



Hands Off Our Hills

Objection To Blair Hill Wind Farm - ECU00004878

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OBJECTION TO BLAIR HILL WIND FARM - ECU00004878

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Foreword

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Foreword

Hands Off Our Hills (HOOH) was formed in response to a submission by **Renewable Energy Systems (RES) Ltd.** to construct a wind farm consisting of **12 turbines up to 250m tall and 2 turbines up to 210m tall**, on Blair Hill, located approximately 2.7 km north of Newton Stewart in Dumfries and Galloway (**ECU00004878**).

Our group comprises members of local communities in and around Newton Stewart, including residents, businesses, environmental specialists, and planners who have collectively analysed the Environmental Impact Assessment Report (EIAR) submitted by the developer. Our findings demonstrate that the proposed development will have an overwhelmingly negative impact on the local environment, landscape, and community.

Based on extensive analysis and community engagement, our group has determined that the Blair Hill Wind Farm proposal should be rejected due to the following key reasons:

- Significant adverse impacts on the landscape and visual amenity of the area, particularly in relation to the Galloway and Southern Ayrshire Biosphere and Galloway Dark Sky Park, both of which are internationally recognised for their environmental and cultural significance.
- Failure to comply with relevant national and local planning policies, including National Planning Framework 4 (NPF4), Dumfries and Galloway Local Development Plan (LDP2), and NatureScot Guidance on Siting and Design of Wind Farms.
- Negative impacts on protected ecological areas, habitats, and species, particularly those associated with peatland habitats, which act as vital carbon stores and support diverse biodiversity.
- Threats to private water supplies and hydrology, with the potential for disruption and contamination due to excavation, construction, and operation.
- Major risks to road safety and increased traffic disruption, including the transportation of abnormal indivisible loads (AILs) on unsuitable local road networks.
- Noise pollution, shadow flicker, and potential health impacts on local residents and visitors.
- Lack of local community support, with many local residents and businesses opposing the development due to concerns about loss of tourism, recreational space, and economic harm to the area.
- Flawed carbon calculations and unproven energy need, with the grid capacity unable to absorb the excess electricity production, leading to constraint payments at the expense of consumers.

This document provides a detailed, evidence-based objection to the Blair Hill Wind Farm application (ECU00004878), assessing each aspect of the proposal against the relevant policies, legislation, and environmental standards. Our assessment follows the structure of the developer's own EIAR, systematically demonstrating the deficiencies, omissions, and adverse impacts of the proposed development.

We encourage the Scottish Government's Energy Consents Unit (ECU), Dumfries and Galloway Council, and all relevant decision-makers to carefully consider our analysis and reject this application in the best interest of local communities, the environment, and Scotland's long-term sustainable development.

We formally request to participate in any Dumfries and Galloway Council Planning Committees, Scottish Government Hearings, or Public Inquiries concerning this proposal.

Hands Off Our Hills (HOOH)

April 2025

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Chapter 1: Summary Of Objections

Objection to Blair Hill Wind Farm - ECU00004878

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Chapter 1: Summary Of Objections

Our objections to the Blair Hill Wind Farm proposal (ECU00004878) are based on a comprehensive review of the Environmental Impact Assessment Report (EIAR) submitted by Renewable Energy Systems (RES) Ltd. and its failure to comply with relevant planning policies, environmental standards, and legal obligations.

1.1 The proposal contravenes multiple policies within:

- National Planning Framework 4 (NPF4)
- Dumfries and Galloway Local Development Plan 2 (LDP2)
- Scottish Planning Policy (SPP)
- Onshore Wind Policy Statement 2022
- Climate Change (Scotland) Act 2009
- NatureScot Guidance on Siting and Design of Wind Farms
- Scottish Government’s Peatland and Carbon Policy

Throughout this application, RES has downplayed or omitted the true extent of the environmental and community impact. In multiple cases, their assessments rely on flawed assumptions, selective data, or inadequate methodology.

The only major and/or significant residual effects acknowledged by the developer are related to Landscape and Visual Impact Assessment (LVIA), which are impossible to ignore. **These are summarised in Table 2.1 below:**

Table 2.1: Summary of Major and Significant Residual Effects

Effect	Residual Effect
During Construction (2 years)	
Effects on Landscape Character Type (LCT)	Significant impact on local LCT
Visual effects	Significant visual impact from elevated locations
During Operations (50 years)	
LVIA viewpoints (daylight hours)	Significant adverse impact at 16 of 22 viewpoints
LVIA viewpoints (dark sky hours)	Significant adverse impