremely poor method of control as demonstrated by the problems (complaints) at the Cotton Farm Wind Farm in Cambridgeshire where AM control has been attempted (Independent Noise Working Group 'Wind Turbine Amplitude Modulation & Planning Control Study' 2015).

3. Some additional reasons that the noise assessment is not correct and the levels will deteriorate in the future and will result in complaints include:

3.1.1. Growing evidence that the degradation of the leading edge of the blades as they age increases the noise emission characteristics of the turbines.

3.1.2. The use of the ground effect factor of 0.5 should not apply when the ground is covered in snow and ice as it will be more reflective.

3.1.3. As evidenced in their own background sampling data, there are many times in the day and night where the background levels drop well below 25(dB) and frequently below 20 making any emission more readily audible particularly at night.

As described in the Scottish Government website, noise from "premises" is one of the matters that could constitute a statutory nuisance. The 'matter' must either be a 'prejudice to health' or a nuisance. It may be possible to argue in respect of the effect on mental health (including sleeplessness and there appears to be a growing body of evidence in respect to the effects of low and ultra -low frequency noise on human health.

None of these points, nor the overall 'impact' on the people living in the houses and any specific individual sensitivities, are fully assessed in the document which renders it inadequate.

Following the empirical formulae, as used in the guidance documents, it could be determined how far the turbines would be calculated to be audible at neighbouring properties; that should be the distance where turbines could be built from a sound power level perspective, in addition to any tonal penalty. This does not apply to AM and does not allow the Dumfries and Galloway council, or the ECU, the ability to calculate, mathematically, if a statutory nuisance could occur.

It could be considered that if you can hear them, especially the AM and tonality, and it annoys you then it is a nuisance and most probably a statutory nuisance. ETSU-R-97 states that developers must consider the interests of individuals as protected under the Environmental Protection Act 1990.

Conclusion

We object to the proposal on the basis that the impact of noise has not been adequately assessed and is likely to be excessive, adverse and seriously disturbing. The development should be refused

Review of noise guidance for onshore wind turbines

We note that an independent review of ETSU-R-97 in February 2023 by WSP highlighted several shortcomings. The Department for Energy Security and Net Zero (DESNZ) have stated, under Freedom of information, that the guidance "would benefit from targeted updates" and that the previous government have contracted Noise Consultants Ltd to update ETSU-R-97 by Spring 2025. The WSP key recommendations relate to Amplitude Modulation, where ETSU-R-97 does not adequately address

- the adverse impact (which increases noise annoyance)
- the noise limits which are based on outdated or insubstantial evidence. Notably, controlling values for night-time noise levels should not be higher than during the day. The night-time noise level in ETSU-R-97 is 43dB, high for quiet countryside settings, whereas the WHO standard is lower at 40dB. The areas around Glenvernoch have been recorded much lower again at around 20-30dB. A 10dB is a doubling (or halving) of loudness. ±3dB is normally perceptible.
- In addition, leading edge erosion on the blades will increase noise levels with time as the aerodynamic sound sources change.

We suggest that Energiekontor are expecting complaints to be made about noise, because the only planning conditions they have proposed in their application are related to noise. Furthermore, we suggest that complaints will be forthcoming from anyone living within 2-3 miles from the turbines – perhaps even further – at least some 16 +homes.

The precautionary principle should be applied to the Glenvernoch windfarm application because, as stated by the DESNZ in the same FOI response, "decision makers considering applications for consent may choose to depart from existing policy and guidance if there is a rational justification for doing so". We maintain that the arguments made above are rational.

If the development is pushed through, against democratic principles, the Council should reject the suggested condition as it is biased for the developer. We recommend that the Environmental Health Department write a more balanced condition where the operator of the site isn't forewarned of complaints so that a more accurate picture of the reality can be captured and responded to quickly

10.7 The Scottish National Planning Framework 4 (NPF) provides general advice on considering renewable energy proposals including onshore wind farms, and suggests noise impacts on communities and dwellings will need to be considered but provides no specific advice.

10.9 The recommendations contained in ETSU-R-97 therefore provide a robust basis for assessing the noise implications of a wind farm. ETSU-R-97 has become the accepted standard

for such developments within the UK. Guidance on good practice on the application of ETSU-R-97 has also been provided by the Institute of Acoustics (IOA Good Practice Guide or GPG), which was also endorsed by the Scottish Government.

10.10 With regard to infrasound and low-frequency noise, the above-referenced online planning advice refers to a report for the UK Government which concluded that 'there is no evidence of health effects arising from infrasound or low frequency noise generated by the wind turbines that were tested'.

The guidance for assessing and rating of noise from windfarms, ETSU-R-97 is nearly 30 years old and written by the onshore wind industry for the industry. The four UK Governments paid for an independent noise consultant, WSP, to review the guidance. WSP reported in February 2023 and highlighted several shortcomings and the past guidance is now unfit for purpose WSP Report 2023 states A review and update of the current guidance should be undertaken. The current guidance does not adequately address the adverse impact of amplitude modulation (AM), which increases noise annoyance, and is an expected characteristic of wind turbine sound immissions.

10.14 The report also proposed to undertake an assessment of operational noise in line with the ETSU-R-97 methodology as set out above, based on a representative candidate turbine model.

Cumulative noise from the Kilgallioch Wind Farm and Kilgallioch Extension Wind Farm would also be taken into account.

This statement made by Energiekontor has failed to considered scoped Shenannton and their own Balunton wind farm site which should form part of the cumulative assessment

10.15 The scoping report also proposed to scope out an assessment of road traffic during the operational phase given the low number of journeys likely to be required for routine maintenance and no objections were raised in response.

The number of construction journeys is now estimated to be in the region of 18000 which was not in the scoping report; this cannot be considered a low number.

10.17 Prior to undertaking the background surveys, a summary of the likely proposed monitoring locations was forwarded to the Environmental Health Department of DGC for comment on 17/08/2023, and no adverse comments were received.

While It is unreasonable to expect that every possible position be assessed, we do not believe that the sound monitoring was wide enough and should have covered some of the more sensitive areas.

10.20 The study area for the assessment of operational noise includes the noise-sensitive residential properties nearest to the proposed location of the wind turbines. The locations considered are listed in Table 10.1. The list of receptor locations in Table 10.1 is not intended to be exhaustive

Residential properties in the lower valley refused the assessment based on the knowledge that the guidance being used was clearly outdated and did not encompass the findings and information in the forthcoming Wsp report commissioned by the UK Government,

hence the receptors chosen are not sufficient or typical by their location to be representative of noise levels receptors closest to the Proposed Development.

10.28 The assessment of construction noise has been completed in accordance with BS 5228-1; predicting construction noise levels using reference emissions data for typical construction plant and activities, at fixed locations (e.g. the wind turbines, site

compounds or substations etc.) as well as heavy vehicle movements within the Site and on public roads. Abnormal Indivisible Loads (AIL) movements are limited in volume and therefore unlikely to be associated with significant noise effects, and therefore not assessed further.

Energiekontor make comments that the vibration and noise effect from construction activities and during operation will not be perceptible at residential properties; this needs to be evidenced.

10.34 In summary, the ETSU-R-97 noise limits are defined in relation to measured prevailing background noise levels during quiet periods and their variation with wind speeds:

• For day-time periods, the limit is either a fixed level between 35 dB(A) and 40 dB(A), or 5 dB(A) above the derived background noise level during quiet day-time periods, whichever is the higher; and

• For night-time periods, the limit is either a fixed level of 43 dB(A), or 5 dB(A) above the derived background noise level, whichever is the higher.

• For properties where the occupant is financially involved with the development, the above limits increase to a minimum of 45 dB(A) for both day and night periods.

• ETSU-R-97 also proposes a simplified noise limit of 35 dB(A) at all wind speeds up to 10 m/s.

The guidance for assessing and rating of noise from windfarms, ETSU-R-97 is nearly 30 years old and written by the onshore wind industry for the industry, The four UK Governments paid for an independent noise consultant, WSP, to review the guidance. WSP reported in February 2023 and highlighted several shortcomings and the past guidance is now unfit for purpose.

Effects scoped out

10.37 On the basis of the desk-based work undertaken, the professional judgement of the EIA team, experience from other relevant projects and policy guidance or standards, the following additional effects have been scoped out:

• The results of previous research (set out in Annex A of Appendix 10.1 as well as the Scottish Government's Online Renewables Planning Advice) has demonstrated that low frequency noise and vibration resulting from the operation of wind turbines is imperceptible at typical separation distances. Therefore, these effects during operation do not warrant detailed assessment and have not been considered further as part of this assessment.

WSP Report 2023 states A review and update of the current guidance should be undertaken. The current guidance does not adequately address the adverse impact of amplitude modulation (AM), which increases noise annoyance, and is an expected characteristic of wind turbine sound immissions.

- Light traffic and activities which will be part of routine maintenance of the Proposed Development during operation and will be very limited and unlikely to result in any significant effects.

The number of journeys is has now estimated to be in the region of 18000 which was not in the scoping report this cannot be considered a low number.

- Aside from the wind farms considered in the cumulative analysis, other, more distant wind farms were not considered in the cumulative analysis as they represent a negligible contribution to predicted noise levels.

This statement has failed to considered scoped Shenannton and their own Balunton wind farm site which should form part of the cumulative assessment and will be significantly closer than current windfarms in existence.

10.41 Six of the wind turbines on the Proposed Development have been modelled assuming selective use of reduced noise operational modes Three, specifically, turbines 1, 3 and 10 have been assumed to operate in the "SO1" mode and turbines 4, 7 and 8 have been assumed to operate in the "SO2" mode. All other turbines have been assumed to operate in their standard and noisiest mode. Other combinations of operational modes may result in similar noise levels. Other turbine models may result in lower noise levels and therefore not require a reduced number or no low-noise operational modes to result in similar noise levels at receptor locations.

When the ground is covered in ice and compacted snow the ground becomes a fully reflective surface and make a nonsense of the Noise Impact Assessment calculations for several weeks in the year. In addition, leading edge erosion on the blades will increase noise levels with time as the aerodynamic sound sources change.

10.42 The ETSU-R-97 noise limits effectively assume that the wind turbine noise contains no audible tones. Where tones are present a correction is added to the measured or predicted noise level before comparison with the recommended limits. The audibility of any tones can be assessed by comparing the narrow band level of such tones with the masking level contained in a band of frequencies around the tone called the critical band. The ETSU-R-97 recommendations suggest a tone correction which depends on the amount by which the tone exceeds the audibility threshold and should be included as part of the consent conditions. The turbines to be used for this site will be chosen to ensure that the noise emitted will comply with the requirements of ETSU-R-97 including any relevant tonality corrections

The guidance for assessing and rating of noise from windfarms, ETSU-R-97 is nearly 30 years old and written by the onshore wind industry for the industry. The four UK Governments paid for an independent noise consultant, WSP, to review the guidance. WSP reported in February 2023 and highlighted several shortcomings and the past guidance is now unfit for purpose.

10.45 The Blair Hill Wind Farm is currently at scoping stage with limited environmental information available to undertake a detailed cumulative assessment. A preliminary analysis was undertaken based on a likely site layout and assuming the same candidate wind turbine (the Vestas V172 7.2 MW model) as the Proposed Development.

That the statement made in that Energiekontor has failed to considered scoped Shenannton and their own Balunton wind farm site which should form part of the cumulative assessment.

Construction noise

10.46 For construction noise, the magnitude of impacts translate directly to their significance, given all receptors considered are of high sensitivity, with a scale of significance from Negligible, through Minor to Moderate and Major. Major and Moderate effects are considered Significant in the context of the EIA Regulations.

10.47 The threshold for significant effects (moderate or major impacts) is for construction noise levels to exceed 65 dB for a sustained period (more than 4 weeks) or 75 dB for a period of 1 to 4 weeks. For impacts of short duration (less than 1 week), impacts are generally unlikely to be significant but professional judgement is applied.

10.48 For changes in road traffic noise associated with construction traffic, an increase of more than 3 dB(A) would normally correspond to moderate or major effects which could be significant.

- Energiekontor make comments in that the vibration effect from construction activities and during operation will not be perceptible at residential properties. They have no way of knowing this and must produce evidence to validate the point.

- Energiekontor state that the noise that is emitted during the construction and decommissioning phases would be temporary and short term in nature, a period of 18 month cannot be considered temporary and can be not minimised through careful construction practices due to proximity of the local properties.

- Energiekontor state in construction noise, it is unlikely that any form of mitigation will be required unless any major site access track works are required in the very close vicinity of residential properties which would normally be avoided, yet they provide no evidence of this and the turbines are located close to properties.

Operational Noise

10.49 For operational wind turbine noise, acceptable limits for wind turbine noise are clearly defined in ETSU-R-97. Accordingly, predicted operational noise levels which are below the ETSU-R-97 criteria are considered Not Significant in the context of the EIA Regulations. If predicted noise levels are above the ETSU-R-97 criteria, effects are considered to be Significant in the context of the EIA Regulations.

The guidance for assessing and rating of noise from windfarms, ETSU-R-97 is nearly 30 years old and written by the onshore wind industry for the industry. The four UK Governments paid for an independent noise consultant, WSP, to review the guidance. WSP reported in February 2023 and highlighted several shortcomings and the past guidance is now unfit for purpose.

10.50 For operational noise from the substation and battery storage, the magnitude of impacts translate directly to their significance, given all receptors are of high sensitivity, with a scale

of significance from Negligible, through Minor to Moderate and Major. Major and Moderate effects are considered Significant in the context of the EIA Regulations, and would generally correspond to a high excess of the rated noise above the background, unless that rated noise level is less than 35 dB(A), which is low in absolute terms and would correspond to non-significant effects.

Baseline Conditions

10.51 The Proposed Development is located in an area of relatively low population density, with a number of isolated properties surrounding the Proposed Development. The noise environment in the surrounding area is generally characterised by 'natural' sources, such as wind disturbed vegetation, birds, livestock and to the east and north of the site, intermittent local road traffic noise and agricultural/All Terrain Vehicle (ATV) movements in the area.

Residential properties in the lower valley refused the assessment based on the knowledge that the guidance being used did not encompass the findings and information in the forthcoming Wsp report commissioned by the UK Government, hence the receptors chosen are not sufficient or typical by their location to be representative of noise levels receptors closest to the Proposed Development.

10.52 As noted in paragraph 10.25, four monitoring locations were selected as being representative of the background noise environment for the nearest dwellings to the Proposed Development, as set out in Table 10.1. These survey locations are also shown on Figure 10.1. Full details of the survey measurement positions, as well as details of equipment used are provided in Annex C of Appendix 10.1. Survey data were analysed in accordance with the methodology in ETSU-R-97 and guidance on good practice (IOA GPG) (and presented in Annex D and Annex E of Appendix 10.1) to determine typical background noise levels and how these varied with wind speed conditions on the Proposed Development. These wind speeds were measured using a LIDAR wind sensor installed on the Site and standardised wind speeds determined from a height of 114 m which was representative of the hub heights of the Proposed Development turbines.

Confirmation required that this method is acceptable

10.53 Data from these survey locations were used to represent baseline conditions at the locations surveyed as well as other locations which required assessment, as set out in Table 10.1. In some cases, this was following access to the properties having been refused. The use of the data in this way is justified by choosing locations likely to have similar background noise levels, through proximity to background noise sources, as well as the setting and location of those properties being represented, when compared with those which were surveyed.. This approach is consistent with the guidance provided by ETSU-R-97 and current good practice as set out in the IOA GPG.

10.54 ETSU-R-97 noise limits were derived for both day-time and night-time periods, applicable to all assessment locations based on the survey data. A full description of the ETSU-R-97 assessment methodology and derivation of the ETSU-R-97 noise limits is provided in Section 3 of Appendix 10.1. Tables of the noise limits applicable to the assessment locations are shown in Table 4 and Table 5 of Appendix 10.1 for day-time and night-time periods respectively and reproduced below in Tables 10.2 and 10.3. As discussed in paragraph 10.63, a fixed lower limit of 38 dB(A) was used for day-time periods, based on ETSU-R-97 guidance and site-specific considerations.

Residential properties in the lower valley refused the assessment based on the knowledge that the guidance(ETSU-R-97) being used did not encompass the findings and information in the forthcoming Wsp report commissioned by the UK Government, hence the receptors chosen are not sufficient or typical by their location to be representative of noise levels receptors closest to the Proposed Development.

Construction

10.56 Predicted noise levels at the closest noise sensitive receptors for each of the key activities during construction of the Proposed Development are presented in Table 6 of Appendix 10.1. Most of the proposed construction activities would generally occur at large distances from the residential properties considered, such that the resulting predicted noise levels would not exceed 54 dB. With reference to the construction noise criteria set out in Table 1 of Appendix 10.1, the noise impacts from these activities would be considered temporary Negligible and Not Significant.

Residential properties in the lower valley refused the assessment based on the knowledge that the guidance(ETSU-R-97) being used did not encompass the findings and information in the forthcoming Wsp report commissioned by the UK Government, hence the receptors chosen are not sufficient or typical by their location to be representative of noise levels receptors closest to the Proposed Development.

Wsp report states Controlling values for noise during the night should not be higher (ie, less stringent) for night-time than during the day.

10.57 Activities associated with the upgrade of existing tracks or construction of a new tracks may occur at shorter distances to some properties, resulting in noise levels of up to 59 dB LAeq predicted on a worst-case basis at the nearest location, Cordorcan Cottage. These noise levels are however likely to represent those which could occur for a very short-term period time: actual noise levels would quickly diminish as track construction progresses, quickly moving the activity further from the property. Considering the short duration of the work and the construction noise criteria, these activities are also predicted to result in negligible impacts.

10.58 In addition to onsite activities, construction-related traffic passing to and from the Proposed Development would also represent a potential source of noise to surrounding properties. Reference was made to the assessment presented in Chapter

11: Traffic & Transportation.

The effect of traffic on existing public roads was assessed using the CRTN methodology, during the worst-case month of the construction programme. A maximum increase of between 0.3 to 2.2 dB(A) in the day-time average noise level was predicted for locations adjoining the Site Access route. Based on the criteria set out in the DMRB, this predicted short-term change in traffic noise levels corresponds to a negligible to minor impact. For residential receptors along the route, which are considered highly sensitive, this represents at most temporary Minor adverse impacts which are Not Significant.

See the comment below

10.59 The construction activities are therefore predicted to result in temporary

Negligible to Minor (Not Significant) - adverse impacts on highly sensitive receptors.

Operational noise – wind turbines

1 dB(A) at low wind speeds and 31-38 dB(A) at high wind speeds for non-financially involved properties.

10.61 ETSU-R-97 also requires consideration of cumulative noise levels. Table 14 in Appendix 10.1 shows predicted noise levels from the Kilgallioch Wind Farm and Kilgallioch Extension Wind Farm: for most of the properties considered (mainly to the east and northeast of the Proposed Development), the contribution of these other schemes was negligible. For properties where the contribution of the cumulative schemes was not negligible (mainly those to the west of the Proposed Development), Table 15 in Appendix 10.1 shows the resulting cumulative noise levels.

10.62 These predictions are then compared in Section 5.6 of Appendix 10.1 with the relevant noise limits determined in line with ETSU-R-97.

10.63 These limits are based on a fixed lower limit of 38 dB(A) for day-time period: the choice of this limit in the range of 35 to 40 dB(A) is justified in Section 5.6 of Appendix 10.1 on the basis of the relevant factors set out in ETSU-R-97: the number of noise-affected properties, the likely duration and level of exposure and the potential impact on the power generating capability

of the wind farm. As requested in consultation from DGC, these factors explain why the lowest limit of 35 dB(A) set out in ETSU-R-97 was not considered suitable in this case.

10.64 As the predicted levels for the Proposed Development did not exceed 38 dB (even when accounting for cumulative effects where relevant), Appendix 10.1 (Tables 16, 17 and 18) demonstrates that the predicted (cumulative) wind turbine noise levels are compliant with the relevant ETSU-R-97 noise limits at all

non-involved assessment locations. Predicted levels at financially involved locations do not exceed 43 dB and therefore are also compliant with ETSU-R-97. As discussed in paragraph 10.41, this assessment was based on six turbines operating in a reduced noise mode and all other turbines unconstrained.

10.65 Therefore, wind turbine noise from the Proposed Development can remain within the ETSU-R-97 noise limits, and the operational effect of the Proposed Development turbines is therefore considered to be Not Significant.

Operational noise – Substation and Battery Storage

10.66 Predicted levels at the nearest non-involved noise-sensitive property, Cordorcan Cottage, which is located approximately 720 m away from the proposed BESS and slightly further away from the proposed substation, are unlikely to exceed rated noise levels of 30 dB even when adding a potential penalty for the character of the noise (as set out in Section 5.9 of Appendix 10.1). This is higher than the typical background noise levels of 23 dB LA90 experienced during quiet night-time periods at the representative monitoring property of Knockville, but the difference is less than 10 dB. As discussed in Appendix 10.1, the predictions were done on a precautionary basis as any screening from the terrain or buildings/infrastructure was not included. In addition, Cordorcan Cottage is likely to experience higher background noise levels from the A714 road and the River Cree compared to Knockville, which means that actual background noise levels at the property are likely to be higher, leading to reduced noise effects.

10.67 Furthermore, the predicted rated noise levels are considered low in absolute terms, as they are clearly below a level of 35 dB, which is a key contextual factor. When assessed in line with BS 4142, in the context of the area and based on the measured baseline background noise levels, this would correspond to a minor adverse noise impact on a highly sensitive receptor, and therefore result in a minor adverse noise effect which is not significant

10.68 At the nearest property, Knockville, marginally higher noise levels from the BESS and substation are likely. However, considering the financial involvement of the property as part of the contextual analysis of BS 4142, it is also considered that a minor adverse noise effect would result at this property which is not significant.

In view of the results of the research A REVIEW OF NOISE GUIDANCE FOR ONSHORE WIND TURBINES PUBLIC | WSP Project No.: 70081416, which report concludes that the existing guidance would benefit from further review and updating of the aspects identified. As in Table 7-1: Summary of study recommendations

The current guidance does not adequately address the adverse impact of amplitude modulation (AM), which increases noise annoyance, and is an expected characteristic of wind turbine sound immissions.

A UK-based observational study of effects of wind turbine sound exposure should be undertaken, including investigation of rural areas, the influence of prolongation and intermittency of exposure, and the impact of AM.

In light of the forthcoming expert guidance then the results and assessment of this report are and will be clearly outdated, especially if consent is granted, and as such are not acceptable or viable as a means of assessing the effects on the surrounding areas from noise.

Cumulative Effects & Interaction of Effects

10.69 The assessment presented in Chapter 11: Traffic & Transportation concludes that there no likely risk of further cumulative construction traffic increases compared to the worst-case scenario considered for the Proposed Development.

The statement made in that Energiekontor has failed to consider scoped Shenannton and their own Balunton wind farm site which should form part of the cumulative assessment .

10.70 As noted above and required by ETSU-R-97, cumulative operational noise effects from the turbines when operating alongside from the Kilgallioch Wind Farm and Kilgallioch Extension Wind Farm have been incorporated into the assessment of the Proposed Development set out above (paragraphs 10.60-10.65). The turbines considered are summarised in Table 10.4. It was concluded that the cumulative operational noise levels at residential properties remain acceptable in line with ETSU-R-97 and are therefore Not Significant.

That the statement made, in that Energiekontor has failed to consider scoped Shenannton and their own Balunton wind farm site which should form part of the cumulative assessment.

10.71 In addition, section 5.7 of Appendix 10.1 sets out an indicative cumulative assessment of the Blair Hill Wind Farm, currently at scoping stage but with no planning information submitted (and therefore limited environmental information available). This indicative assessment concludes that the potential contribution from the Blair Hill Wind Farm, based on a likely turbine layout, was either negligible or represents a marginal increase in noise levels, at some properties located between both proposals but which would not increase noise levels beyond the derived ETSU-R-97 noise limits. This assessment therefore indicated that the Blair Hill Wind Farm is unlikely to affect the conclusions of the cumulative ETSU-R-97 assessment set out above.

That the statement made, in that Energiekontor has failed to considered scoped Shenannton and their own Balunton wind farm site which should form part of the cumulative assessment.

10.72 Satisfactory control of cumulative noise immissions levels will be achieved through enforcement of the individual consent limits for each of the individual wind farms. For the Proposed Development, given the cumulative analysis which showed that the influence of the sites considered was negligible or low, the applicable noise limits are the ETSU-R-97 set out in Tables 10.2 and 10.3.

That the statement made in that Energiekontor has failed to consider scoped Shenannton and their own Balunton wind farm site which should form part of the cumulative assessment.

10.73 Based on the above conclusions, the nature of the sources and the different guidance documents applicable in each case, it is considered based on professional judgement that there would be no additional in-combination operational noise impacts from the (cumulative) wind turbine noise in addition to that from the substation and battery storage (which was considered to be negligible).

That the statement made, in that Energiekontor has failed to consider scoped Shenannton and their own Balunton wind farm site which should form part of the cumulative assessment

Mitigation Measures Construction Noise

10.74 To manage the potential effects of construction noise, the following good practice measures will be implemented:

• Those activities that may give rise to audible noise at the surrounding properties and heavy goods vehicle (HGV) deliveries to the Site (except for abnormal loads, see below) will be limited to the hours 07:00 to 19:00 Monday to Friday and 07:00 to 13:00 on Saturdays. Those activities that are unlikely to give rise to noise audible at noise-sensitive receptors, such as staff training may continue outside of the stated hours.

• All construction activities will adhere to good practice as set out in BS 5228.

• All equipment will be maintained in good working order and any associated noise attenuation such as engine casing and exhaust silencers shall remain fitted at all times.

• Where flexibility exists, construction activities will be separated from residential neighbours by the maximum possible distances.

• Construction plant capable of generating significant noise and vibration levels will be operated in a manner to restrict the duration of the higher magnitude levels.

It appears that the noise impacts from these activities is to be considered temporary - Negligible and Not Significant, over a minimum period of 18 months with an unenforceable start for vehicles at 0700 am five days a week, as a workable solution. The impact of the disturbance caused to the local residents and the traffic flow around the site, is totally unacceptable, unrealistic and unenforceable.

10.75 These measures may be included within a Construction Environmental Management Plan (CEMP)and implemented by the site contractor. Traffic movements will be managed by a Construction Traffic Management Plan (CTMP) as part of the CEMP. Turbine deliveries would only take place outside these times with the prior consent of the local authorities and the Police. Operational Noise

10.76 T10.60 Predictions of operational wind turbine noise for the Proposed Development in isolation at the assessment locations are detailed in Table 13 of Appendix 10.1. These vary between 273t e selection of the final turbine to be installed at the site should be made on the basis of enabling the relevant ETSU-R-97 noise limits of (Tables 10.2 and 10.3) to be achieved at the surrounding assessment properties.

Energiekontor have no control of over noise issues from an adjacent application, that is Blair hill or Shennanton wind turbine sites.

10.77 If consent is granted for the Proposed Development, conditions attached to the consent will include the requirement that, in the event of a noise complaint, noise levels resulting from the operation of the wind turbines on the Site are measured to demonstrate compliance with these noise limits. Such monitoring will be done in full accordance with ETSU-R-97 and include penalties for characteristics of the noise (if present).

The use of an old standard for 35 years not is not acceptable.

10.79 Following the implementation of the good practice measures described above, the residual effects of construction activities are predicted to be temporary Negligible to Minor adverse (Not Significant).

As the applicant has no direct control over the noise issues this prediction is purely speculative

Operational Noise

10.84 The operational noise assessment has been undertaken in accordance with the recommendations of ETSU-R-97, The Assessment and Rating of Noise from Wind Farms, as referred to within relevant planning guidance, and the Institute of Acoustics document, A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise.

The use of an old standard for 35 years not is not acceptable.

10.85 Noise limits were derived based on a survey at a representative subset of locations, between 24th October and 5th December 2023. Predictions of wind turbine noise were undertaken, including the cumulative contribution of noise from relevant cumulative sites (the Kilgallioch Wind Farm and the Kilgallioch Extension Wind Farm, as well as an indicative assessment of the Blair Hill Wind Farm). The assessment assumed that six turbines of the Proposed Development operated in a reduced noise operational mode: turbines 1, 3 and 10 have been assumed to operate in the “SO1” mode and turbines 4, 7 and 8 have been assumed to operate in the “SO2” mode. This was based on the Vestas V172 7.2 MW candidate model: for other available turbine models, different or no reduced noise constraint modes may be required

10.86 The assessment shows that the predicted turbine noise levels were below the derived noise limits, even when accounting for the influence of cumulative noise levels where relevant.

The statement made, in that Energiekontor has failed to consider scoped Shenannton and their own Balunton wind farm site which should form part of the cumulative assessment, nor does it have any control over the type and operational modes of those turbines.

10.89 The Proposed Development is located in an area of low population density, with a noise environment mainly characterised by natural sources as well as agricultural and traffic noise in some areas. The assessment has considered the residential properties nearest to the Site as these are considered noise-sensitive. Surveys have been performed to establish existing baseline noise levels at a representative number of these properties. Noise limits have been derived from data about the existing noise environment following the method stipulated in national planning guidance.

As the applicant has no direct control over the noise issues this prediction is purely speculative.

10.90 Construction noise has been assessed by a desk-based study of a potential construction programme and by assuming the proposed development is constructed using standard methods. Noise levels have been calculated for receiver locations closest to the areas of work and compared with guideline and baseline values. Construction noise, by its very nature, tends to be temporary and highly variable and therefore much less likely to cause adverse effects. Factors including in particular the restrictions of hours of working have been taken into consideration. It is concluded that noise generated through construction activities would have negligible effects at most, and potential worst-case traffic increases would correspond to minor effects at most, which is not significant.

It appears that the noise impacts from these activities is to be considered temporary - Negligible and Not Significant over a minimum period of 18 months with an unenforceable start for vehicles at 0700 am five days a week as a workable solution. The impact of the disturbance cause to the local residents and the traffic flow around the site, and by their own indication in the Hoare Lea report, there will be an increase in traffic with a maximum generation of 172 construction vehicles movements per day (including 112 HGV), or an average maximum of 9 HGV vehicle movements each hour, based on a 11-hour working day.

We would challenge this assumption as being totally unacceptable, unrealistic and unenforceable.

Operational Noise

10.91 Operational turbines emit noise from the rotating blades as they pass through the air. This noise can sometimes be described as having a regular 'swish'. The amount of noise emitted tends to vary depending on the wind speed. Background noise levels at nearby properties will also change with wind speed, increasing in level as wind speeds rise due to wind in trees and around buildings, etc. Predicted wind farm noise levels take full account of the potential combination of the noise from the Proposed Development along with the neighbouring Kilgallioch Wind Farm and the Kilgallioch Extension Wind Farm, as well as an indicative assessment of the Blair Hill Wind Farm. Other, more distant wind farms were not considered as they do not make an acoustically relevant contribution to cumulative noise levels.

The statement made in that Energiekontor has failed to considered scopped Shenannton and their own Balunton wind farm site which should form part of the cumulative assessment, nor does it have any control over the type and operational modes of those turbines.

10.92 Predicted turbine operational noise levels have been compared to the limit values to demonstrate that turbines of the type and size which would be installed can operate within the limits so derived, using operational management where required. It is concluded therefore that operational noise levels from the wind farm will be within levels recommended in national guidance for wind energy schemes. Operational wind turbine noise levels are therefore considered to be not significant.

As we have indicated in this report (and the other documents we have submitted) that the effects of noise from this proposed site will be significant upon the local residents, the recreational visitors and the local wildlife if granted

Technical Vol 3 Appendix 10.1 Noise Assessment
REVISION 2 – 22 JULY 2024 AUTHOR: RYLAN NORCROSS Hoare lea

2.1.4 1 The recently published Scottish Government Onshore Wind Policy Statement 20225 mentions the potential for the advice in ETSU-R-97 to be modified in future based on a review from the UK Government, but continues to support its use in the meantime, confirming the advice from the Online Renewables Planning Advice set out above. Although a report on this topic commissioned by the UK Government has been published (WSP BEIS Report)6, its recommendations for updates to some aspects of the ETSU-R-97 methodology will need to be considered by the national governments. The WSP BEIS report does not provide a replacement or update to ETSU-R-97 and until it is replaced or updated, the Scottish Government has confirmed in the Onshore Wind Policy Statement 2022 that the ETSU-R-97 methodology continues to be applicable.

2.1.5 The recommendations contained in ETSU-R-97 therefore provide a robust basis for assessing the noise implications of a wind farm. ETSU-R-97 has become the accepted standard for such developments within the UK. Guidance on good practice on the application of ETSU-R-97 has been provided by the Institute of Acoustics (IOA Good Practice Guide or GPG)7. This was subsequently endorsed by the Scottish Government8 which advised in the web-based planning advice note that this 'should be used by all IOA members and those undertaking assessments to ETSU-R-97', The methodology of ETSU-R-97 and the IOA GPG has therefore been adopted for the present assessment and is described in greater detail below

It can be seen from the above that there is a clear attempt to ignore the evidence in the forthcoming review of (ETSU-R-97) by quoting letters (some dated 2013) and advise to substantiate the location of these turbines which are already modified to reduce the impact of noise. ETSU-R-97 which is now clearly out of date and if allowed to influence this application (f granted) will cause substantial issues regarding noise to the local residents (some of which objected to the sound monitoring because of this very point).

We object in the strongest terms to the use of an outdated standard which could result in long term health issue to local residents.

We have detailed relevant points below:

Update on Noise Assessment Guidelines (ETSU-R-97)

The independent review of ETSU-R-97 in February 2023 by WSP highlighted several shortcomings. The Department for Energy Security and Net Zero (DESNZ) have stated, under Freedom of information, that the guidance "would benefit from targeted updates" and that the previous government have contracted Noise Consultants Ltd to update ETSU-R-97 by Spring 2025. The WSP key recommendations relate to Amplitude Modulation, where ETSU-R-97 does not adequately address

- the adverse impact (which increases noise annoyance)
- the noise limits which are based on outdated or insubstantial evidence. Notably, controlling values for night-time noise levels should not be higher than during the day. The night-time noise level in ETSU-R-97 is 43dB, high for quiet countryside settings, whereas the WHO standard is much lower at 30dB. The areas around the Glenvernoch recorded much lower again at around 20dB and frequently much lower. A 10dB is a doubling (or halving) of loudness. ±3dB is normally perceptible.

3.2.6 The exception to the setting of both the day-time and night-time lower fixed limits occurs in instances where a property occupier has a financial involvement in the wind farm development. Where this is the case then the lower fixed portion of the noise limit at that property may be increased to 45 dB

The premises Knockville is defined as having a financial interest, but the occupants do not have, therefore they, as tenants, should not be subject to higher noise limits

3.5.1 Prior to undertaking the background surveys, a summary of the likely proposed monitoring locations was forwarded to the Environmental Health Department of Dumfries and Galloway for comment on 17/08/2023, and no adverse comments were received.

This consultation was based on a preliminary project layout which was of a similar form to the layout currently proposed.

We would not expect a response to a scoping application bearing in mind the workload involved and the fact that Dumfries and Galloway are dealing with numerous applications.

The new site layout is not as the original proposal and should have been resubmitted

3.2.5 In some instances, the results obtained at the survey positions have been used to represent the background environment expected to occur at other nearby assessment locations. The use of the data in this way is justified by the relatively similar nature of the terrain, the shared influence of 'natural' sources on background noise levels throughout the area (particularly at increased wind speeds) and the shared exposure to road traffic noise at the measurement and assessment properties located along the A714 road, running along the River Cree from the north to southeast of the Proposed Development. This approach is

consistent with the guidance provided by ETSU-R-97 and current good practice as set out in the IOA GPG. Locations where such representations have been made, and the source of the representations, are represented in Table 4. It is noted that where such representations have been made, the distance between the assessment location and nearest turbine is comparable to, if not greater than, the distance between the reference monitoring location and the nearest turbine.

It is noted that there are omissions from the survey, the property at Garshew is missing without any explanation as to why, and that assessment using the property at Knockville has been used (which is supposedly financially involved) for other properties, its location bears no resemblance due the nature of the topography to those in the bottom of the Cree Valley, and the common standard applicable to those properties is not correct, it cannot be the case that the sound level at the recreational lodges which are the nearest to the site is the same as those in the valley opposite,

5.6.5 - The ETSU-R-97 fixed part of the limit during the day-time should lie within the range from 35 dB(A) to 40 dB(A). The factors to be used to determine where in this range have been discussed above. These are discussed in turn below: Number of properties: there is a relatively low number of isolated properties affected by noise from the Proposed Development. The area of the Proposed Development and its surroundings is generally of low population density, with a limited number of surrounding properties particularly to the south and west, with no immediate nearby villages surrounding the Proposed Development. Duration and level of exposure: The properties to the south and west of the site experience low levels of background noise during the day and night time periods, particularly in calmer wind conditions. Whilst screened and distanced from road traffic noise compared to properties along the east of the site, these isolated properties to the west of the site are upwind of the windfarm under the prevailing south westerly wind direction of the UK. The charts of Annex E show that at Glenruther and Ochiltree, the level of exposure in terms of comparing the predicted turbine noise (from the Proposed Development) relative to background noise is comparable towards the upper middle range of measured baseline levels in quiet conditions during the day-time and night time at these properties. The predictions are based on downwind conditions (wind blowing from source to receiver), and the actual levels which occur in practice will be considerably lower (10 dB(A) to 15 dB(A)) under upwind conditions. Bearing in mind the prevailing south westerly wind direction of the UK further reduces the portion of the time for which the benefit of an increased lower limit is required at these properties. Properties to the east of the site based on background measurements at Knockville also show reduced background noise levels during low wind speed conditions. However, predictions in the charts of Annexe E, for Knockville and Shepherds Cottage show more elevated turbine noise levels at these properties which are also located downwind from the Proposed Development, during prevailing south westerly UK winds. This suggests a higher level and duration of exposure at these properties. However, the use of background noise measurements at Knockville for most of the properties east of the site is considered precautionary, as Knockville is located further from the A road and river compared to properties at the bottom of the hill (such as Shepherds Cottage) Reduced road noise and no watercourse noise aligns with observations at the Knockville measurement position. Generation capacity: The effect that having a limit at the lower end of this range would have on the number of turbines installed would be detrimental to the overall large (>80 MW) energy generation of the scheme. Indeed, the generation capacity of the site is a relevant consideration. The power generating capacity of modern wind turbines has dramatically increased over that which was typical at the time the ETSU-R-97 guidelines were produced. For example at the time the guide was produced, a wind farm site comprising around 143 turbines would have been required to achieve a similar generating capacity to that of the Proposed Development (up to 86 MW depending on the installed turbine model), thus highlighting the national significance of the scheme.

This statement shows the variation in the assessment and the inadequacy of the survey; the assumptions made are purely speculative at least. It also indicates the capacity of generation is a prime concern over the welfare of the individuals in the surrounding residential properties.

5.6.6 Based on the above considerations, it is considered wholly appropriate on balance to set the lower fixed portion of the day-time ETSU-R-97 noise limit towards the middle of the range at 38 dB(A).

The noise limits are based on outdated or insubstantial evidence; the adverse impact will be increased noise annoyance.

5.6.7 In conclusion, predicted noise from the Proposed Development including predicted noise from operating Kilgallioch Wind Farm and Kilgallioch Extension Wind Farm where relevant, is compliant with the ETSU-R-97 criteria at all locations and all wind speeds. This outcome has been achieved through use of operational reduced noise mode turbine constraints applied to six of the Proposed Development turbines assuming worst-case downwind predictions.

6.1.2 Several residential properties lying around the wind farm have been selected as being representative of the closest located properties to the wind farm. Noise assessments have been undertaken at these properties by comparing predicted construction and operational noise levels with relevant assessment criteria. In the case of construction noise, relevant assessment criteria are in the form of absolute limit values derived from a range of environmental noise guidance. In relation to operational noise, the limits assigned to 16 surrounding properties have used either a simplified fixed noise limit or have been derived from the existing background noise levels, as derived from measurements made over approximately four weeks at each measurement location.

6.1.4 Operational noise from the wind farm has been assessed in accordance with the methodology set out in ETSU-R-97, 'The Assessment and Rating of Noise from Wind farms'. This document provides a robust basis for assessing the operational noise of a wind farm as recommended by Scottish Planning Policy.

The independent review of ETSU-R-97 in February 2023 by WSP Energy Security and Net Zero (DESNZ) have stated, under Freedom of information, that the guidance "would benefit from targeted updates" and that the previous government have contracted Noise Consultants Ltd to update ETSU-R-97 by Spring 2025. These statements clearly show that this is not the case and that the surrounding residents may be subject to excessive noise by Amplitude Modulation, where ETSU-R-97 does not adequately address the adverse impact (which increases noise annoyance)

END OF REPORT: NOISE AND VIBRATION

SUPPLEMENTARY OBJECTION TO CHAPTER 6: LANDSCAPE AND VISUAL EFFECTS

This section serves as a supplementary objection to **Chapter 6: *Landscape and Visual Impact*,** authored by ***Ian Morton on behalf of Hands Off Our Hills***. It is submitted as supporting evidence within the comprehensive Hands Off Our Hills objection to the Glenvernoch Wind Farm proposal.

SUPPLEMENTARY OBJECTION TO CHAPTER 6: LANDSCAPE AND VISUAL EFFECTS

WRITTEN BY IAN MORTON ON BEHALF OF HANDS OFF OUR HILLS

1. SUMMARY AND CONCLUSIONS

1.1.1 This document presents argument and evidence relating to potential unacceptable impacts on landscape and visual amenity as reason for objection to a Section 36 planning application for wind energy development on land at Glenvernoch Fell, Dumfries and Galloway (ECU ref 00004892).

1.1.2 The document gives a brief description of the proposed development and provides details of both the site and the surrounding landscape character and visual context.

1.1.3 The objection points out that Dumfries and Galloway already has a large and disproportionate number of windfarm sites and that such development is now encroaching on areas which would have been previously afforded protection due to designated status and/or recognised scenic quality.

1.1.4 It is highlighted that a previous application for wind energy development, adjacent to the current proposals, was refused planning permission on the grounds of unacceptable impact on tourism, landscape, visual amenity, water environment, soils and hydrology. The objection maintains that reasons for refusal of the previous planning permission are also relevant for the Glenvernoch proposals.

1.1.5 The site location is considered to be inappropriate for wind energy development. This assertion is supported by reference to Dumfries and Galloway Councils Landscape Capacity and Sensitivity Studies and also regarding the aims and requirements of various national and local planning policies.

1.1.6 The objection states that the site does not relate to other wind energy development in the area, being geographically isolated and out of scale with development situated on the Wigtownshire Moors to the west. Furthermore, it is maintained that the site location and design do not adhere to best practice guidance given in Dumfries and Galloway Council LDP2: Wind Energy Development: Development Management Considerations and other related guidance documents.

1.1.7 In term of landscape character, it is considered that the proposals will have a direct and detrimental impact on identified Landscape Character Types in the area, including LCT174 Plateau Moorland with Forest and LCT 160 Narrow Wooded Valley. It is concluded that the proposals will significantly indirectly impact on views and perceptions from highly sensitive surrounding landscape character types to the east and south.

1.1.8 The scale of the proposals is unprecedented in the area and it is proffered that the development will dominate the Cree Valley and significantly impact on the scenic quality of surrounding landscape designations including the Galloway Forest Park, Merrick Wild Area and Galloway Hills Regional Scenic Area.

1.1.9 Within the document it is asserted that the requirement for aviation lighting will adversely impact on the quality of the predominantly dark skies of the area and in particular on the Galloway Forest Dark Sky Park which is an international designation with Gold Tier status. It is argued that views of aviation lighting will not be localised but will be conspicuous intrusions visible above the skyline from distance.

1.1.10 The document identifies principal visual receptors likely to be affected by the proposals, these include; local residents, users of local and national recreational routes - including the SUW and NCR7, visitors to local tourist attractions and users of the regional and local road network.

1.1.11 The level of visual intrusion from the proposals, perceived by identified visual receptor groups, is described and discussed with reference to the applicant's LVIA. It is concluded that overbearing and overwhelming visual effects

will be experienced by some receptors, particularly by nearby residents located within 2km of the proposed development.

1.1.12 An examination of relevant landscape and visual planning policy and guidance is presented and discussion and argument given regarding how the proposals do not conform to the aims and requirements of the policy and guidance. This is presented as a reason for objection to the proposals.

1.1.13 A review and critique of the applicants LVIA is provided and comments and discussion, regarding methodology, assessment criteria, selection of landscape and visual receptors and various associated Figures and Appendices is given.

1.1.14 Response and challenge, where appropriate, to findings of the LVIA is given. It is concluded that the LVIA, including the RVAA and associated Figures, contain a number of inaccuracies and inconsistencies and that in general there has been some underestimation of the magnitude of change and levels of accorded 'significance'. It is argued that this is particularly the case regarding the assessment of aviation lighting effects. Consideration of the magnitude of change in relation to the assessment criteria definitions is provided is presented throughout the response to the LVIA.

Conclusion

1.1.15 We conclude that the application for development of very large-scale turbines at Glenvernoch Fell, in the Cree Valley should not be consented on the grounds that it is poorly sited and designed, disproportionate in scale and does not relate to the surrounding landscape context and sensitivity. We maintain that the development would have an unacceptable impact on the landscape character of the Cree Valley, the adjacent Galloway Hills and on the visual amenity of nearby residents and visitors to the area. Importantly the perception of the Galloway Hills Regional Scenic Area and in particular the Dark Skies Park would be substantially detrimentally affected should the application be consented.

1.1.16 We challenge some of the findings and conclusions stated in the applicants LVIA and believe that there is substantial argument for reconsideration of some of the magnitude of change and significance of effect values presented in the assessment.

2. INTRODUCTION

Outline

2.1.1 This document sets out reasons, relating to landscape and visual effects, for objection to planning application Ref No. ECU0004892 concerning proposed wind energy development on land at Glenvernoch Fell, Dumfries and Galloway submitted by Energy Kontor UK Ltd. It has been prepared by Hands of Our Hills campaign group whose principal objective is to protect the Galloway Hills and Cree Valley from inappropriate and potentially detrimental development.

2.1.2 The document focuses solely on discussion and argument regarding potential 'unacceptable' effects on landscape character and visual amenity resulting from proposals. It examines and challenges some of the assumptions and statements made in the applicants LVIA and discusses how the development proposals have responded to and, in places, contravened relevant national and local planning policy, associated best practice guidance regarding the siting and design of wind energy development.

2.1.3 In support of the objection, a detailed response to and critique of the methodology, analysis and conclusions set out in the LVIA submitted by the applicant as part of a wider Environmental Impact Assessment Report is also provided.

Project Description

2.1.4 The application site extends over 780Ha and is located within Dumfries and Galloway, approximately 260m east of Loch Ochiltree and 7km north of Newton Stewart. The proposed development is comprised of a total of 13 turbines

which will be constructed to a height of 200m to blade tip. The site and proposed turbines are situated on a prominent east-southeast facing slope with an elevation ranging between 50m and 184m AOD. The turbines will be accessed by a circular track which will connect with an existing farm track and the A714 at Knockville located at the sites south eastern extent. In addition to the turbines various ancillary structures and infrastructure will be required and will include:

- Temporary construction compound/Storage areas;
- Energy storage facility
- Crane hardstanding's and outrigger pads;
- Temporary construction and storage compounds;
- Access tracks
- Watercourse crossings;
- High voltage and control cables running in trenches between turbines;
- External transformer housings;
- On-site substation and control building;
- 2 Borrow pit search areas
- Drainage attenuation measures as necessary
- Offsite highway works and new access to the A714
- Installation of Aviation lighting

2.1.5 The proposed construction haulage route will be from King George V Dock at Glasgow via the M8, M74, A74, M6 and A75. Construction traffic will then proceed via a modified junction to the west of Newton Stewart along a minor road (Barnkirk Rd) to a further modified junction with the A714. Considerable modification of highway infrastructure particularly along the A75 and A714 will be required to facilitate access with requirement for significant landscape works, traffic disruption and impact on residents in settlements and properties located along the route.

2.1.6 It is proposed that the development will be operational for a period of 35 years after which it will be decommissioned and removed.

Description of Site and Surrounding Context

Landscape Context

2.1.7 The site occupies an area of open moorland on the western slope of the Cree Valley, Dumfries and Galloway. Topography is generally undulating rising in height to the north west at Glenvernoch Fell (184m AOD) where panoramic 360-degree views may be gained across the Galloway Hills and Southern Uplands to the east and Wigtownshire Moors to the west. At present land cover is mainly given over to grassland and modified bog which is principally used for grazing. The site is surrounded on three sides by areas of predominantly coniferous woodland. However, the eastern boundary is enclosed mainly by mixed deciduous woodland of Knockville and Crungie Woods. The immediate fell side is crossed by a number of small burns. To the north Boughty burn flows in a north-easterly direction into a small loch at Glenvernoch. In the south Castle Stewart burn flows south eastward through Penninghame Forest into Penninghame Pond and finally to the River Cree. Loch Ochiltree, which is located approximately 500m to the east, is a medium sized loch which is surrounded by noted archaeological features. Apart from minor access roads and the properties at Glenvernoch and Knockville the site is largely devoid of

significant built form with only boundary drystone walls and small-scale timber posts-overhead power lines present as noticeable man-made structures. From raised areas of the site long distant views to the west contain substantial man-made elements with the Wigtownshire Moors cluster of windfarms prominent towards the horizon. The site is bounded to the north by a section of the Southern Upland Way and to the east by the A714 which forms the main communication route linking Newton Stewart to Ayr. The A714 runs to the south to form a Junction with the A75 which is the main trunk road in the region.

2.1.8 Apart from properties mentioned above the nearest residential properties to the site are situated to the east within 1.5km of the site boundary. The settlement of Glentrool Village is located approximately 2.8km to the north east and the town of Newton Stewart is located at approximately 7km to the south east of the site.

2.1.9 In terms of the wider landscape context, land to the west is undulating rising to a broad plateau moorland with occasional low fell hill tops and substantial areas of commercial forestry. To the north, south and east more rugged often forested upland fringe landscape persist as the land rises upward to the Galloway Hills complex. The mountainous topography of the hills provides a distinct backdrop defining the skyline in views throughout the wider area.

2.1.10 The scenic and cultural significance of the Galloway Hills area is attested to by various international, national, regional and local designations that are associated with it. These include: Galloway Forest Park (GFP), International Dark Sky Park (DSP) status, UNESCO Biosphere Reserve status, Regional Scenic Area (RSA), Designated Wild Land Area (WLA), and various Local Landscape Areas (LLA). In addition to these designations the Galloway Hills may also eventually form the core of an emerging Galloway National Park. Apart from the landscape designations mentioned the area also hosts numerous nationally important ecological, cultural and archaeological designations including various SSSI, SPA, SAC, National Nature Reserve, ASA, and various scheduled monuments.

2.1.11 The landscape character of the area is described and defined in NatureScot's and Dumfries and Galloway Councils Landscape Character Assessments (LCA) which describe the various landscape typologies in the region in terms of Landscape Character Types (LCT). With reference to these assessments the site lies predominantly within LCT 17a (D&G-LCA) and LCT 174 (NatureScot-LCA) - Plateau Moorland with Forest. Throughout the following discussion, and in order to avoid confusion and maintain consistency with descriptions used within the LVIA, landscape character type reference numbers and titles are based on those given in the NatureScot LCA.

2.1.12 The Plateau Moorland with Forest LCT is described as: *A gently undulating landform and extensive scale, a generally simple land-cover of large-scale coniferous forestry interspersed with areas of open moorland and farmland and sparse settlement. While these key characteristics present opportunities for potential development, areas of open moorland, small pronounced hills, loch basins and pockets of settled farmland, pre-improvement and prehistoric sites and landscapes are important in contributing diversity to this landscape and are of increased sensitivity. The proximity of the Merrick WLA is also a key constraint. Wind farms are a key characteristic of this landscape and the variety of operational and under-construction wind farm developments (in terms of the height, number and layout of turbines) and their differing relationship to landform features (whether sited in shallow basins, extensive plateau or on small hills) further constrains opportunities for additional wind turbines to be accommodated."*

2.1.13 There are three other Landscape Character Types which are contiguous with LCT 174 and which may be significantly directly and indirectly impacted upon by the proposals these are;

- LCT 160 Narrow Wooded Valley - Part of the site which contains the site entrance and access track is located within this LCT and thus it will be directly impacted upon by the proposals.

- LCT 168 Drumlin Pasture in Moss and Moor Lowland - Although this is located approximately 4km to the south of the main site this LCT will be potentially subject to effects resulting from construction works required for the rearrangement of the junction of Barnkirk Road with the A75 to the south and also with the A714 to the north.

- LCT 181 Rugged Uplands with Forest is located approximately 3km to the east of the site. The LCT occupies an area of rising landform to the east to the River Cree with views attainable across the valley towards the application site.

2.1.14 There are numerous other LCTs surrounding the site which have extensive visibility towards it and which consequently may be subject to further indirect effects resulting from the proposals. These include:

- LCT 172 Upland Fringe – this LCT is located approximately 4km to the SE of the site. It partly is comprised of areas of woodland and elevated open moorland which have substantial views over the Cree Valley and the eastern slopes of Glenvernoch Fell. The LCT has panoramic views of the site interior and thus would be indirectly receptive to potential construction and operational phase effects.

- LCT 180 Rugged Uplands – at the nearest point this LCT lies just over 5km to the east of the site. The high elevation of the LCT, its remoteness, and in part WLA status, is such that it can be considered to be highly sensitive to potential effects associated with the proposed development. The site is entirely visible from parts of this LCT and, as discussed in Sections 5 below, it is surprising that the applicant's landscape consultant has chosen not to include and assess potential impacts upon it in their LVIA.

- LCT 179 Coastal Uplands – this LCT is located approximately 13km to the south of the site and encompasses the summit of Cairnsmore of Fleet and its associated designations. This LCT is prominent in views across the wider landscape and forms part of one of the most visited areas in the locality. It has extensive uninterrupted, although distant, views towards the application site from its north western edge and could be considered to be highly sensitive to potential effects resulting from the proposed development.

2.1.15 Further discussion of potential impacts associated with the proposals on the character of the site, relevant LCTs and landscape designations are considered given in Sections 3 and 5 below.

Visual Context

2.1.16 Potential visibility of the site is illustrated by the applicants LVIA - Figure 6.11: The Zone of Theoretical influence (ZTV). The ZTV shows that theoretically visibility of turbines (to blade tip) covers an extensive area extending to beyond 35km to the south west. Within 15km of the site Figure 6.11 indicates that the development is intermittently visible from all directions including areas of raised landform associated with the Galloway Hills to the east and from various recreational routes such as the Southern Upland Way (SUW) and, National Cycle Route 7 (NCR 7). Despite the presence of areas of intervening forestry and occasional built form, including nearby settlements. it is clear that, given the scale of the proposals, the development will significantly impact on visual amenity throughout the area. Principle visual receptors that are likely to be recipient to visual effects associated with the proposals are:

- Walkers on national trails and promoted leisure routes including sections of the Southern Upland Way

- Visitors to high profile visitor attractions within Galloway Forest Park

- Users of the cycle routes and core footpaths in the area such as NCR7 and other locally promoted walking routes to the east

- Caravan and camping sites

- Promoted viewpoints

- Visitors and tourists travelling on Dumfries and Galloway Council promoted tourist routes which include the A714 immediately to the east.

- A number of highly sensitive receptors located in nearby residential properties surrounding the site are less than 2km distance from the nearest turbine. It should be noted that this relatively short separation distance could be considered to run contrary to good design practice.

2.1.17 Impact of the development on visual amenity and the identified receptors cited above has been assessed in the applicants LVIA. Further discussion, critique and comment on the findings and conclusions presented in the applicants LVIA is provided in Section 5 below.

Designations

2.1.18 There are a number of landscape, nature and heritage designations located within a 5km radius of the application site that have potential to be indirectly affected by the development proposals. These include; Galloway Forest Park, GSP Dark Sky Park, Galloway Hills Regional Scenic Area, Local Landscape Areas, Archaeological Sensitive Areas, Sites of Special Scientific Interest, Special Area of Conservation, National Nature Reserves, Scheduled Monuments, Listed Buildings and National Nature Reserves. The impact of the proposals on the relevant identified landscape and visual associated designations is discussed in detail in the following sections.

3. IN PRINCIPLE OBJECTION

Introduction

3.1.1 This section sets out general reasons for objection to the proposals principally on the grounds of matters relating to landscape character and visual amenity. It details why we consider the proposed development unsuitable for this location and thus why it should not be consented. Further, more specific, consideration of issues raised in the general discussion below is provided in Sections 4 and 5.

General Discussion

3.1.2 It is our opinion that the proposals, if consented, will have an unacceptable negative impact on landscape character, visual amenity and important cultural and recreational assets in the Cree Valley including the Galloway Forest Dark Skies Park. We argue that that the proposed development does not adhere to, and often contravenes aspects of national and local planning policy as well as specific guidance regarding the suitability; design and siting of windfarms (discussed in detail in Section 4).

3.1.3 Dumfries and Galloway has some of the highest concentrations of wind turbines in the whole of the UK. There has already and continues to be further proliferation of windfarm developments in the area particularly within the Wigtownshire Moors and South Ayrshire. With the introduction of National Planning Framework 4 (NPF4) it is evident that developers are now seeking to identify sites which previously would have been rejected due to protective designation and other planning policy constraints. In addition, developers also appear to be revisiting sites for which previous windfarm applications have been refused. Of particular relevance is the former 'Hill of Ochiltree' windfarm application. This site lies immediately to the west of the current Glenvernoch application. The proposals for the Hill of Ochiltree were smaller in extent and in terms of turbine height. This application was refused planning permission by Dumfries and Galloway Council in 2012 (Ref: 09/P/01417). The reasons for the refusal were on the grounds that there would be unacceptable impact on tourism, landscape, visual amenity, water environment, soils and hydrology. The current Glenvernoch proposals are visually prominent, are of a much larger scale and as such should be rejected on the same basis of the previous Hill of Ochiltree application.

Impact on Landscape Character and Visual Amenity

Design, Scale and Dominance in the landscape

3.1.4 The site design does not relate to existing windfarm development in the area and appears not to conform to best design practice regarding landscape sensitivity and suitability of location. The proposed development forms an isolated entity that is incongruous with the landform and potentially detrimental to the setting of natural and historic assets of the surrounding area.

3.1.5 The scale, particularly in terms of turbine height, is disproportionate to landscape character and the relatively low-lying topography of the Fell and valley slope. As such the proposed turbines would dominate and overwhelm the Cree Valley itself rising nearly 1000ft above the valley floor.

Landscape Character

3.1.6 The Galloway Hills and surrounding area has a national profile and is recognised for its high scenic value as well as containing numerous nationally important ecological and historic/archaeological designations. It is acknowledged that the area has some of the best and most unspoilt landscapes in the whole of southern Scotland and provides a substantial recreational resource for local people and visitors alike. Consequently, it is important that such a national and regional asset should be protected from being damaged and ultimately lost due to inappropriate development. The Glenvernoch Windfarm proposals, should they be consented, would ultimately diminish and devalue the quality of the Cree Valley and the setting, context and perception of the wider Galloway Hills complex and the Galloway Hills Regional Scenic Area. Importantly, if this application is approved, there is a danger it will set a precedent whereby all unspoilt, high value landscape within Galloway could be considered suitable for development.

Visual Amenity

3.1.7 The proposals will significantly impact on visual amenity in the Cree Valley and surrounding area with views into and out of the Galloway Hills, Merrick Wild Land Area and Galloway and South Ayrshire UNESCO Biosphere Reserve Core and Buffer Zones substantially affected. The development will result in a change in the perception of the Galloway Forest Park/Dark Skies Park designation with potentially significant visual disturbance/intrusion resulting from the requirement for aviation lighting (this is discussed in detail in Sections 4 and 5 below).

3.1.8 The applicants Landscape and Visual Impact Assessment accepts that there will be significant adverse impacts on a large number of sensitive visual receptors surrounding the site and to some extent at distance. At the local level, immediately to the east, visual disturbance will be exacerbated by substantial shadow flicker effects from afternoon onwards. We contend that in many instances the level of effects resulting from the proposals will be overwhelming (we provide evidence for this assertion in Section 5 below). In particular we maintain that insufficient consideration has been given to separation distances between properties and very large typology turbines and that as a consequence residents and other sensitive receptors, within 2km of the site, will be subject to unacceptable levels of visual intrusion.

Cumulative Effects

3.1.9 The proposed development will give rise to potentially significant cumulative effects extending the influence and appearance of windfarms already prominent to the west and north at Kilgallioch, Artfield Fell and Airies Fell etc. Two further proposals for very large typology turbines at Blair Hill and Shennanton, which are within 7km of the site, are currently in the pre-application phase. Should these proposals advance and be consented there is further potential for substantial inter-visibility and increase in visual clutter which would give the impression of the Galloway Hills becoming encircled by windfarm development, this has potential to result in an unacceptable detrimental diminution in scenic quality and on the perception of the area as being largely unspoilt. We also contend that the sense of wildness and remoteness of valued assets such as The Merrick Wild Land Area will be further compromised should the proposals be consented.

Impact on Natural Environment and Cultural Heritage

3.1.10 The setting, understanding and appreciation of a number of heritage assets in the immediate area will be adversely indirectly impacted upon. These include the Scheduled Monuments at Bargrennan and Ochiltree, Archeologically Sensitive Areas around Blair Hill and the Category A listed All Saints Church at Challoch. In addition, there is also potential for an unacceptable level of indirect impact, both during the construction and operational phase, on protected species and ecological designations in the vicinity including designations of regional and national importance such as Galloway Oak woods SAC, Wood of Cree SSSI and on Class 1 nationally important carbon rich soils/peatland habitats which is considered to be of potentially high conservation value.

Peat

3.1.11 The layout and design of the site has not successfully mitigated against damage to existing peat deposits. In particular construction of turbines T12 T11, T5, T4 and T3, including temporary crane pads, hardstanding and turbine foundations will substantially disturb and damage deep peat deposits. In addition, the proposals are vague with reference to the design and location of proposed 'floating' sections of the turbine access tracks. Consequently, the degree of damage and disturbance to peat deposits resulting from the construction of the track cannot adequately be predicted.

Conclusion

3.1.12 We consider the proposals are inappropriately located, do not relate to the landscape context and sensitivity. The development is isolated, out of scale and disproportionate to both its setting and existing windfarm development to the west. Given the scale and height of the turbine's appropriate separation distances from proximate visual receptors has not been considered. The development will dominate part of the Cree Valley and views out from the Galloway Regional Scenic Area substantially diminishing scenic quality and perceptions of the Galloway Forest Park. The requirement for aviation lighting will result in the introduction of incongruous red lights visible at close range and distance substantially impacting on the noted dark skies of the area and specifically on the internationally designated 'Gold Tier' Galloway Dark Sky Park.

4. PLANNING POLICY CONTEXT

Introduction

4.1.1 This section describes national and local planning policies together with appropriate guidance that are relevant to consideration of landscape and visual effects and discusses how the development either does not adhere to, or contravenes, aspects of these policies and guidance.

National Planning Policy

National Planning Framework 4

4.1.2 Following over 2 years of engagement and development, National Planning Framework 4 (NPF4) was adopted by Scottish Ministers on Monday 13 February 2023. The framework sets out spatial principles, regional priorities, national developments and national planning policy which Local Development Plans should regard when developing local planning policy and in assessing proposed development. Aspects of relevant NPF4 policies in respect of landscape and visual considerations and the proposed development are set out below.

4.1.3 **Policy 4: Natural Places**: An overarching theme of this policy is that LDPs should '*identify and protect locally, regionally, nationally and internationally important natural assets* and that spatial strategies should safeguard them and take into account the objectives and level of their protected status in allocating land for development.

4.1.4 **This policy also states that:** *'Development proposals which by virtue of type, location or scale will have an unacceptable impact on the natural environment will not be supported'*. In addition, the policy also specifically states that; *'development proposals that affect a site designated as a landscape area in the LDP will only be supported' where… 'the Development will not have significant adverse effects on the integrity of the area or the qualities for which it has been identified'.*

4.1.5 In relation to this policy the development, by type, can be considered to be out of character and scale with the surrounding context and to be inappropriately located being immediately adjacent to, and thus impacting upon, protected highly valued landscapes such as the Galloway Hills RSA. As such the proposals can be considered to be in conflict with the policy aims to protect such assets. The applicants LVIA identifies numerous instances, particularly with respect to visual amenity, where effects resulting from the proposals are considered to be of a major adverse level of significance. By extension these effects can be considered to significantly adversely affect the integrity of the area and the qualities for which it has been identified. In terms of landscape character and the natural environment the proposals will adversely and significantly directly impact on LCT 174 Plateau Moorlands with Forest and its associated areas of nationally important peat deposits. In the wider landscape the scale of the

development is such that it will dominate the Cree Valley and the western areas of the Galloway Forest Park. Contribution to cumulative effects in association with existing and consented development would also substantially damage perception and experience of the adjacent Galloway Forest Park and RSA. In combination we consider that adverse effects resulting from the proposals would give rise to an unacceptable level of impact on the natural environment and as such they are in contravention of the aims and principals of Policy 4.

4.1.6 Policy 11: Energy: This policy states that development proposals that impact on international or national designations should be assessed in relation to Policy 4 (discussed above). The policy also requires that project design and mitigation have to demonstrate how the following impacts are addressed:

4.1.7 *'i. Impacts on communities and individual dwellings, including, residential amenity, visual impact, noise and shadow flicker';* The development has not successfully addressed adverse visual impact and shadow flicker and the design has not sufficiently mitigated against adverse effects due, in part, to the inappropriate small separation distance from very large typology turbines. The proposed development will appear overbearing and overwhelming in views of a number of nearby sensitive receptors including from residences situated within 2km for the site. This is clearly demonstrated by the applicant's LVIA viewpoints VP1, VP3 and VP19 and more specifically in the accompanying photomontages and photo-visualisations presented in the associated Residential Visual Amenity Assessment. In our opinion it is clear that the proposed development, by location, scale and design, will result in an unacceptable level of impact on individual dwellings and residential amenity and as such is not in line with Policy 11 requirements and should not be supported. Further evidence in support of our opinions regarding residential amenity are provided in Section 5.

4.1.8 *'ii. Landscape and visual impacts, recognising that such impacts are to be expected for some forms of renewable energy. Where impacts are localised and/or appropriate design mitigation has been applied, they will generally be considered to be acceptable'*. The location, scale and prominence of the proposed development is such that many significant landscape and visual effects are predicted to result from the proposals - as accepted in the applicant's LVIA. It is apparent that design iteration/development and in-built mitigation measures have not substantially reduced effects to acceptable levels. This is largely due to the fact that a reduction in turbine height was not considered and remains unchanged at 200m to blade tip throughout the design process. A comparison of design iterations given in Chapter 4 of the EIAR and corresponding ZTVs displayed at the applicant's consultation events together with the ZTV presented in Chapter 6 of the LVIA show that there has been relatively little change in the visual envelope over the course of the design evolution. The final ZTV (LVIA-Figure 6.11) indicates that effects and potential impacts are not specifically localised. The final design, irrespective of an accepted reduction in lateral extent, is still out of scale with the landscape context and still significantly impinges on the visual amenity of nearby receptors. We contend that the proposals give rise to adverse effects that are not localised in extent and that have not been sufficiently minimised by design and in-built mitigation measures. Consequently, the proposals can be considered not to conform to the aims and objectives set out in this part of Policy 11.

4.1.9 *iii. public access, including impact on long distance walking and cycling routes and scenic routes;* Location, scale of the proposed turbines and general site design is such that the proposals will significantly impact on sections of various recreational routes including long distance routes such as the SUW, NCR7 and identified local authority Core footpaths. This is acknowledged in the applicant's LVIA. Extensive theoretical visibility of the proposals from various other promoted scenic routes in the area is illustrated in LVIA Figure 6.24. It is clear that site design and mitigation has not successfully addressed and minimised adverse effects which will be perceived by users of these routes and thus the proposals can be considered to run counter to the aims of this aspect of Policy 11.

4.1.10 xiii. cumulative impacts. Through project design and choice of location the proposed development will give rise to potentially significant cumulative effects when considered in combination with operational, consented and application stage windfarms to the west and north of the site including; Kilgallioch, Artfield Fell, Airies fell etc. The applicant has not sufficiently considered cumulative effects in the design and siting of the proposed development and inbuilt mitigation has not substantially reduced cumulative effects. The proposals thus have not demonstrated that cumulative impacts have been addressed and reduced and as such they cannot be considered to be in accordance with the stated aims of Policy 11.

4.1.11 Policy 29: Rural Development. This policy requires that development proposals in rural areas should be suitably scaled, sited and designed to be in keeping with the character of the area. It is clear that the proposals do not adhere to the principal of the policy being inappropriately located, out of scale and character with the surrounding landscape and built form.

Schedule 9 of the Electricity Act 1989.

4.1.12 Schedule 9 of the Electricity Act 1989 sets out environmental features that decision makers must have regard to when considering applications, these include: preserving natural beauty and conserving flora, fauna and geological or physical features of special interest. In this respect the development has potential to adversely impact on the natural beauty of the area and on significant assets such as nationally important peat deposits. It is apparent that, in this instance, through site location and design the proposals have not successfully preserved environmental features/natural beauty from being damaged and as such run counter to certain aspects of Schedule 9 requirements.

Local Planning Policy and Guidance

Dumfries and Galloway Local Development Plan 2

4.1.13 The application site is subject to policies set out within Dumfries and Galloway Local Development Plan 2(LDP) (2019). A brief summary of the key aspects of the relevant local policies is provided below with discussion relating to how the proposed development can be considered to contravene the objectives and aims related policy and guidance.

4.1.14 Policy OP1 (c) - Landscape: The policy requires that '*Development proposals should respect, protect and/or enhance the region's rich landscape character, and scenic qualities, including features and sites identified for their landscape qualities or wild land character…. They should also reflect the scale and local distinctiveness of the landscape'*. The proposed development does not respect, protect and enhance landscape character and scenic quality. The proposals are incongruous in their setting and introduce forms that are out of scale with the surrounding landscape context. Specifically, the proposals will result in a material change and diminution of the physical quality of part of LCT174 and will change perceptual and scenic quality of views towards and from surrounding landscape character types. This is demonstrated by the applicants LVIA viewpoint photo-visualisations (ref LVIA viewpoints VP1, VP3, VP4, VP14 and VP18). Views from the Merrick Wild Land Area will be changed and the sense of remoteness further compromised and diminished. (ref. LVIA VP 12- photo-visualisation). The perceptual change in character will not be limited to daytime views but will continue at dusk and during the night when prominent eye-catching aviation lighting will be visible on the skyline from numerous vantage points (ref the LVIA VP2 night-time visualisation). Taking the effects described above into consideration the proposals apparently do not reflect the scale and local distinctiveness of the landscape and consequently can be considered to be in conflict with the aims and principles of Policy OP1.

4.1.15 Policy OP2 - Design Quality and Place making: This policy states that *'Development proposals should achieve high quality design in terms of their contribution to the existing built and natural environment…. Where relevant proposals should relate well to the scale, density, massing, character, appearance and use of materials of the surrounding area… as well as respecting the important physical, historic and landscape features of the site and its vicinity'.* The proposed development does not contribute to existing built form but rather detracts from it by the introduction of elements which are out of scale and dominant in appearance. The development negatively impinges on the physical features of the site and valuable assets such as peat deposits. The proposals also adversely impact the setting of historical and cultural assets in the vicinity including the ASA to the south east, Bruce's Stone to the north east and listed buildings such as All Saints Church at Challoch. This is partly evidenced by the applicants LVIA Figures 7.1-7.9 and viewpoints VP9 and VP10.

4.1.16 Policy ED10 - Galloway and Southern Ayrshire UNESCO Biosphere (GSAB): The policy states that '*the Council supports the designation and aims of the Biosphere... Development must be appropriate to the role of the different zones within the Biosphere.* Although the development is located within the transition zone of the GSAB it is less than 500m distant from the buffer zone. GSAB policy for the transition zone states that '*the GSAB Partnership Board*

are not supportive of developments in the Transition Area that have a negative impact on the core or buffer zone of the Biosphere, or it's Sense of Place. The scale and dominance of the proposals together with the requirement for aviation lighting will have a negative impact both on the buffer zone and, at distance, on the core area. The proposals are thus, in part, in contravention of both the aims of the Biosphere Reserve and of the associated D&G Policy ED10. The applicants LVIA viewpoint photomontages and visualisations namely; VP 19, VP18, VP14 and VP12 taken from within GSAB buffer and core areas illustrate this assertion.

4.1.17 Policy ED 11 - Dark Skies: This policy relates to Dumfries and Galloway Councils support for the Dark Skies Park and states that the council will assess proposals on their merit '*where they do not adversely affect the objectives of the dark skies park designation'*. The requirement for the installation of aviation lights will adversely affect the darkness of the night sky in the area and also the perception and quality of experience of visitors to the Dark Skies Park. As such the proposals can be considered to be in contravention of the objectives of the designation and thus apparently in conflict with the requirements of Policy ED11.

4.1.18 Policy HE6 - Gardens and Designed Landscape: This policy states that the; '*Council will support development that protects or enhances the significant elements, specific qualities, character, integrity and setting, including key views to and from, gardens and designed landscapes*…. including those of the Non-Inventory Designed Landscape and Gardens (NIDL). *The policy further states the 'Developers will be required to submit the results of an assessment of the impact of their proposals on the sites and their settings'*. Although a requirement of D&G LDP2 Policy, the applicant has chosen not to assess the impact of the proposals on Penninghame NIDL, located approximately 1km to the south of the site. The proposals are thus in contravention of the requirements of Policy HE6.

4.1.19 Policy NE2 - Regional Scenic Areas: This policy sets out that development within *'or which affects a RSA'* may be supported only where the council is satisfied that the landscape character and scenic interest of the area *'would not be significantly adversely affected by the proposals'*. It is clear that the proposals do impact on views towards and out of the western edge of the Galloway Regional Scenic Area and would significantly adversely affect the quality and perception of this designation. Consequently, the proposals run counter to Policy NE2 and thus should not be supported.

4.1.20 Policy NE3 - Areas of Wild Land: This policy states that; '*Development which would affect the Merrick Wild Land Area in Galloway…. would not be supported unless the Council is satisfied that it is demonstrated that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation*. The development is situated on a relatively low-lying valley slope that is highly visible from the Merrick WLA and is prominent in extensive panoramic views that can be gained from the summit (ref the LVIA viewpoint and photo-visualisation VP12). It is apparent that the proposals will impact on the quality of the view and perception of remoteness of the designation. As stated previously effects resulting from the proposals will be also be evident at dusk and during the hours of darkness due to the requirement for aviation lighting. In our opinion it has not been demonstrated that through site location, design, vertical scale and in-built mitigation measures adverse effects impacting on the WLA have been reduced to acceptable levels. As such the special qualities of the designation would, we argue, be compromised by the proposals which can thus be considered to be in contravention of Policy NE3 requirements.

4.1.21 Policy IN1 - Renewable Energy: The policy sets out the Councils support for '*development proposals for all renewable energy generation and/or storage which are located, sited and designed appropriately'*. It states that the acceptability of any proposed development will be assessed against considerations of: landscape and visual impact; cumulative impact; impact on local communities and individual dwellings, including visual impact, residential amenity; the impact on natural and historic environment (including cultural heritage and biodiversity) and the impact on tourism and recreational interests. As stated previously the proposed development is inappropriately located, unprecedent in scale and has not considered landscape sensitivity or adhered to relevant recommendations and guidance given in the DGWLCS (discussed in detail below). It is our opinion that the development will negatively impact on all of the relevant listed landscape and visual related considerations. This is evident from the LVIA submitted by the applicant, which identifies numerous instances of adverse and significant effects resulting from the proposals. The level of all effects, when considered in combination would, we argue,

result an in overall unacceptable and detrimental impact on landscape character and visual amenity and as such cannot be considered to be in accordance with Policy IN1 requirements.

4.1.22 Policy IN2 - Wind Energy: The policy states that *The Council will support wind energy proposals that are located, sited and designed appropriately*. It further requires '*that design and scale of the proposal is appropriate to the scale and character of its setting, respecting the main features of the site and the wider environment and that it addresses fully the potential for mitigation'.* As already stated, the proposals can be considered to be inappropriately located being out of scale with the character of the site and wider landscape context. The site encompasses areas accorded 'significant protection' against wind energy development as shown in the Councils Wind Energy Spatial Framework Plan (D&G LDP2 Map 8). It is situated in a landscape which is considered to be of high sensitivity and largely unsuitable for very large turbine typologies (re DGWLCS and the emerging Dumfries and Galloway Landscape Sensitivity Study: Large Turbines). In built mitigation has not included considerations of scale or incorporated sufficient design solutions to substantially reduce visual effects as evidenced by comparison of ZTVs throughout the design evolution. Taking account of these observations and issues discussed the proposals cannot be considered to be adherent to this aspect of Policy IN2 requirements.

4.1.23 The policy also states that the *acceptability of any proposed wind energy development will be assessed against the following considerations*:

4.1.24 *'Landscape and visual impacts: The extent to which the landscape is capable of accommodating the development without significant detrimental landscape or visual impacts, including effects on wild land*': The site is located in an area generally considered to have a high sensitivity to very large typology wind turbine development (ref DGWLCS). The unprecedented height of the turbines will directly and indirectly impact on landscape character, scenic quality and visual amenity. This is acknowledged in the applicants LVIA which details that significant adverse impacts are likely on LCT 174, LCT 160, LCT 172, and LCT 168 and on almost half of all the viewpoints assessed. We proffer that the impact on the Merrick Wild Land Area, although indirect, is also potentially significant given the very high sensitivity of the designation. We maintain that the landscape of the site and the surrounding area, particularly to the east, is not capable of accommodating the development without significant detrimental effects. We also argue that the extensive number of significant adverse landscape and visual effects resulting from the proposals, identified in the applicant's LVIA and from our own assessment, are unacceptably high and thus in contravention of the aims of Policy IN2.

4.1.25 *Cumulative impact: The extent of any cumulative detrimental landscape or visual impact or impacts on existing patterns of development from two or more wind energy developments and the potential for mitigation.* The proposed development will give rise to potentially significant additive cumulative effects particularly in relation to operational, consented and application stage windfarms to the west and north of the site including; Kilgallioch, Artfield Fell, Airies fell etc. In addition, it is known that two further proposals for very large typology turbines at Blair Hill and Shennanton, which are within 7km of the site, are currently in the pre-application stage. As stated above the cumulative effects would, if Blair Hill and Shennanton proposals are consented be significant. These developments are of a similar scale and are in close proximity to the Glenvernoch proposals. The applicant's LVIA acknowledges that the increase in combined windfarm development would reinforce encroachment of wind energy development towards the Galloway Hills and change the perception of the area immediately surrounding the Hills to the west to a 'wind farm landscape' (ref the applicant LVIA paragraph 6.436). The degree of visual clutter and visual confusion resulting from the combined development would be overwhelming and thus considered to be unacceptable when judged against extant D&G Policy and Guidance (discussed further below).

4.1.26 *Impact on local communities and residential interests: The extent of any detrimental impact on communities, individual dwellings, residents and local amenity, including assessment of the impacts of noise, shadow flicker, visual dominance and the potential for associated mitigation.* The proposals will be visually dominant from various vantage points including from a relatively large number of individual dwellings. Mitigation measures have not considered a reduction in turbine heights or an increase in separation distances. Consequently, the proposals appear overbearing and overwhelming in views from properties situated at close range. (ref. LVIA – Residential Visual Amenity Assessment photo-visualisations). The extent of detrimental visual impact can be considered to be unacceptable and in contravention of this aspect of Policy IN2.

Other Relevant Guidance

Dumfries and Galloway Council LDP2: Wind Energy Development: Development Management Considerations

4.1.27 The proposals have, in general, not adhered to the principles and central themes of the guidance particularly in relation to location, relationship with landform, impact on landscape character designations, views, and on local residents as discussed in detail below.

4.1.28 The guidance states that; *'all proposals will be assessed for potential impacts on landscape and visual amenity. Particular attention will be given to proposals within or affecting areas designated for their landscape qualities and to how the proposals will impact on the special qualities and/or reasons for such designations'.* The proposed development is located adjacent to sensitive landscape designations including Galloway Forest Park/Dark Sky Park and Galloway Hills Regional Scenic Area. The LVIA acknowledges that there will be significant indirect effects on these designations. As outlined below these are likely to be more extensive than stated in the assessment. The development will impact on the special qualities of these designations and will compromise the appreciation of the scenic quality of the area. As such the proposals do no adhere to this specific aspect of the guidance.

4.1.29 The guidance further states that LCT 168 Drumlin Pastures in Moss and Moor Lowland and LCT 180 Rugged Uplands occur in only one or two other regions across Scotland and are therefore considered rare. '*Development proposals within any of these areas should take account of the specific scenic or landscape qualities and characteristics (as identified within the DGLCA and DGWLCS) that contribute to this rarity'*. Part of the construction work associated within highways modifications at junctions with Barnkirk Road occurs within LCT 168 – this aspect of the development and its potential impact on landscape and visual amenity has not been assessed in the LVIA. In addition, there will be indirect visual effects perceptible from the LCT 180 which has not generally been considered in the LVIA. With respect to LCT 180 the development has potential to diminish perceptual quality of remoteness and currently unobstructed long views attainable from high elevations within it.

4.1.30 The document provides design guidance regarding turbine siting, design, layout, form and colour. It states that: '*Development proposals should relate to the grain and pattern of the landscape and should take account of the overall landscape context and character of the area in terms of its appearance, positioning, extent and density. Alternative layouts should be explored in relation to the most sensitive viewpoints'*. The proposals run counter to, and may be considered to contravene much of this guidance, particularly in relation to the siting of the development, turbine sizes and their relationship with landform which may be considered inappropriate due to the relatively low elevation of the moorland plateau. The guidance also requires that '*Wind energy developments should be carefully sited to avoid particularly sensitive locations'* due either to their prominence in the landscape, the sensitivity of the locations from which they are visible and their historic, cultural or recreational significance. The location of the development, on a prominent fell side location, in close proximity to sensitive landscape, recreational and historical assets from which it will be highly visible appears not to be compliant with the guidance.

4.1.31 Specifically the guidance requires that, when choosing potential locations, particular consideration should be given to avoiding *'sensitive locations such as… on prominent horizons and hillcrests… or on the perimeters and outward facing slopes of plateau and upland massifs'* or *'Locations that form a significant focus of view from settlements, major routes, scenic drives and recreational routes'* .The proposals are located on an outward facing slope of a plateau, would be highly visible from scenic drives/ recreational routes such as the A714 promoted tourist route and the SUW and would be seen from certain low elevations as prominent feature of the skyline. As such the proposals do not appear to recognise or conform to the stated guidance aims.

4.1.32 The guidance states that '*careful consideration will need to be given to any proposed lighting particularly within, and in close proximity to, the Dark Sky Park'.* Although, as part of in-built mitigation, the applicant has sought to reduce the impact of aviation lighting this will nevertheless substantially impact on part of the Dark Sky Park, particularly the western fringes of the core area and buffer zone as indicated by the applicants LVIA Figures 6.7.1-6.7.3. and as discussed in detail in Section 5.

Dumfries and Galloway Council LDP2 Wind Energy Development: Development Management Considerations: Appendix C Dumfries and Galloway Windfarm Landscape Capacity Study

4.1.33 The Dumfries and Galloway Windfarm Landscape Capacity Study (DGWLCS) provides an assessment of landscape character and specifically landscape sensitivity to wind energy development. The assessment largely focuses on turbine typologies below 150m to blade tip and describes sensitivity of specific Landscape Character Units which largely correspond to Landscape Character Types previously identified in D&G's Landscape Character Assessment and in NatureScot Landscape Character Assessment (2019). This assessment does not specifically address or assess sensitivity to turbines greater than 150m tall and consequently Dumfries and Galloway Council have commissioned a supplementary additional assessment (DGWLSS) which examines sensitivity to very large typology turbines (>150m). This document is currently at the consultation stage.

4.1.34 The proposals will significantly impact on landscape character, both locally in terms of the site, and on the wider landscape setting including the context of the Galloway Hills complex. In particular Landscape Character Type LCT174 – Plateau with Forest would see a change in character due to the introduction of large-scale development the height of which is unprecedented in the area. The DGWLCS and DGWLSS describe LCT174 as generally having high-medium sensitivity to turbines >150m, However, the studies specifically recognise that the area encompassing Glenvernoch Fell is more sensitive than the LCT as a whole and as such can be considered to have high sensitivity to the proposals. Guidance for development in this document states that '*there is only very limited scope remaining in LCT174 for further large wind turbines (>80m) to be accommodated*.'

4.1.35 Landscape Character Types that likely to be indirectly impacted upon by the proposals including; LCT 160, LCT 168, LCT 181 and LCT180 and LCT 172 are all considered to have high sensitivity to very large turbines. Furthermore, guidance provided in the DGWLCS document, concerning site location and design, emphasises the need for proposed development to sit comfortably and in proportion to the surrounding landscape context. In effect the guidance confirms that the landscape character of both the site and surrounding area can be considered to be unsuitable locations for the proposed development.

Dumfries and Galloway Regional Scenic Area Technical Paper

4.1.36 This technical paper acknowledges that some of the very best of Scotland's landscapes are in Dumfries and Galloway and that Regional *Scenic Areas (*RSA) *recognise and help celebrate the most attractive upland areas, glens and coastlines. These special landscapes are of substantial economic value to the region and of great importance for our quality of life.* These areas which include the Galloway Hills RSA are protected by Policy NE2 of the Local Development Plan (LDP). The designation is designed to *provide protection to those areas of special scenic interest which form our most cherished landscapes. The designations are supported by a range of policies, strategies and guidelines for the wider landscape.* The applicant has acknowledged that there is potential for significant adverse effects resulting from the proposals on this designation in their Appendix 6.3 of the LVIA and have highlighted in table 6.4.1 the need for a detailed assessment to be carried out on this designation. This assessment has not been provided in the LVIA. However, it is clear from the applicant's assessment of landscape character types located within the RSA (ref LVIA Table 6.5), that there will be a significant adverse impact on part of the landscape along the western fringe of the RSA. In our opinion adverse effects will be more far reaching than those identified in the LVIA, particularly when lighting effects have been factored in as discussed below and further in Section 5.

Dumfries and Galloway Dark Skies Friendly Lighting Supplementary Guidance

4.1.37 This Supplementary Guidance provides guidance on good lighting practice within the Galloway Forest Dark Sky Park (DSP). It provides details on the implementation of LDP2 Policy ED11: Dark Skies. The guidance recognises the exceptional quality of the night sky in the area and the importance of Galloway Forest Dark Sky Park as one of only a handful of Gold Tier Dark Sky Parks in the world. It states that the: '*DSP is therefore an important and unique natural resource that should be protected*'. In addition, the guidance further states: '*that the wider region also has relatively low levels of obtrusive light and this guidance wishes to emphasise that, even outwith the designated DSP area, it is still important to preserve the current levels of darkness and reduce obtrusive lighting as much as possible'.* The guidance goes on to also acknowledge that *'the DSP status helps attract tourists to the region, particularly in winter, helping to extend the region's visitor appeal beyond the summer months. A report in 2013/14*

indicates that the Park has made a direct contribution of over £500,000 a year in additional income to the local economy'.

4.1.38 The development will adversely and, in places, significantly impact upon the integrity of the Dark Sky Park and the acknowledged darkness of skies in the wider area. LVIA Figures 6.7.1 and 6.72 - ZTV of lit turbines indicates that views of turbine aviation lighting will be extensive both from within the DSP and also at distance in the wider area. Specifically, LVIA Figure 6.7.3 also indicates that areas of higher ground, to the east within the DSP Core area, will be subject to the highest level of light intensity. In LVIA paragraph 6.453 the applicant acknowledges that the DSP, within 6km of the site, will be subject to significant adverse effects during darkness hours. We would argue that this is an underestimate and that the significance of effects would be wider and extend to highly sensitive areas including the Merrick WLA (discussed in further detail in Section 5 below).

4.1.39 The guidance sets out that *'Development within the DSP will only be approved if any lighting proposals associated with them are designed to have no adverse impact on the overall night sky and natural environment'.* Further in Appendix 1a relating to planning conditions the Council requests that for 'Wind turbines/ Meteorological Masts *'aviation lighting should be 25 candela equivalent brightness infra-red lighting at the highest practicable point'* in order to '*ensure that external light(s) do not adversely impact upon the interests of the Dark Sky Park, whilst safeguarding aviation interests and public safety'.* The proposed aviation lighting is for six turbines to be fitted with maximum 2000 candela visible spectrum lighting. This runs counter to the aims of the guidance and will result in extensive, intrusive lighting effects that will adversely affect the overall quality of the night sky in the DSP.

4.1.40 Specifically, within the DSP Transition Zone recommendations are that, '*new external lighting should be Dark Sky-friendly where possible, in order to help safeguard and enhance the quality of the adjacent DSP'*. It is further recognised that *'even development several miles from the edges'* of the 'DSP *could have a significant impact.* Appendix 2 of the guidance further requests that turbines and anemometer masts in transition zones should be preferably fitted with infrared lights (as stated above). Since these guidance recommendations have not been adhered to the aviation lights will appear as eye catching features visible from various vantage points within the DSP core area and from substantial parts of the DSP buffer and transition zones.

4.1.41 In our opinion the LVIA has substantially played down the potential for significant adverse night time effects resulting from the proposals. We also question arguments relating to the perception of lighting intensity and durations when 2000 cd and 200 cd intensity will be used. It is notable that the applicant does not provide the worst-case scenario in there night time photo-visualisations showing views with 200cd and not 2000cd as is the usual case (ref Scoop Hill application - ECU Ref 00000533 - which depicts aviation lighting in clear conditions at 2000cd). Further discussion and response to night time photo-visualisations presented in the LVIA is given in Section 5 below.

NatureScot Merrick Wild Land Area Description

4.1.42 The description states that '*Operational wind farms can also be seen from the Merrick and other tops. Although most of these are too distant to impose noticeably upon the wild land qualities, they appear as obvious human artefacts and some to the west are sufficiently close or extensive to be clearly visible, so reducing the sense of sanctuary*.

4.1.43 It is understood from this description that the current distant views towards the Wigtownshire cluster are already beginning to impinge upon the sense of remoteness and 'sanctuary'. The present proposals are much closer to the WLA and will be lit at night. This will further degrade the scenic quality and integrity of the designation.

5. RESPONSE TO THE APPLICANTS LVIA

Introduction

5.1.1 This section sets out a detailed response to and critique of the findings presented in the applicants LVIA and associated appendices which form part of a wider EIAR. The response is presented in terms of a general discussion concerning LVIA methodology, site design, assessment criteria and assessment conclusions and focuses on aspects

which we contend, are either inaccurate or debateable. General discussion is followed by a response to LVIA viewpoints including photo-visualisations, appendices and specific paragraphs which we believe are contentious and for which we have provided evidential based argument in support of our comments – this part of the response should be read in conjunction with the LVIA text. We acknowledge that there is some repetition in comments and arguments made in the general discussion and in response to supporting figures and appendices.

General Discussion

Methodology and Scoping Report Variance

5.1.2 The applicant set out in their scoping report details of their intended EIA methodology. The information was provided so that consultees could respond to the appropriateness of the proposed approach in assessing the significance of effects. In the scoping methodology the assessment of significance is shown by means of a matrix table (see Table 2. p27 Glenvernoch Wind Farm EIA Scoping Report.). The Table presents magnitude of change and sensitivity in terms of five levels which range from Very High to Very Low. This is at variance with the EIAR methodology presented in Vol 1 of the EIAR - Table 2.1: Significance Matrix (p2-5) which shows only 3 levels of sensitivity and 4 levels of magnitude of change with 6 significance values which are named differently from those presented in the scoping report. In addition, the scoping methodology provides a Descriptors of Significance Table (Table 3 -p27) which is not given in the EIAR. It is acknowledged in the EIAR that '*the divisions between categories of receptor sensitivity and magnitude of change may not be as clearly delineated as shown in Table 2.1 and professional judgement is therefore applied. In certain cases, a different matrix may be considered appropriate by the discipline'*. It is clear that a different approach has been adopted by the LVIA but it is not clear how significance values have been derived as a significance matrix has not been given. It is apparent that the methodology adopted in the EIAR is not compliant with that presented in the scoping report and the methodology consultees were asked to respond to and comment on has changed.

5.1.3 Although GLVIA 3 guidance does not specify a requirement for the inclusion of matrix tables it does require professional judgements to be clearly reasoned and presented. We would argue that the attribution of significance values and how the applicant has arrived at them has not been clearly explained. In a number of instances, discussed below, the applicant has resorted to professional judgements without providing argument and reasoning regarding how sensitivity values and magnitude of change have been combined to reach the levels of significance quoted. This is particularly the case where professional judgement has resulted in some moderate effects being considered to be 'significant' whilst other moderate effects are not considered to be significant.

5.1.4 The approach adopted throughout the LVIA occasionally describes visual receptors as being of Very High sensitivity but apples no Very High sensitivity or Very High magnitude of change value in the assessment which has resulted ultimately in an under-scoring of the level of assessed significance. This is described in more detail below.

5.1.5 The LVIA methodology does not provide any information or discussion concerning what constitutes a Low sensitivity landscape and what constitutes a high sensitivity one. It is usual in LVIA to have definitions with respect to each level of landscape sensitivity. We note that this has been carried out for visual receptors but do not understand why it has been omitted from discussion of landscape receptors. This is an integral part of understanding how significance of effects has been determined.

Site Design and mitigation

5.1.6 We argue that the location of the development does not relate to topography and landscape context. It is incongruous to its setting and the sensitivity of the landscape of the surrounding area including host LCT 174. We note that Glenvernoch Fell, on which the site is located, is identified as being atypical of LCT 174 as a whole with higher sensitivity to large turbine typologies (ref. emerging DGWLSS). There is argument that there is limited capacity for this LCT to accommodate further wind energy development as alluded to in the DGWLCS and the emerging DGWLSS. In addition, the proposed development is spatially isolated and does not relate visually, in terms of scale/turbine height, to the existing Wigtownshire Moors windfarm cluster further to the west.

5.1.7 The applicant states that the site layout has been designed to produce a balanced array of turbines when viewed from the surrounding landscape. This is true in the case of views directly from the west and east. Views from the north and south and south west (LVIA Viewpoints VP2, VP10 and VP20) however show that the development appears as more of a concentrated mass with some overlapping and visual clutter apparent. The applicant also states that site infrastructure has been designed to minimise the impact on the landscape. Again, this can be challenged since potential views of the site compound, transformer building/substation and partially of borrow pits, as indicated in Figure 3.1, may potentially be gained from the A714 and from elevated ground to the east.

5.1.8 The design evolution has not effectively addressed or reduced visual impact as illustrated by the relatively small change in the ZTV with each iteration. Although the final iteration has reduced the number of turbines from 18 to 13 the lateral extent has not substantially changed (ref LVIA Figures 4.1-4.3) and there has not been a reduction in turbine height. Consequently, the extent and level of effect experienced by receptors remains significant. Offsets from properties that are within 1-2km distance of the site, we consider, are not appropriate given the size of the turbines proposed. Because of this the development does appear as an overbearing form extensively visible from a number of nearby receptors. This is evidenced by the applicant's viewpoints and photo-visualisations (ref RVAA - Knockville and Crungie Wood). The overbearing nature of the proposed development is accentuated by the requirement for aviation lighting which cannot be completely mitigated against and which will substantially impact on night time views throughout the area.

Sensitivity of Receptors

5.1.9 Although we are in general agreement with the assignment of landscape and visual sensitivities in the LVIA there are many instances where sensitivities should have been assessed as Very High by the applicant's own definitions and reasoning. For example, the definition for Very High visual sensitivity receptors in the LVIA is '*People at recognised vantage points (often with interpretation boards), people at tourist attractions with a focus on a specific view, visitors to historic features/estates where the setting is important to an appreciation and understanding of cultural value*'. Surely this definition is applicable to the Bruce's Stone Viewpoint (LVIA Viewpoint 9:) which is accorded a 'High' rather than a more appropriate Very High sensitivity value and also the Southern Upland Way near to the Glenvernoch Fell Trig point which again should have also been accorded Very High sensitivity. Further examples where sensitivity has been under assessed are provided below.

Magnitude of Change

5.1.10 It is our opinion that the magnitude of changes has, in a of number of instances, been under estimated particularly with respect to the potential impact of lighting effects on the Dark Sky Park and the surrounding dimly lit landscape. We contend that the applicant has not adhered to their own definitions when assessing the magnitude of change. This is particularly the case with the assignment of Very Low magnitude of change levels throughout the report. By the applicant's own definition Very Low magnitude is described in landscape terms as '*No notable loss or alteration to existing landscape features; no notable introduction of new features into the landscape; and negligible change to the key physical and/or perceptual attributes of the landscape'.* In visual terms it is defined as '*No Change or negligible change in view'.* There are many instances, throughout the assessment, were Low and Very Low magnitude of change has been assessed, particularly in relation to visual effects When a comparison is made between the assessment findings and the definitions provided in the assessment criteria it is clear that there is a disconnect and a degree of inconsistency. For example, the magnitude of change recorded for LVIA viewpoints VP6 and VP9, during darkness hours, is assessed as Very Low which effectively equates to no/negligible change in view. However, by the applicants own assessment 6 and 2 lit turbines respectively will be visible and obtrusive from these viewpoints. We contend that such visual intrusion cannot be considered to constitute a 'no change' scenario. In the case of viewpoint VP 18, which is described as being subject to Low magnitude of change, potentially 6 lit turbines will be visible at relatively close range. Again, the effects would not constitute a change in view that is 'not prominent' or will only introduce 'minor features' into the landscape as described in the Low magnitude criteria definition.

5.1.11 Underestimation of the magnitude of change has important ramifications particularly in relation to Very High sensitivity receptors such as the Merrick WLA, the Galloway Forest Dark Sky Park and proximate residential

receptors. In these cases, even a small change in the assessment from Very Low to Low magnitude of change could result in a potentially significant effect. In addition, in other instances involving lower sensitivity receptors a change in magnitude from Low to Medium may result in a receptor being subject to 'significant' moderate effects. There are a number of examples, some of which are discussed below, that illustrate how the underestimation of magnitude has resulted in inaccurate assignation of a 'not significant' of effect.

Significance of Effects

5.1.12 We contend that, in a number of instances, the assessed significance of effect is lower than would be expected. This is partly due to the fact that the assignment of 'Very High' levels of magnitude and sensitivity values, as defined in the assessment criteria description, has not been applied in the assessment. This in turn has resulted in lower levels of assessed 'significance'. Perhaps the greatest contention is in the moderate 'significant' 'not-significant' category. In this case no explanation is provided as to why, in some instances, a moderate level of significance is not considered to be 'significant'. In general, we maintain, that there is a lack of consistency in assignation of 'significance' and application of professional judgement in its assessment.

Discussion of Viewpoints and Photo-visualisations

5.1.13 It is understood that LVIA guidance allows for consultants to limit viewpoints and photo-visualisations to a representative, manageable number. However, we would argue that, considering its visual prominence, designation and recreational value a viewpoint from Cairnsmore of Fleet should have been included in the assessment. LVIA Figure 6.11 indicates that the north eastern slopes of the hill have potentially extensive views over the proposed development. In this instance the turbines would be perceptible both during the day and at night, which given the Very High sensitivity of the receptor, could result in 'significant' effects.

5.1.14 Of the viewpoints presented in the LVIA a number are incorrectly labelled, have relatively poor photography and are taken from vantage points where foreground elements obscure views either towards the site or, in the case of photo-visualisations, obscure views of turbines. This runs counter to various advice and guidance regarding representation of wind turbine development. In a number of visualisations, which have long range views and where visibility is not clear, the turbines appear to have been rendered in such a way as to be less prominent in the landscape and as such do not appear to represent best practice and worst-case scenario.

5.1.15 It is accepted that access to properties and curtilages of various receptors, included in the RVAA, was limited and that photographs were taken from the nearest vantage point. However, there are a number of occasions where it is apparent that a better angle and slight change of location would have provided a better understanding of the impact of the proposals. A particularly poor example is the viewpoint taken from Low Cordorcan where foreground elements obscure views of turbines in the distance.

5.1.16 A particular contention and concern are the representation of night-time views and the visualisations used to illustrate aviation lighting. In general, we consider the photography to be relatively poor. The applicant has modelled lighting intensity at 200 candela to represent effects even though an intensity of 2000cd may be employed dependent on atmospheric conditions. We question the argument that atmospheric conditions requiring 2000cd lighting would effectively reduce lighting intensity to the 200cd level. The consultants have not produced a worst-case scenario as presented in other comparable wind turbine/aviation lighting applications such as Scoop Hill Windfarm (ref ECU 00000533 dated 2020) which shows lighting at 2000cd in relatively clear conditions. In these instances, aviation lights appear much more prominently in the view at similar distances to those presented by the applicant. In addition, in some photo visualisations aviation lights appear to have been placed behind the nacelle which serves to partially obscure them and reduce their effect. Under representation of lighting effects in photography is acknowledged elsewhere in the EIAR for example paragraph 6.17 states that *'often photography will appear to show the lighting to be more recessive than actually perceived in the field* (p1.67)'

5.1.17 In conclusion we contest that the photo-visualisations of night time effects do not represent the worst-case scenario and generally under play how aviation lighting will appear in the landscape.

Assessment of Landscape Effects

5.1.18 We would argue that 'significant' landscape effects will not be localised as maintained by the applicant (p.6.444) and that indirect effects will impact on views into and out of highly sensitive elevated landscapes particularly to the east of the proposed development. The LVIA ZTV (Figure 6.11) and Viewpoints VP9, VP12, VP13, VP14 and VP18, situated within 12 km of the site, indicate that indirect impacts on surrounding landscape character would be wide ranging and would extend to Very High sensitivity receptors such as the Merrick WLA. In general, we maintain that the assessment has under played the importance of indirect landscape effects on the perceptual quality and defining characteristics of adjacent receiver landscapes.

5.1.19 The LVIA has not included a detailed assessment of LCT 180 Rugged Upland, which can be considered to have Very High sensitivity to the proposed development. The LCT has been excluded from consideration on the basis that there is limited visibility and thus no potential for a significant effect to arise. We dispute this, as the applicant's LVIA ZTVs (Figures 6.11 and 6.7.1-3) show, at high elevations; the development will be extensively visible both during the day and at night from various points within the LCT. The proposals will indirectly impact on landscape character and perceptual quality particularly along the western edge of the LCT which runs within 7km of the site boundary. This assertion is supported and attested to by examination of viewpoints VP12 and VP13.

5.1.20 The LVIA has not extensively considered how potential effects may impact on the Merrick WLA. The designation has effectively been scoped out of the assessment on the basis that there is 'limited potential to result in notable effects. From examination of LVIA viewpoint VP 12 it is clear that there is potential for occasional substantial infringement on long views out of the WLA which will impinge on perceptual qualities and sense of remoteness. Given the high sensitivity of the designation we argue that it should have been included as part of the detailed assessment.

5.1.21 In general, the LVIA has not assessed the wider impact of construction effects on landscape character. This is particularly the case with respect to the requirement for highways modification along the proposed transport route. For example, part of LCT 168 Drumlin Pasture in Moss and Moor Lowland will be directly impacted upon due to the widening of junctions and proposed laydown areas at the A75 and further north with the A714. This potential impact has not been acknowledged. An assessment of effects on wider landscape character along transport routes, where substantial highways modifications may occasionally be required, has also not been considered.

5.1.22 As with operational effects we argue that the magnitude of change resulting from construction phase activity has often been underestimated. Apart from the section of LCT 174 occupied by the site the magnitude of change associated with construction phase effects, on the wider landscape character, is assessed as being between Low and Very Low. Application of assessment criteria definitions suggests that this will not always be the case. Construction activity will directly impact not only on part of LCT 174 but also on part of LCT 160 and LCT 168. Further indirect effects, although temporary, will also impact on surrounding landscape character.

5.1.23 During operation we argue that the indirect effects on elevated high sensitivity upland LCTs, to the east, have been under estimated in the assessment particularly with respect to LCT 172, LCT 180 and LCT 181 during day light and also in relation to perceptions during darkness when lit turbines will be visible. We argue that there is potential for occasional Medium rather than Low-Medium magnitude of change perceptible during darkness from part of these landscape character types.

5.1.24 There appears to be some inconsistency within the assessment particularly regarding levels of significance of effect. For example, Table 6.5 - Assessment of Operational Effects on Landscape Character shows that LCT 174, LCT 160, LCT 172 and LCT 168 will be subject to significant effects during operation whereas Table 6.11 Summary of Residual Effects indicates that only LCT 174 will be subject to significant effects. It is unclear why this is the case as mitigation measures were inbuilt at the design stage.

5.1.25 LVIA paragraph 6.462 states that the landscape *'has the capacity to accommodate the effects identified'.* The assessment of sensitivity to wind energy development presented in the DGWLCS and emerging DGWLSS do not support this proposition. Furthermore, the DGWLCS states that LCT 174 has 'limited' capacity for further wind energy development. The DGWLSS recognises that Glenvernoch Fell and the surrounding area have higher sensitivity to large turbine development than the LCT as a whole. Thus, by extension, the site and its immediate

surroundings can be considered to have High sensitivity to the proposed development. As stated above the surrounding landscape character, which will be subject to indirect effects from the proposals is also considered to have High sensitivity to large and very large typology turbines.

5.1.26 Regarding LVIA paragraph 6.463 it is clear that the last sentence of this paragraph is biased and could be considered unprofessional and somewhat emotive. As such it does not belong in what should be a balanced, impartial appraisal.

Assessment of Visual Effects

5.1.27 Examination of the LVIA Figure 6.11 - ZTV shows that potential visibility of all 13 turbines is substantial extending to over 30km to the south west. In addition, evidence from the applicant's LVIA viewpoints would also suggest that significant effects are not specifically localised as stated in LVIA paragraph 6.444.

5.1.28 We maintain that the development will impact on a greater number of visual receptors than stated in the LVIA and we would argue that more receptors would be subject to significant effects than is presented. In terms of the viewpoints we contend that 12 rather than 8 would be subject to significant effects during daylight hours and that the predicated significance of effect for only 3 viewpoints during darkness is underestimated and could be as high as 11 when taking account of the Very High sensitivity of the receptors at these locations and the darkness of the sky (ref viewpoints VP2, VP3, VP7, VP10, VP12, VP13, VP14 and VP18 and comparison with figures 6.7.2 and 6.7.3).

5.1.29 The LVIA states that the construction effects will not result in any 'significant' visual effects. It can be argued that close range views of the site interior and of construction activity has potential to result in more than a stated medium magnitude of change. Examination of various viewpoints including VP1 SUW and VP4 SUW Bargrennan and from Knockville/Crungie Wood (RVAA photo-visualisation) indicates that extensive views of construction activity may be visible with a Medium-High temporary magnitude of change which would normally be considered, by the applicant's own criteria, to result in a Moderate-Major temporary 'significant' effect. Visual receptors located at higher elevations, where there are uninterrupted views over the whole site, may also be subject to at least Moderate 'significant' temporary effects during the construction phase (ref LVIA viewpoints VP 12, 13, 14, and 18).

5.1.30 As stated above the assessment of night time effects appear to have been underestimated when taking account of the baseline darkness of the night sky in the area. This is particularly the case for receptors which are in close proximity to the development and/or are situated on high ground to the east within the Dark Sky Park buffer and core areas. As previously stated, we maintain that the applicant's consultants have not produced a worst-case scenario as presented in other comparable wind turbine/aviation lighting applications such as Scoop Hill Windfarm ref ECU 00000533 dated 2020 which shows 2000cd lighting in relatively clear conditions rather than the 200cd based visualisations presented in the LVIA.

5.1.31 The LVIA has not considered and assessed visual receptors and designations associated with Cairnsmore of Fleet, a popular recreational attraction and walking route. Although 12km distant, Figure 6.11 - ZTV shows potential extensive visibility from this location, which given the Very High sensitivity of the receptor could give rise to potentially significant effects. We note that there are a number of other promoted viewpoints and visitor attractions that have not been included in the assessment.

In terms of users of the local footpath network, during operation and daylight hours, significant effects have only been identified for receptors walking on sections of local authority core footpaths UNN/504/5-10 and CREE/416/1-2. With regard to sections of CREE/416/1 it appears that the magnitude of change has been underestimated when considering the assessment criteria definitions provided. We maintain that receptors travelling on parts of this route may experience a Medium -High magnitude of change and a Moderate-Major significance of effect which is greater than that stated in the assessment. It may be argued that potentially 'significant' effects are more wide ranging given the High sensitivity of the receptor group. For example, although at distance, core footpath CREE 369/2 at Cairnsmore has potentially high visibility towards the proposed development site and users of this route may be subject to potentially 'significant' visual disturbance resulting from it.

During darkness hours, particularly at dusk, effects from aviation lighting on identified core footpaths and other local routes appears to have been somewhat underestimated with only a section of core path UNNO/504/5-10 between Glenruther Lodge

and Bargrennan considered to be subject to significant effects. There is clearly an argument for the effects of aviation lighting to be considered 'significant' with respect to users of CREE/416/1-2. Barclye Bird Walk (ref. LVIA viewpoint VP18) from which all six lit turbines will be visible at relatively close range from elevated ground. Receptors travelling on sections of other footpaths on elevated ground to the east and from lower elevations to the west may also experience visual disturbance to night time views, which in some instances may be considered 'significant' (i.e. section of UNNO/504/5-10 Millgrain Hill to Glenruther).

Southern Upland Way: the assessment of effects on sections of this frequently used route is not extensive, particularly in relation to construction effects which have only cursorily been assessed. In terms of the operation phase we note that only one close-range section of the route between Glenruther and Bargrennan is assessed as being subject to a High magnitude of change and that only one other section between Millgrain Hill and Bargrennan is considered to be subject to 'significant effects'. We would contend that effects experienced intermittently along the route may be more extensive than indicated, particularly in relation to the effects resulting from aviation lighting which will be extensively visible from both close range and distance.

The assessment of recreational routes is mainly limited to the Southern Upland Way and National Cycle Route 7 There are numerous other routes, visitor attractions and promoted viewpoints throughout the area where impacts have not been assessed and where significant effects may potentially be experienced.

5.1.32 As stated below the LVIA has not assessed potential impacts on visual receptors travelling on the A75. From parts of this route the development will be visible both at distance and close range (ref. LVIA viewpoints VP15 and VP20). There is thus potential for significant visual effects to be experienced, both during daylight and darkness, by travellers on this route. It is acknowledged in the LVIA, that receptors travelling southbound on the A714 will be subject to 'significant' visual effects. We maintain that receptors travelling north bound on this route from Newton Stewart to Glenhapple will also experience intermittent 'significant' effects. This section of the A714 occasionally directly faces the development. In the LVIA the magnitude of effect is assessed as between Low and Medium and is not considered to be 'significant'. There is argument that these values err on the low side and that the effects can be considered 'significant'.

5.1.33 Paragraph 6.297 states that travelling southbound on the A714 from Bargrennan to Glenvernoch Wood the magnitude of change experienced by receptors would be Medium-High but that the significance of the effect is moderate and 'not significant'. However, in Table 6.9 these effects are recorded as being 'significant'. In addition, there appears to be further contradictory statements made in paragraph 6.287 and also Table 6.6 regarding impacts on relevant A714 related viewpoints such as VP4. We do not understand these inconsistencies.

5.1.34 The LVIA states that no road users will experience 'significant' effects during darkness hours. This is contentious since there are numerous instances, both at close range and at distance, where aviation lighting will appear as incongruous, distracting, eye-catching features present in a very dark sky. In general, we contend, that the magnitude of aviation lighting associated effects perceived by users of sections of the A75, A714, B7027 is underestimated and argue 'significant' effects will occur as for example between Glenvernoch wood and Clachaneasy on the A714.

Galloway Forest Park/Galloway Hills RSA/Dark Sky Park

5.1.35 The proposed development is located within 1 km of the Galloway Forest Park and the Galloway Hills RSA. The site is within the transition zone of the Dark Sky Park and is situated approximately 1km from the DSP buffer zone. The LVIA acknowledges that there will be some major significant effects which will impact on GFP/DSP and associated designations such as RSA but states that these will be limited to within 6kms of the site both during daytime and darkness hours (ref paragraphs 6.454 and 6.332). In our opinion potentially significant effects would extend beyond this distance as illustrated by the applicant's ZTVs (LVIA Figures 6.11 and 6.7.1-6.7.3) and photo-viewpoints VP9, VP12, VP13 and VP14). We also dispute that the development would 'not *undermine the understanding or appreciation of the underlying landscape of the RSA or its special qualities*'. The GFP and RSA are currently largely unaffected by wind energy development to the extent that, apart from very distant views of windfarms to the west and north, long uninterrupted scenic vistas across the landscape of the hills and surrounding area are largely unobstructed by significant obtrusive man-made structures. The proposed development would undermine these defining perceptual characteristics of the RSA.

5.1.36 As stated previously the DSP is a 'Gold Tier' internationally recognised Dark Sky Park. LVIA Figure 6.7.3 - Lighting Intensity ZTV to 20km indicates that there is potential for significant visibility of turbine lights perceptible from the western and northern fringe of the DSP core area. Although the LVIA acknowledges that there will be some 'moderate' effects resulting from aviation lighting it is deemed that these do not constitute a 'significant' effect. There is persuasive argument that the magnitude of change resulting from aviation lighting, from certain points within the core area, has been underestimated and that significant effects will arise as indicated by reference to LVIA viewpoints VP12 and VP13 and VP9 all of which lie either within or on the edge of the DSP core area.

Residential Visual Amenity Assessment

5.1.37 The Residential Visual Amenity Assessment (RVAA) considers the potential visual effects, resulting from the proposed development that would be experienced by residents situated in properties within 2km of the proposed turbines. Although this size of study area has frequently been applied in RVAA for turbines at or below 150m we would argue that, given the scale of the proposed development and the greater potential for significant effects to arise the study area should have been extended to at least 3km.

5.1.38 The RVAA has examined potential effects on a total of 16 properties. There are properties situated just outside of the 2km study area, such as those at Brigend (ref viewpoint VP4), which also have potential to be subject to significant visual effects resulting from the proposals and as such should have been included in the assessment.

5.1.39 The RVAA has included a section entitled 'Discussion of Residential Amenity in Relation to Wind farms. This section appears to be unnecessary and generally supportive of wind farm development. It presents planning decision examples where consideration of RVAA has resulted in consent of the proposals (ref. paragraphs 1.10 – 1.17) and only one example where an RVAA has resulted in refusal of permission (ref. paragraph 1.18). Inclusion of these examples and the disproportionality of supporting statements suggest bias and run counter to an objective, impartial approach to assessment.

5.1.40 The assessment appears to underestimate the magnitude of change particularly during darkness hours when aviation lighting will be a prominent and obtrusive feature of the night-time environment. The assessment also states that '*this assessment has appraised what is considered to be the worst-case scenario from the garden*'. As discussed above, with regard to RVAA photographs and photo visualisations, it may be argued that many of the photographs presented in the assessment have not been taken from the worst-case location and as such may be considered to under-represent the extent and magnitude of change experienced.

5.1.41 We maintain that the relatively small separation distance (<1.5km) from large typology turbines is such that the proposed development will be extensively visible from a number of properties and will occupy a significant proportion of the view. In terms of angle of view a number of properties such as Borgan and Borgan Cottage directly overlook the development. Although intervening vegetation does partially screen and reduce vertical scale it does not necessarily always result in a reduction in lateral extent. This is particularly the case from open areas in property grounds. In addition, there are instances where no screening is afforded (ref Knockville and Crungie wood). The RVAA states that 'some' properties would experience significant effects – this is an understatement as most properties would be subject to significant effects. The RVAA also records no instances where the proposals would be considered to be overbearing or where an acceptable visual amenity threshold would be exceeded. We dispute these findings and, in our opinion, there is ample evidence provided by the applicant's own photo-visualisations - which in themselves do not often present the worst-case scenario – for the development to be assessed as overwhelming and unacceptable. Such instances include; Low Cordorcan, Cordorcan Cluster, Knockville and Crungie Wood, Borgan, Brigton Farm, Larg, Old Larg House, Shepherds Cottage and Borgan Cottage.

5.1.42 The applicant acknowledges that significance cumulative visual effects are likely to arise from the proposed Blair Hill development (RVAA P.152) but states '*that they would not alter the level of effects identified for each of the properties*. This is a rather fatuous statement as the additive effects from both proposals would increase the overall level of effect – it is rather that the applicant has not made provision to take account of this in their assessment criteria and methodology. Paragraph 1.51 states that there will be no additional properties that will subject to significant cumulative effects resulting from the proposed Blair Hill development other than those already identified

to experience a significant effect from the proposed Glenvernoch turbines. This is not strictly true as properties outside of the study area at Knockstocks and further north around Challoch have potential to view both developments successively. Other than those identified, there is also potential for cumulative effects to be experienced at Cordorcan and Glenhapple.

Cumulative Impacts

5.1.43 The methodology for assessing cumulative effects is not entirely clear and appears to have been constructed to underplay the impact of effects. There is no specific clearly defined cumulative assessment methodology and no separate descriptive assessment criteria including cumulative magnitude of effects. Frequently conclusions are stated without appropriate reasoning and it is often unclear how they have been derived. This part of the LVIA is poorly structured with no clear headings and subheadings which make it difficult to navigate.

5.1.44 It appears that the baseline is inclusive of all operational wind farms which is a frequently used approach than can be construed to diminish overall additive effects. The methodology states that the assessment of cumulative effects has been carried out *'with consideration of other operational wind farms'* and that this *'has already therefore been presented in the main section of this LVIA'*. This implies that the cumulative effects of existing operational development have already been assessed with significance values no different than that for the proposed development alone. This approach requires continuous back referral to the main assessment in order to understand what the cumulative effects are. The method used appears to be somewhat conflicted, confused and difficult to interpret and appears inconsistent when the combined effects of all development are considered.

5.1.45 Throughout the assessment 'no additional significant cumulative effects' is stated which downplays overall effects and is misleading since the development has been identified in the main report to give rise to significant effects. This is not clearly stated in the report and the cumulative section.

5.1.46 The cumulative assessment has not taken account of the proposed Shennanton windfarm proposals for which a scoping report was submitted to the ECU on the 2nd May 2024, well in advance of the applicants own 1st August 2024 'cut off' date. Shennanton lies approximately 7km from the proposed development and its omission from the assessment means that cumulative effects of scoping stage developments is inaccurate and substantially underestimated.

5.1.47 There has been no consideration of the cumulative impact during the construction phase. Cumulative construction effects could be significant particularly considering the close proximity of the proposed Blair Hill and Shennanton developments. If, as there is likely to be, overlapping construction time scales, there will be further wider impact resulting from simultaneous highway modifications and increase in construction traffic etc.

5.1.48 The assessment of cumulative effects on landscape character appears to principally concentrate on LCT 174 and appears to discount substantial inter-visibility with other landscape character types, the perceptive qualities of which will also be impacted upon by the proposals in relation to existing, consented and proposed development. This is particularly the case with sensitive LCTs occupying elevated land to the east within the Galloway Hills RSA.

5.1.49 With respect to cumulative effects on visual amenity we contest the statement that *'the greater the number of turbines in the baseline view the less significant the addition of further turbines may be'.* This is not always the case and depends upon a number of factors such as distance between developments, differences in scale, proportion of view taken up by the turbines and importantly the sensitivity of the receptor.

5.1.50 In relation to cumulative scenario one we contend that more visual receptors and viewpoints than indicated would be subject to change in view. In a number of instances not just blade tips will be visible, but upper towers and hubs will also be perceptible. This is particularly the case when successive views are considered. In addition to the viewpoints stated in the assessment we proffer that successive views of the proposed development and those that are consented are also attainable from viewpoints VP1, VP5, VP16, VP12, VP13, VP14 and VP18. The statement that the proposed Glenvernoch and consented developments would not give rise to additional significant cumulative effect above that considered in the baseline is particularly arguable. The developments combined would increase

visual clutter and confusion frequently visible on the skyline from various vantage points (ref viewpoints: VP 1, VP5, VP16 and VP 18).

5.1.51 Although the assessment has included some analysis of cumulative sequential effects it is unclear if this is a subsection of scenario two or a section in its own right. It is thus difficult to understand what specific developments have been assessed in this part of the report. In respect of the SUW we contend that potential cumulative effects have not been extensively addressed in the main assessment and in the cumulative section. Both successive and sequential effects would, as stated, reinforce windfarm visibility and additionally would, increase visual clutter on skylines along the route. There is potential for 'significant' combined effects which will be viewed simultaneously and sequentially at various points along the route. In terms of NCR 7 there is potential for 'significant' sequential cumulative effects to be experienced by users of this route if both the proposed Blair Hill and Shennanton developments are consented. This is not addressed in the cumulative assessment.

5.1.52 With respect to cumulative effects experienced from core footpaths we disagree that there will be no further significant cumulative effects in addition to those identified for the proposed development in its own right. There is potential for significant effects to be experienced by users of various footpaths within 10km of the development particularly to the east. Both development scenarios combined with the Glenvernoch proposals and existing baseline development will all be visible both simultaneously and/or successively from various routes including from a long section of the route crossing Barclye Moor where impacts may be considered to be 'significant', particularly if the Blair Hill and Shennanton proposals are consented.

5.1.53 LVIA paragraph 6.426 acknowledges that the addition of the proposed development would serve to reinforce the pattern of wind energy in views within the study area, albeit extending the significant visual effects into a separate area further to the east within the landscape. This statement appears to be somewhat at odds with the applicant's own assertions regarding location, siting and inbuilt design mitigation.

5.1.54 Regarding Scoping stage development, as previously stated, the assessment has not taken account of Shennanton. Of particular note is the statement that the presence of Blair Hill would serve to reduce the potential for visual effects from the proposed development. This is a rather fatuous and incorrect statement. This is after all a cumulative assessment and the two developments combined will result in significant cumulative effects and will not reduce each other's impact. Again, the assertion that the impact of the Blair Hill development on LCT 172 and LCT 181 will somehow reduce the potential for indirect visual effects from the proposed development is both wrong and rather ill thought out. The establishment of wind energy as a characteristic of LCT 172 and LCT181 would not reduce the potential impact of the proposed Glenvernoch development, rather that the proposed development in combination with the Blair Hill proposals will increase overall impact on all host landscapes and surrounding landscape character types.

5.1.55 We refute the assertion that cumulative effects will be localised as implied in paragraph 6.431. Given the scale of the Glenvernoch, Shennanton and Blair Hill developments together with consented, in planning and operational developments and the extensive areas from which they are visible, cumulative effects cannot be considered to be localised. This argument is supported by the applicants cumulative ZTV (Figures 6.28-6.32) which indicates that in combination cumulative effects will be both geographically extensive and will significantly expand and reinforce perceptions of a windfarm landscape. This view is accepted in the applicant own statement in paragraph 6.436.

Discussion and Response to LVIA Figures and Appendices

LVIA - Viewpoints 1-20

5.1.56 Viewpoint 1: SUW Hill of Ochiltree: Whilst we have no comment on the viewpoint or representation, we are disappointed that no night time views have been produced from this viewpoint as all six lit turbines would be visible at close range against a backdrop of the Dark Sky Park.

5.1.57 Viewpoint 2 – Sheet D: We do not consider the representation of the night time view to represent the worst-case scenario. The lights appear to be obscured by the nacelle and turbine blades which will not always be the case depending upon nacelle/blade orientation relative to wind direction. We would argue that the approach taken has served to diminish potential effects – see above for further comment regarding light intensity depiction.

5.1.58 Viewpoint 3 - A714 Junction with Glentrool Road: The lettering on this viewpoint including viewpoint name, extent of the panorama etc. is not given on part 1 of the Figure. The different parts of the Figure appear to be out of sequence and are thus difficult to interpret. The wireframe for the photo visualisation (sheets D and E) appears to be slightly inaccurate and does not appear to match the photograph – particularly at the centre and right of the view. As for viewpoint 2 the night time visualisation does not appear to present the worst-case scenario.

5.1.59 Viewpoint 6 - Culvennan Fell: The turbines are not clearly defined and appear to have been rendered to match the poor visibility prevalent in the photograph.

5.1.60 Viewpoint 7 - Southern Upland Way – Knowe: The blades of Turbines T3 to T6, in the right of view, from reference to the wireline presented in Sheet B, would appear more prominently in the view than shown on Sheet C. The night time visualisation – also named as Sheet C (should this be Sheet D?) can also be considered not to represent the worst-case scenario for reasons previously explained.

5.1.61 Viewpoint 10 – All Saints Church Challoch: The viewpoint appears to have been taken from the A714 verge rather than from the church grounds which generally afford a more uninterrupted view towards the site. The photograph also appears to have been taken under relatively poor visibility conditions.

5.1.62 Viewpoint 12 – Merrick, Viewpoint 13 - Lamachan Hill and Viewpoint 15 - A75 Parking Area South of Creetown Carpark: The visibility towards the middle and far distance is relatively poor, particularly towards the centre of the view which appears to be somewhat out of focus. The turbines appear to have been rendered to match the relatively poor visibility and so as not to stand out in the view – they are not as they would appear on a bright sunny day and as such do not represent the worst case scenario.

5.1.63 Viewpoint 17 – B733 West of Kirkcowan - Sheet B: The Figure has omitted the proposed Blair Hill development in the wireframe. Also, the proposed Shennanton development, which would give rise to significant cumulative effects, is not shown.

5.1.64 Viewpoint 18 - Moor of Barclye: The viewpoint is representative of receptors walking on a relatively long and frequently used footpath which crosses areas of open moorland. The photograph has been taken from a relatively treed area which could be considered to be uncharacteristic of views experienced by receptors travelling on the route. The vegetation in the foreground and middle distance partially obscure views of turbines shown in the photo-visualisation which can be considered to diminish the impact of effects.

LVIA - RVAA Photo viewpoints/visualisations

5.1.65 The RVAA has assessed and provided viewpoints from properties within 2km of the proposed turbines. Properties just outside of this distance have been omitted from assessment even though there is potential for significant effects to be experienced. For example, properties at Brigend approximately 2.5km to the north east.

5.1.66 Figures 6.6.1-6.6.28. The photomontage, wireframe, and photo visualisation reference/figure numbers appear not to have been provided on the Figures.

5.1.67 Brigton Farm. The viewpoint is not taken from the worst-case scenario. The property has extensive grounds and there are views which are more representative and that are not as obscured by foreground elements. The presented viewpoint and photo visualisation thus underplays the level of impact the turbines will have on the view from the curtilage of the property.

5.1.68 Low Cordorcan. The photomontage is very poor with substantial out of focus foreground elements obscuring views to the middle and far distance. The photograph does not reach industry standard as LVIA photomontage and visualisation guidance requires views to be as unobstructed as possible. The quality of photograph could have easily

been improved by slight relocation and change in angle of the view. Although the impact of the development is clearly visible the quality of the photograph and obstructive foreground elements serve to diminish effects.

5.1.69 Old Larg House. As above, below standard photography is presented. The photograph could have been taken from a more representative location with less intrusive foreground elements. Much of the background including the turbines are obscured by intervening vegetation which is not the case from other parts of the property and its curtilage. An example of this is shown on sheet D where the most prominent turbine is completely obscured by a foreground conifer – this ultimately underplays the magnitude of effect experienced. A slight change in location and angle would have given a better representation.

EIAR Figures

5.1.70 Figure 1.1 - Location Plan. The plan does not show the wider context of the site as would be expected in an EIA.

5.1.71 Figures 1.2-1.4 – Off Site Access. The figure is poorly illustrated with red-line planning boundaries almost indistinguishable from the base plan.

5.1.72 Figure 3.1 – Site Layout Plan. The cleared working areas are indistinguishable and not easy to understand

5.1.73 Figures 4.1-4.3 - Design Iterations. The design evolution has not appeared to take account of or considered residential buffers of nearby properties which largely remain unchanged throughout each iteration. The design has not successfully responded to the presence of deep peat deposits with at least two turbines impacting on peat deposits >1m and many others located on 0.1-1m peat. Construction will affect a wider area around turbine bases than is indicated.

LVIA Figures

5.1.74 Figure 6.6 - Principle Visual Receptors in the Study Area. The Figure does not show settlement, important individual residential properties, visitor attractions and promoted viewpoints and promoted tourist routes – all of which are sensitive receptors and are usually included on a Visual Receptor Figure. Importantly the core footpaths are not labelled on the Figure so it is extremely difficult to link the assessment of effects on footpaths with their location.

5.1.75 Figure 6.7 – Local Landscape Context. The plan lacks information which would normally be included such as watercourses, indication of vegetation type, i.e. deciduous and coniferous forestry, moorland, other grassland and riparian/ valley floor vegetation. There is no indication of built form such as drystone walls which cross the site or overhead power lines. In addition, there is no indication of topographical features such as crags which would provide a better understanding of the locality etc.

5.1.76 Figures 6.9 -6.10 - Other Wind Farms within the Study Area. The Figure does not show Shennanton windfarm. A scoping report for this proposed development was submitted within the applicant's cut off period for inclusion of proposed windfarms in their cumulative assessment.

5.1.77 Figures 6.17- 6.22 - Hub Height ZTV up to 35km. A viewpoint overlay on the hub height ZTV has not been provided. This would have been useful as it would have allowed a better understanding of the potential level of effects that may be experienced from the viewpoints.

5.1.78 Figure 6.25 - Blade Tip ZTV up to 35km with Landscape Designations. The Figure does not show Non-Inventory Designed Landscape and Gardens which is requested by Dumfries and Galloway Council to be included within the assessment. (ref D&G LDP 2 policy NE2 – discussed above).

5.1.79 Figure 6.32 - Cumulative ZTV within 20km – Glenvernoch with Blair Hill. The cumulative Figures have not included proposed Shennanton windfarm which is also at the scoping stage. No overlay or combined ZTV of the Shennanton development is provided. Consequently, the worst-case scenario for combined cumulative effects is not shown.

5.1.80 Figures 6.6.1-6.6.28. These Figures detail photomontage, wireframes, photo visualisation, and angles, lateral extents of the development relevant to the RVAA and are discussed in detail below. The Figures are not labelled with Figure numbers.

5.1.81 Figures 6.7.1-6.7.3. The Figures show the ZTV of lit turbines and indicate how extensive the potential visual envelope is. They also provide a lighting intensity ZTV which indicates areas which will be subject to the highest intensity resulting from aviation lighting. It is interesting to note that some of the highest intensities will be perceived at distance in areas for which no assessment has been made. i.e. Cairnsmore of Fleet.

Appendix 6.1 Landscape and Visual Impact Criteria

5.1.82 The appendix sets out the criteria used in the LVIA assessment and forms the major part of the methodology adopted. As described above although the appendix provides information regarding the nature of landscape sensitivity and the elements that combine to determine it, there is no definition of the five levels that are being assessed which is usual in LVIA. It is interesting to note that the highest level of landscape sensitivity – 'Very High' is occasionally described in the body text but does not appear to have been applied in the assessment. We would argue that landscape designations and LCTs such as the Merrick WLA and LCT 180 Rugged Uplands, among others, may be regarded has having Very High sensitivity to wind turbine development.

5.1.83 In terms of visual receptor sensitivity, definitions have also been provided for five categories. Again, it appears that the 'Very High' level has not been applied throughout the assessment. As described above it is clear that there are Very High sensitivity receptors such as those at promoted viewpoints i.e. Bruce's Stone (LVIA viewpoint VP9).

5.1.84 As with sensitivity five categories of magnitude of change are given for both landscape and visual effects ranging from Very High to Very Low. Again, within the assessment the use of Very High magnitude of change has not been applied. There are clear instances where a Very High magnitude of change, according to the definition supplied in the appendix, would be applicable - as for example effects experienced from the SUW (VP 1).

5.1.85 The criteria include a description and separate consideration of duration of change – although this is also understood to form part of the assessment of the magnitude of change. Little reference is made to duration throughout the main body of the assessment.

5.1.86 Significance of Effect: This is an important aspect of the criteria as it is the value that directs reviewers of the application to what is considered to be the most important effects/impacts. There is little discussion or explanation regarding how significance values have been determined. The level of significance is described in terms of 7 levels ranging from no effect to major effect with the moderate level being considered either as 'significant' or 'not significant'. There is no reasoning or explanation why a moderate effect can or cannot be significant. In addition, no definitions of what each level of significance constitutes/represents are provided. It is thus difficult for the reviewer to understand how professional judgement has been exercised. As stated above a significance matrix table was provided in the scoping report and this has not been provided as part of the criteria. It is thus unclear how the 5 categories of sensitivity and magnitude presented and described in the assessment criteria have been considered and applied to reach significance values.

Appendix 6.4 Preliminary Assessment of Landscape Character Types and Designations

5.1.87 The preliminary assessment has scoped out LCT 180 Rugged Uplands for further detailed assessment. We contest the reasons for this as it is one of the most sensitive LCTs within the Galloway Hills complex which extends to the west to within 7km of the proposed development. Figure 6.27 ZTV shows that there is potential extensive visibility of the site from elevated areas within the LCT including prominent high-profile hills such as Larg and Lamachan from which 11-13 turbines will be visible. These areas directly overlook the site and the development would indirectly impinge on currently open and panoramic views to the west (ref viewpoints VP 12 and VP13).

5.1.88 Although requested by D&G council in their scoping response the applicant has chosen not to provide detailed assessment of potential impacts on the Merrick WLA. The rationale for this is that there is limited potential for

notable effects largely due to distance from the proposed site (paragraph 6.69). We dispute this assertion, as the applicants own viewpoint (VP 12) shows there is potential for adverse effects on long views.

5.1.89 The applicant has not included an assessment of potential impacts on Non-Inventory Designed Landscape and Garden at Penninghame as requested by D&G Council in line with their planning policy HE6. The rationale for exclusion is on the grounds of very limited visibility. We contend that this has not been substantially demonstrated.

Appendix 6.4 Preliminary Assessment of Visual Receptors

5.1.90 This Appendix provides information on how visual receptors within the study area have been selected and considered for assessment and provides partial explanation of why other potentially sensitive receptors have been excluded from detailed assessment.

5.1.91 With respect to Core Path CREE/387/1 - White Cairn Glen Trool this has been excluded from further assessment on the basis that forestry restricts views. Although this is true for part of the length of the path there are likely views out approaching the Cairn where turbine blade tips may be intermittently visible above the tree line and as such, we would argue this should have been included in the assessment.

5.1.92 Core path CREE/396/1-4 Glentrool Walk. Although potential views are limited along much of this route there are occasions, travelling east to west, where the path becomes less enclosed and views out to Glenvernoch Fell are possible. As such this should have been included for detailed assessment.

5.1.93 Core Path CREE/431/1 - The Merrick. This is a very popular walking route which is experienced by a high number of sensitive visual receptors. We contend the description of limited visibility, particularly from elevated sections of the route and the summit which fall within the ZTV. Given the Very High sensitivity of the receptor there is potential for significant effects to impact on this footpath. It can be argued that the change in view experienced from viewpoint VP12 will be significant and as such this core path should have been included for further detailed assessment.

5.1.94 A75: The A75 is the main trunk road in the area and is also a promoted tourist route. The number of visual receptors travelling along this route that have potential to view the development is probably the highest of all visual receptor groups. In addition, there are extensive uninterrupted views of the Galloway Hills particularly travelling west to east from Barlae to Newton Stewart. From this section of the route the development will be clearly visible against the backdrop of the Galloway Hills western edge (ref viewpoint VP 20). At certain points effects would not be 'extremely limited' and the development will appear as a prominent feature in the view. Consequently, a detailed assessment from this route should have been included in the assessment.

Appendix 6.5 Viewpoint Assessment

5.1.95 In general baseline views are not adequately described and the description predominantly concentrates on context and elements that are not included in the photograph. It is usual in LVIA to have a description of the baseline view followed by a description of how the view and the elements within it will change during the construction phase and operation phase with further description after a period of time when mitigation measures are established and residual effects can then be assessed. This has only partly been provided under the description of magnitude of change.

5.1.96 Viewpoint 1 – SUW - Hill of Ochiltree. Aviation lights from this location will be prominent features visible at close range above the skyline and not as described. In addition, the A714 from this location is surrounded by woodland so intrusion of headlights from vehicles travelling along this route will largely not applicable. Given the close proximity, visual prominence, proportion of view affected and the darkness of the skies we argue that magnitude of change during darkness hours will be Medium–High and not Medium as assessed and will be of a Moderate-Major 'significant' effect. Thus, we contend that the effects resulting from aviation lighting have been underestimated in this instance.

5.1.97 Viewpoint 2 - A714 North of Bargrennan. We dispute that the scale of the development is constant with the surrounding landform - which is a relatively low plateau landscape. The proposed 200m turbines can be considered

to be disproportionate to the topography. From the assessment criteria definition the magnitude of change during darkness, when all six turbines will be perceptible as eye-catching incongruous features in a dark sky, can be considered to be at least Medium and not Medium-Low as assessed and would be of at least a Moderate level of significance of effect.

5.1.98 Viewpoint 3 - Junction with Minor Road to Glentrool. The viewpoint is located at the boundary of the RSA on a designated tourist route and as such we contest that the value of the landscape should be more appropriately assessed as Medium-High rather than Medium as stated. The assertion that Knockville and Crungie Wood would screen the development across all seasons is contentious since the woodlands are predominantly deciduous and views of turbine blades, although filtered, will partly be visible during winter months. Views would not always be limited to upper blade sweep as stated but would also include the tops of towers and hubs (ref viewpoint VP3 – Sheet E). During darkness the lights would not appear as small noticeable red lights but would be prominent and eye-catching in the view, in particular lights from turbines T10 and T13 would be clearly visible in the sky at relatively close range. The level of effect is described as moderate but not significant which we dispute. No explanation is given for why this is not a 'significant' effect.

5.1.99 Viewpoint 4 - Southern Upland way at Bargrennan. The baseline description only vaguely corresponds to the viewpoint photograph. As above lights would not appear as small noticeable red lights but would be prominent and eye-catching features in the view, with potentially all six visible in the sky. Given the close proximity, visual prominence, proportion of view affected and the darkness of the skies we argue that the magnitude of change will be Medium–High and not Medium as assessed and will be Moderate-Major in terms of level of significance.

5.1.100 Viewpoint 5 - Eldrig Fell. The baseline description only vaguely corresponds to the viewpoint photograph. In this instance the assessment of aviation lighting effects has been substantially underestimated. By the applicants own assessment criteria a Very Low magnitude of change equates to no/negligible change in view. It is clear that there will be some change to the view, as noticeable incongruous features will be visible in a dark/dimly lit landscape – as such the level of change, during darkness, when considered against the provided criteria descriptions should be more appropriately assessed as Low-Medium with a corresponding Moderate significance of effect.

5.1.101 Viewpoint 6 - Minor Road near Bennylow (Culvennan Fell). The baseline description only vaguely corresponds to the viewpoint photograph. The turbines are prominent in the view and occupy a medium lateral extent. Although the do not break the skyline they would interrupt currently open unobstructed views to the Galloway Hills introducing distracting and incongruous elements. Again, aviation lighting effects have been substantially underestimate as being of Very Low magnitude of change which is effectively no/negligible change in view. The applicant states that four of the six turbines would be visible from this viewpoint and would be perceived within a relatively darkly lit landscape. The features will be obtrusive and distinctly out of character. Given the prominence and extent of the change, magnitude should be assessed as at least Low-Medium during darkness and not Very Low as stated in the Appendix. Although we agree with the assessment of a Moderate level of effect during daylight hours we would argue that the effects should be considered to be 'significant' in this instance.

5.1.102 Viewpoint 9 – Bruce's Stone, Glentrool. Taking account of the applicants own criteria definition the sensitivity of this viewpoint should have been assessed as Very High as opposed to High. From analysis of the viewpoint visualisation, 4-5 hubs and upper towers are clearly perceptible and thus visibility is not limited to upper blade sweeps as stated. The turbines prominently impinge upon the skyline rising high above the plateau landscape. The extent of change and scale of the built form in the view when considered against the Very High sensitivity of the receptor is such the effects should not be considered as 'not-significant' as stated in the assessment. During darkness hours there are no properties with lights in the direction of the view and views of car headlights would be very occasional and not as stated as in the assessment. This is a very dark landscape and sky. Figure 6.7.3 indicates that light from the aviation lights would be at a relatively high intensity at this elevation. At least two lit turbines would be visible and would appear prominently in the dark sky. In addition, the viewpoint is extensively promoted and visited and is situated on the edge of the DSP Core Area. As such the effects do not constitute a no-change or negligible change scenario as implied by the assigned Very Low magnitude of change. Considering definitions provided in the magnitude criteria descriptions, the magnitude of change at the very least would be Low-Medium which taking account Very High

sensitivity of the receptor would result in at least a Moderate and 'significant' level of effect and not Minor-Moderate non-significant effect as stated in the assessment.

5.1.103 Viewpoint 10 – All Saints Church Challoch. We contend that, taking account of the sensitivity of the receptor and the extent and nature of the change in view, effects during daylight hours will be 'significant'. During darkness turbine aviation lighting would be visible above the tree line with all 6 lights intermittently perceptible, particularly during winter months when the tree canopy density is reduced. The magnitude of change would not be Low as described as the lights would form a compact t group prominent above the intervening tree line. The effects are more consistent with a Low-Medium magnitude which would result in a Moderate level of significance and not a Moderate-Minor non-significant effect as stated in the assessment.

5.1.104 Viewpoint 12 Merrick. As the highest point in southern Scotland and a popular and promoted walking route the Merrick can be considered to have Very High rather than High, as stated, sensitivity to the proposed development. During daylight hours although the turbines would not impinge upon the skyline their scale is such that they would appear as overtly prominent features in the landscape. Taking account of the Very High sensitivity of the receptor effects although Moderate should be considered to be significant rather than non-significant as stated. During darkness the aviation lights would not appear as *'very small barely distinguishable'* elements but as six distinctly red, potentially flickering, incongruous lights prominent in a relatively dimly lit landscape. Their incongruity would ultimately compromise views and perceptive quality of the surrounding DSP/WLA. The assessment of Very Low magnitude of change, which equates to no/negligible change in the assessment criteria, is clearly not applicable in this instance (ref VP 12 photo-visualisation). From application of the assessment criteria definition, Low-Medium magnitude of change is more appropriate which takes account of the Very High sensitivity which could give rise to Moderate 'significant' effects.

5.1.105 Viewpoint 13 - Lamachan Hill and Viewpoint 14 - Garlick Hill. The comments and points raised for Viewpoint 12 above regarding sensitivity, magnitude and the underestimation of aviation lighting effects are also applicable to these viewpoints. However, in these instances, due to the closer proximity of the development and the slightly greater lateral extent of its presence in the view, the magnitude of effects could be considered to be slightly higher. During darkness hours Low-Medium magnitude of change is a more appropriate assessment than a no change/negligible scenario (which is stated in the applicant's assessment), Taking account of the High sensitivity of the receptor this would give rise to Moderate significant effects rather than a Minor 'non-significant' effect.

5.1.106 Viewpoint 15 - A75, Parking area South of Creetown. The viewpoint shows that the turbines will form distinct prominent features visible on the skyline which is currently largely devoid of man-made structures. Association with the distant upland setting does not diminish this impact or the effects as stated. During daylight hours, and in accordance with the assessment criteria, magnitude of change is more appropriately assessed as Low-Medium and not Low as stated. This is because the turbines will be clearly visible as a prominent part of the skyline. This potentially would give rise to Moderate 'significant' effects and not Moderate/Minor effects as stated in the assessment. During darkness hours all six aviation lights will be visible above the skyline where they would form incongruous features in the predominantly dark sky. The lights will appear as a relatively close group, occasionally flashing due to blade movement which will accentuate their prominence. The assessment of these effects as being of Very Low magnitude and by extension a no/negligible change in view is inappropriate. From the assessment criteria definition, a Low-Medium magnitude of change would be a more accurate assessment which in turn may give rise to a Moderate significance of effect.

5.1.107 Viewpoint 18 - Moor of Barclye Archaeological Sensitive Areas. The view is not totally representative of the area which is more open in character and less obstructed by intervening vegetation which serves to diminish impact of the development in the view. From areas close to this viewpoint, potentially 13 turbines would be perceptible and visibility would be extensive and not restricted to upper blade sweep as stated. Examination of the viewpoint shows that the turbines will form prominent incongruous features visible at fairly close range. Given the scale and lateral extent of the development in the view, magnitude of change can be considered to be Medium-High by the applicant's assessment criteria rather than Medium as evaluated. This would give rise to a Moderate-Major significance of effect and not Moderate as stated in the assessment. During darkness intervening deciduous woodland would not largely obscure visibility of aviation lighting as stated, particularly during winter months when

most, if not all, of the lit hubs will be visible (ref. viewpoint VP18 - Sheet C). In particular, from this location and elevation, we dispute that the lights would appear as very small but rather as prominent eye-catching incongruous features, potentially flashing, and observed against the backdrop of a dark sky. The wide lateral extent over which the lights would be visible and their prominence and incongruity is such that magnitude of change, by assessment criteria definition provided is more appropriately assessed as at least Medium rather than Low as stated.

5.1.108 Viewpoint 19 - Road outside of Borgan Cottage. The magnitude of change during darkness hours has been substantially underestimated. Aviation lighting of all six turbines will be visible above the skyline at close range. Considering the close proximity of the viewpoint to the turbines, the lights in combination, will be dominant potentially flickering and distracting obtrusive features in a relatively dark sky and occupying a wide lateral extent of the view. Magnitude of change during darkness hours is more appropriately assessed as Medium-High rather than Medium as stated. This would give rise to a Moderate-Major as opposed to a stated Moderate significant effect.

5.1.109 Viewpoint 20 - A75 at Knockbrex. The turbines are not comparable in scale with the pylon in the view as stated but appear to be at least 25% taller. The turbines form a relatively compact, dense and visually cluttered mass which serves to reinforce their prominence and incongruity in the view. As such magnitude of change should more appropriately be considered to be Medium by assessment criteria definition which would constitute a Moderate significant effect as opposed to the stated Moderate-Minor 'non- significant' effect. During darkness hours aviation lighting from all six turbines will be visible as a distinct compact group which will reinforce their presence and dominance in a dimly lit landscape and against a relatively dark sky backdrop. Introduction of these new elements to the view would not constitute a no/negligible change as implied by the Very Low magnitude of change stated. By the applicant's assessment criteria magnitude is more appropriately assessed as Low-Medium and of potentially Moderate significance in this instance.

Appendix 6.6: Residential Visual Amenity Assessment

5.1.110 The Residential Visual Amenity Assessment (RVAA) considers the potential visual effects resulting from the proposed development that would be experienced by residents located in properties lying in close proximity to the site. We provide comment on the findings of the RVAA with respect to individual residences below.

5.1.111 Borgan Cottage: Extensive rather than partial views, as stated in the assessment, are generally available from the curtilage of this property. The property and curtilage directly face the development. During darkness close range views of aviation lighting will be prominent and obtrusive incongruous features visible in a very dark environment. The lights will occupy a significant lateral extent of the view perceptible from various aspects of the property and its grounds, as such magnitude of change, according to RVAA methodology definitions is more consistent with a Medium-High magnitude of change rather than the medium level assigned. Such effects can be considered to result in Moderate-Major, rather than a Moderate level of significance of effect during darkness hours. During daylight hours, as shown in the photo visualisation, the development will present as a disproportionate and overbearing feature in the view.

5.1.112 Brigton Farm and But n Ben Cottages. During daylight hours, as stated in the assessment, 13 blade tips and hubs will be visible from the property's curtilage. Examination of the photo-visualisation, which does not necessarily present the worst-case scenario, shows the dominance of the development proposals in the view. In this instance, given the scale, nature and extent of visual disturbance and according to RVAA methodology magnitude definitions, views from the property itself are more consistent with a Medium-High magnitude of change rather than the medium level assigned. In combination with the high sensitivity of the receptor this would result in a Moderate-Major, rather than a Moderate level of significance of effect from the property itself. As for Borgan Cottage the impact of the proposed aviation lighting appears to have been underestimated and we contest that such effects would result in a Medium-High magnitude of effect rather than Medium as stated and that this can be considered to result in Moderate-Major, rather than a Moderate level of significance of effect stated.

5.1.113 Larg Farm, Shepherds Cottage, Borgan Cottage and Old Larg House: Given the major significant effect stated in the RVAA assessment together with consideration of the scale, prominence and degree of visual disturbance shown in the corresponding photo visualisation there is sufficient argument to warrant the proposals as being described and regarded as overbearing. As stated in the assessment during darkness hours there will be '*direct views of up to 6*

turbine lights visible at close distances' from the properties and their curtilages. We contend that the impact of the proposed aviation lighting appears to have been underestimated and we contest that such effects would result in a Medium-High magnitude of effect rather than Medium as stated and that this can be considered to result in Moderate-Major, rather than a Moderate level of significance of effect.

5.1.114 Cordorcan Cluster: There are substantial uninterrupted views from the open grounds as shown by the accompanying photo-visualisation. During daylight hours we contend that the magnitude of change from the main property would be Medium-High on the grounds of substantial oblique views and that blades will be visible above intervening roof lines and more extensively perceptible from upper floor windows. Overall, particularly from the curtilage of the property effects, as shown in the visualisation, will be out of scale and imposing, covering a wide lateral extent and as such can be considered to be overbearing. We contend that the impact of the proposed aviation lighting appears to have been underestimated with respect to the main property and argue that such effects would result in a Medium-High magnitude of change rather than Medium as stated and that this can be considered to result in Moderate-Major, rather than a Moderate level of significance of effect. There appears to be some inconsistency in the assignment of the level of significance of effect. For example, during daylight and darkness hours the magnitude of change on views from the curtilage of the property is assessed as high, the sensitivity of the receptor does not change but significance of effect differs. If this is purely a professional judgement then the reasoning should be explained.

5.1.115 Glenruther: It is understood that this property was not visited during the assessment. The visualisation taken from Glenruther Lodge which is located a further 500m from the development and which is substantially more screened by intervening vegetation from it shows that all turbines are extensively visible in the view. Views from Glenruther itself beyond its grounds are more open and the accompanying wireframe indicates potential for significant views of turbines across a wide lateral extent. The magnitude of change during daylight hours from the property and curtilage is assessed as Very Low and Low respectively largely due to the presence of intervening vegetation. This effectively equates to a no change to minor change scenario. Interrogation of aerial photography, constructed relevant wireframes, Glenruther Lodge visualisations and building orientation suggest that the magnitude of change experienced from the property and its curtilage has been underestimated and is more likely to be Low to Low-Medium and of possibly Moderate significance. Similarly, in relation to darkness hours, when 6 turbines are potentially visible from certain points within the curtilage of the property, above the tree line, magnitude of change is unlikely to be Very-Low/Low but more likely to be Low-Medium and thus of possible Moderate significance of effect.

5.1.116 Knockville and Crungie Wood: The photo visualisation presented for this view point shows that all turbines will be extensively visible and will dominate the view. The lateral and vertical extent of the change is substantial. During daylight hours the magnitude of change, evaluated according to the applicant methodology criteria will be Very High and not High as given in the assessment for cabin 1 and Medium-Low for the secondary cabin. During darkness, direct uninterrupted views of 6 lit turbines will be discernible at very close range. The aviation lights will be prominent incongruous and obtrusive features in what is a currently very dark sky. Given the close proximity, lateral and vertical extent and visual prominence, magnitude of change, according to the applicant's criteria, should be assessed as High and Medium-High for each cabin respectively rather than as Medium stated in the assessment. It is clear from interrogation of the photo visualisation that the effects of the development will be both overwhelming and overbearing.

Response and discussion of specific LVIA paragraphs

5.1.117 Responses to comments and statements made in specific LVIA paragraphs related to the assessment of landscape and visual effects are given below. The response should be read in conjunction with the text given in the LVIA.

Assessment of Landscape Effects

5.1.118 p6.158/p6.162: We contest that the sensitivity of the moorland vegetation is not Low but Medium. Given the applicant's medium magnitude of change this would result in a Moderate significant effect which would be possibly significant.

5.1.119 p1.164: LCT 180 Rugged Uplands should have been included in the assessment as all turbines will be visible – some at relatively close range - from prominent hills such are Larg Hill and Lamachan which are approximately only 7km from the site (re viewpoints VP 12 and 13).

5.1.120 P6.166: We contest this paragraph. The DGWLCS and DWGLSS provide an assessment of landscape sensitivity to wind turbine development. It is our understanding that NatureScot advice is to refer to and take account of local documents which have assessed sensitivity to windfarms.

5.1.121 p6.167: The emerging up-to-date DGWLSS identifies relevant LCT'S assessed in the LVIA as being highly sensitive to very large turbine typologies and thus unsuitable locations for development. LCT174 is described as High-Medium sensitivity but it is noted that Glenvernoch Fell and its immediate surroundings are more sensitive than the LCT as a whole and thus by extension the site and its surroundings may be considered unsuitable locations for very large turbine development.

5.1.122 p6.168: '*The sensitivity of the character unit to wind energy development in an adjoining or distant character unit would typically be lower*'. This is not necessarily the case and we contest this statement. Certain adjacent LCTs are partly characterised by their long and distant views over adjacent landscape and as such can be considered to be highly sensitive to indirect visual effects.

5.1.123 p6.175: The raised elevation of the site is such that construction activity would not be substantially screened by surrounding vegetation - overall effects would be Low-Medium with potentially Moderate significance of effect.

5.1.124 P6.177: We assess that magnitude of change, taking account of the assessment criteria definition will be Low in this instance and not as stated.

5.1.125 p6.178: With reference to wider landscape character *'Views of activity taking place on the Site would however be largely restricted by the landform and the wooded slopes, mainly limiting views to the cranes, rather than the ground level works, resulting in a moderate/minor temporary additional effect that would not be significant*'. We contest this statement - the high landform of the Galloway Hills affords extensive and occasionally close-range views over the development which are not interrupted by intervening vegetation – to the extent that magnitude of change would be Medium and effects, considering the high sensitivity of the receptor, at least Moderate and significant. This is particularly the case for LCT 172 (ref viewpoints VP 14 and VP18).

5.1.126 p.6.182-p6.183; There are intermittent views of the site interior from higher ground to the east, including eastern areas of LCT 172, LCT181, LCT174 and LCT 180. All of which have potential to be indirectly affected. In particular LCT 181, which is within 5km of the site, will be substantially impacted upon (ref Viewpoint VP14).

5.1.127 p6.189: The turbines would become the single most dominant characteristic of this part of LCT174 and the development would advance the perception of the LCT as a 'windfarm landscape'.

5.1.128 p6.190: It is not explained why effects impacting on LCT 174, beyond 6km from the site, although being Moderate adverse, are not considered to be 'significant'.

5.1.129 P6.191: If the Figure 6.4 Landscape Character Types within the 35km Study Area is correct then the site does not lie immediately adjacent to LCT 160 but encompasses a significant part of it along its eastern boundary. As such there is potential for this area, beyond access arrangements, to be subject to further direct effects including a potential borrow pit location as indicated on Figure 3.1.

5.1.130 p6.195: We contest that the forested nature of the LCT 181 largely precludes visibility of the site. Views towards it are much less limited than intimated in the description particularly from elevated areas to the south at Craigmurchie and Garlick Hill. These landforms form important and defining aspects of the LCT. Given the scale of

development and proportion of view affected, the magnitude of change from these locations would at least be Medium with a Moderate-Major level of significance of effect.

5.1.131 p6.197: Although only the western section of the LCT falls within the ZTV – this is approximately half of the total area of total LCT and includes areas which are open, highly visible and have extensive views (ref viewpoint VP18 - Moor of Barclye).

5.1.132 p6.202: We would argue that there is potential for Medium rather than Medium-Low magnitude of change effects on this landscape character type. Beyond 6km the turbines will be intermittently perceptible over a wide area and from numerous locations within the LCT. At these locations the scale and dominance of the proposals will be apparent with the turbines becoming clearly visible against the backdrop of the Galloway Hills as evidenced by viewpoints VP6 and VP20. In certain locations the development will be perceived above the skyline (ref viewpoint VP20). Taking account of the extensive area over which effects will be perceptible, the scale and dominance of the proposals and impact on skylines and general views out of the LCT we argue that these constitute a medium level of indirect effects in accordance with the criteria descriptors supplied by the applicant. Given the high sensitivity of this receptor this would give rise to a Moderate-Major significance of effect.

Assessment of Visual Effects

5.1.133 p6.220-p6.221: The argument that visibility would exceed 5km for the majority of time in the area is not backed up with evidence and is possibly incorrect. It is stated partly as justification for producing night time visualisations at 200cd when they should have been modelled for 2000cd. The night time visualisations have been produced to correspond with the period after dusk. We contend that this is not the worst-case scenario and the visualisations should have been produced for darkness. The applicant maintains that residents are located in a lit environment and would not perceive aviation lighting in darkness and argues that because of this, effects will be somehow diminished. We challenge this proposition as many rural residents are located in areas without street lighting or substantial lighting from other built form and in this instance are located in a noted dark sky area. The assumption that viewpoints are not visited in darkness is not entirely true particularly with respect to those within the DSP core and buffer zones – this is after all a promoted visitor attraction with star gazing events. In addition, a number of viewpoints will potentially be visited at dusk and dawn when aviation lighting will be visible.

5.1.134 p6.224-p6.225: Construction activity from low elevation viewpoints will not only be restricted to views of cranes. Partial views of the ground level construction works will be attainable from some viewpoints i.e. viewpoint VP 18 where foreground vegetation would not substantially screen or filter views of construction activity including views of access tracks and base areas of T1, T2, T3, T5 and T6. In addition, the base of T7 is visible from Borgan Cottage (ref viewpoint VP19).

5.1.135 p6.226: In relation to construction effects we argue that application of the LVIAs assessments criteria definitions shows that the magnitude of change is underestimated and should be Medium-High due to distance and lateral and vertical extent of the change in view. In addition, we do not understand how medium magnitude of change from high sensitivity viewpoints particularly VP1, (but also VP13 and VP 14) translates to a Moderate 'not significant' effect.

5.1.136 p6.227-p6.228: The assertion that from remaining viewpoints ground level construction activity will be screened and any effects visible will be limited to views of cranes is incorrect. Viewpoint VP12 has extensive uninterrupted views of the whole site including the floor of the site and from VP9 the floor area of the site around T13 is extensively visible. The magnitude of effects on remaining viewpoints we would argue should not all be assessed as Very Low, - which is a no/negligible change scenario.

5.1.137 p6.228-6.236 and Table 6.6 Assessment of Effects on Viewpoints During Operation: See comments regarding the review of Appendix 6.5 above.

5.1.138 p6.238-241: We would argue that construction effects should be considered separately to operational effects and not referred to as being over and above those assessed during the operational phase as this confuses and plays down their impact. In general, the assessment of construction effects is not detailed and is somewhat dismissive.

There is good argument that, in a number of instances, effects considered in isolation, although temporary, will be greater than of Low magnitude and Moderate 'non-significance' as stated in the assessment. For example, receptors travelling on the A714 with potential views of the entrance and site compound, receptors travelling on the Southern Upland Way close to the site, other promoted routes such as Barclye Bird Reserve and properties in close proximity to the site may all be subject to greater than Low magnitude of effects. The assessment of the construction phase effects does not appear to have considered the potential visual effects resulting from highways modification works both along the transport route but more specifically at junctions between Barnkirk Road with the A75 and A714 where views of plant and lay down areas will be visible from nearby receptors.

5.1.139 p6.245: We challenge the argument that no properties would experience overwhelming of overbearing effects. However, since these terms are not defined in the assessment criteria our arguments are based on interrogation of visualisations and supporting information present in the LVIA. A number of residential receptors have close range views where the turbines occupy a significant lateral and vertical extent in the view perceptible from ground floor windows. Analysis of Figures 6.6.12-6.6.28 shows that from 7 properties the lateral extent from a single window may be has high as 65-96 degrees. From the curtilage of these properties, where the turbines will be particularly dominant in the view, the lateral extent viewed successively will be much larger (ref photo visualisations from Borgan, Borgan Cottage, Shepherds Cottage Low Cordorcan, Cordorcan Cluster, Larg, Brigton and Crungie Wood etc.

5.1.140 p6.250-p6.255: Views from parts of core path CREE/416/1-2 are far more extensive and unfiltered than implied in the assessment and operational effects will not be generally limited to views of upper blade sweeps and are more appropriately assessed as largely Medium-High magnitude of change rather than Medium as stated.

5.1.141 p6.263: We contend that the moderate effects experienced by users of the SUW between Blair Hill and Millgrain Hill , given the high sensitivity of the receptor, should be considered to be a 'significant'.

5.1.142 p6.264: The section of the SUW between Millgrain Hill and Glenruther Lodge runs in relatively close proximity to the site, as evidenced by the photo-visualisation from the Lodge presented in Figures 6.6.1-6.6.32. The visualisation indicates that magnitude of change, during darkness hours, may be greater than Low and more appropriately closer to Medium with a potentially Moderate significant effect.

5.1.143 p6.267: There are points, travelling in an east to west direction on a section of the SUW between Bargrennan and Loch Trool alongside the Water of Trool and Water of Minnoch where views towards the proposed development site may occur. We would argue that at these points, receptors using this route, would be subject to occasional Low-Medium magnitude of change in view and not Low as stated in the assessment. This is also the case during darkness where a number of lit turbines may be visible above the tree line.

5.1.144 p6.272: This paragraph is confusing and it is unclear what is meant. It is contestable that the views from Bruce's Stone (Viewpoint VP9) are not significant as we have previously stated we consider that the magnitude of change has been underestimated from this viewpoint and that effects are at least Moderate and 'significant'.

5.1.145 p6.275: There will be intermittent views along this section of the route travelling in an east west direction. We contest that views will not largely be limited to upper blade sweeps but also of hubs and occasionally upper towers. Magnitude of change, we contend, will be occasionally be Medium during both daylight and darkness and that the resulting effects could be considered to constitute a 'significant' effect.

5.1.146 p6.279: The section of the NCR7 between Borgan and Cordorcan will have oblique views of aviation lighting visible at close range. We contend that the magnitude of change will be Medium-High in this instance.

5.1.147 p6.287: There appears to be some contradiction in the statement that there will be no significant effects predicted from any of these viewpoints. The assessment of viewpoints Table 6.6 and Appendix 6.5 Viewpoint Assessment clearly states that there will be Moderate-Major significant effects experienced from viewpoint VP3. In addition, this paragraph is in contradiction with statements in p6.299 which also states that there will be significant effects on the section of the A714 associated with viewpoint VP3. This illustrates the generally inconsistency and inaccuracy prevalent in the report.

5.1.148 p6.290-p6.291: We argue that receptors travelling north on the A714, beyond Newton Stewart, would not always be subject to Low magnitude of change. Viewpoint VP10 shows that the development is clearly perceptible in the direction of view along this section of the road. The turbines would become intermittently more prominent travelling further north from this viewpoint. Using the applicant's assessment criteria this would constitute at least a Low-Medium magnitude of change rising to Medium on approach to the site and possibly a Moderate and 'significant' effect and not as stated in the assessment. During winter months effects are likely to be higher both during daylight hours and at night. The assessment of magnitude during darkness of Very Low rising to Low, which equates to a no change and generally negligible/minor change scenario, we argue is an underestimate and would be more appropriately assessed as Low-Medium in accordance with the LVIA assessment criteria.

5.1.149 p6.292: The section of the A714 between Glenhapple wood and Clachaneasy passes by the proposed junction/access point to the development with views of turbine access tracks and potentially site compound/control buildings and possibly glimpsed partial views of the proposed borrow pit. We argue that these effects would not amount to a Very Low magnitude of change as stated by are more likely to be Low to Low-Medium along this section of the route. In addition, the gap in the woodland cover at this point may allow views of turbines and aviation lighting above the tree line particularly during winter months.

5.1.150 p6.297: The paragraph states that travelling southbound on the A714 from Bargrennan to Glenvernoch Wood the magnitude of effects would be Medium-High but that the significance of effect is Moderate and 'not-significant in' the text yet in Table 6.9 these effects are recorded as 'significant'. In addition, the statement appears to contradict statements made in p6.287 and also Table 6.6 regarding impacts on relevant A714 related viewpoints which states that significant effects will be experienced from Viewpoint VP4. We do not understand this inconsistency. In some instances, it appears that the assignation of significance values is arbitrary. In addition, we maintain that red aviation lighting will be a conspicuous feature and would not be of Low-Medium magnitude but would be at least of a 'Moderate' 'significant' effect which is contrary to what is stated in the assessment (ref viewpoints VP2 and VP4).

5.1.151 p6.299: Refer to comments for p6.287 regarding the level of inconsistency and inaccuracy present in the document.

5.1.152 p6.300: We contend that aviation lights would not appear as small but noticeable lights, but rather as conspicuous distracting and incongruous features on and above the skyline perceptible at close range in a darkly lit area. We maintain that effects resulting from aviation light along this section of the A714 would be 'significant' and not non-significant as stated.

5.1.153 p6.302: It is debatable that aviation lighting will result in a Very Low magnitude of change (no/negligible change) in views from this section of the A714, particularly during winter months and also from around the site entrance. We contend, in line with assessment criteria, that at certain points effects may rise to between Low and Low-Medium magnitude of change.

5.1.154 p6.310: We challenge the assertion that the magnitude of change relating to aviation lighting experienced by receptors on this section of the B7077 northbound would be Low-Medium and 'not significant'. Given the darkness of the sky and the appearance of lights as incongruous eye-catching features visible above the tree line these effects are more likely to be of occasionally of medium magnitude when considering definitions given in the assessment criteria.

5.1.155 p6.323: The potential effects of lit turbines on the Galloway Forest Park are illustrated by Figure 6.7.3 which shows extensive visibility and highest lighting intensity being experienced from parts of the western and northern sections of the park. The paragraph states that due to the difference in elevation between the aviation lights and the 'route' lighting intensity would appear much lower. i) which route? – is it not the GFP that is being referred to? .ii) much of the Park is located on elevated ground and therefore will experience the highest intensity lighting which will only be diminished in some instances by distance. The paragraph assertions also conflict with statements made in p6.329.

5.1.156 p6.325: We contest that the aviation lights, from beyond 6km, would appear as small indistinguishable red lights. The group of 6 red lights would be a clearly conspicuous incongruous feature when viewed against a relatively darkly lit landscape. Consequently, there is argument that the magnitude of effects may be at least Low-Medium and occasionally Medium judged against the assessment criteria. We maintain that, given the Very High sensitivity

of the receptor, at least a Moderate 'significant' effect would be experienced rather than the Minor-Moderate effect stated.

5.1.157 p6.326: We would argue that views of the development, from beyond 10km within the GFP, will be not always result in a Low magnitude of change during daylight. There are instances particularly at higher elevations were the extent and nature of the change in the view could be considered to be at least Low-Medium during daylight hours. When factoring in the Very High sensitivity of receptors such as the Merrick and Cairnsmore of Fleet this degree of change could be considered to give rise to a Moderate 'significant' effect and not as stated in the assessment. In addition, the assessment of Very Low magnitude of change (no/negligible change) during darkness hours we consider is an underestimate when considering the incongruous nature of lighting effects and the assessment criteria definitions.

5.1.158 p6.328: We disagree with this statement and maintain that the acknowledged 'significant effects' stated throughout the applicant's LVIA will have a detrimental impact on the perceptual qualities of the GFP including the ability to understand and appreciate the landscape and also the nature of the experience of receptors using recreational routes and visitor attractions located within it.

5.1.159 p6.329: In relation to the Dark Skies Park the paragraph states that any light within the area depending on topography can be particularly conspicuous even from several miles away. It is thus acknowledged that even at distance, aviation lighting will be conspicuous – this appears to have not been accepted and applied within the LVIA regarding lighting effects and contradicts a number of arguments and a number of Low and Very Low magnitude assessments given in the report (ref p6.325 and p6.326).

5.1.160 p6.334: Review of Figures 6.7.1 and 6.7.2 show there is substantially more than 'little' potential, as stated, for theoretical visibility from the DSP core area with much of the western and northern fringes falling within the lit ZTV.

5.1.161 p6.336: As stated in comments made in response to paragraph 6.325 and taking account of the applicants own assertion in p6.329 magnitude of change will not be perceived as 'no greater than Low' from certain areas of the western and northern fringe of the core area but may in certain instances be as high as Medium and a of a Moderate significance effect.

5.1.162 p6.637: See comments regarding darkness and aviation lighting in p6.326.

5.1.163 p6.342: The assumption that Very High sensitivity receptors visiting the DSP would be located in the core area is not accurate. For example, the Glentrool Visitor Centre and Glentrool Hive in the village both host stargazing events – both of these venues lie with the DSP buffer zone.

5.1.164 p6.343: See comments regarding darkness and aviation lighting in p.6.325 also refer to viewpoint VP2 where all six turbines will be visible in the form of a concentrated group. We assert that the magnitude of change experienced will occasionally be greater than Low as stated and that there is potential for at least Moderate 'significant' effects resulting from aviation lighting.

5.1.165 p6.349. In relation to the DSP transition zone this paragraph states that, at distances beyond 6km, magnitude of change is assessed as no greater than Low and of no greater than of Minor significance. Viewpoints VP6, VP9, VP13 and VP20 are located in this zone. From these locations 5 to 6 lit turbines will be visible, often viewed as a relatively compact group perceived against a predominantly dark sky. Taking account of the LVIAs assessment criteria definitions effects may be considered to be occasionally greater than Low and more likely to be Low-Medium with potential for occasionally Moderate and 'significant' effects.

5.1.166 p6.358: The paragraph states, in respect of the Galloway Hills RSA, that no significant effects were identified for viewpoints beyond 10km. Whilst this is accurate within the LVIA we contend that 'significant' effects may occur on views from the Merrick and also from Cairnsmore of Fleet which lies at a similar distance 12km to the south but which was not assessed in the LVIA.

5.1.167 p6.360: We contest that significant effects on the RSA will not be 'localised' and experienced from a small part of the RSA as stated in the assessment. Effects during daylight and the hours of darkness will be perceptible from a much wider area than implied. In particular a significant proportion of the western fringe of the RSA including Larg Hill, Lamachan, Garlick Hill and the Merrick (ref viewpoints VP12, VP 13 and VP14) will be impacted upon and we argue that potentially significant effects may be experienced from these locations. Importantly the proposed development will impact on views from the west towards the RSA including from a section of the A75 within 15km (ref viewpoint VP20). We disagree that any identified significant effects will not impinge on the special qualities of the designation and maintain that there is much persuasive evidence and argument from the applicant's own assessment and viewpoints to suggest otherwise (ref viewpoints VP1, VP6, VP7, VP10, and VP20).

5.1.168 p6.364: It is debateable whether the site location relates to other wind energy development as it is isolated geographically and of a different scale in terms of turbine height from the Wigtownshire Moors cluster. In addition, there is argument that capacity of the host landscape LCT174 has already been reached as much of the western part of the LCT has been developed for wind energy – this is inferred in the DGWLCS and emerging DGWLSS.

5.1.169 p6.366-p6.367: Some visual confusion will be perceptible, particularly in views from the north, south and south west (ref viewpoints VP2, VP10 and VP20) and where the development will appear as more of a concentrated cluster with some overlapping and visual clutter apparent.

5.1.170 p6.368: In relation to ancillary features such as, the construction compound, borrow pits substation and battery storage area the paragraph states that these structures have been located to minimise influence on the surrounding area. However, review of Figure 3.1 shows that these elements are positioned relatively close to the A714 with minimal proposed screening and thus with potential to be seen at close range from the surrounding area.

5.1.171 p6.370: It is not clear from this statement how this can be implemented except for the Glenvernoch residences where there is woodland around the property. Most properties within close proximity to the proposed development lie outside of the site boundary and as such the woodland is potentially outwith the applicant's control. Is the developer proposing to buy woodland or increase planting within the site boundary? If this is the case then it should be clearly stated within the mitigation measures.

END OF REPORT: SUPPLEMENTARY OBJECTION TO CHAPTER 6: LANDSCAPE AND VISUAL EFFECTS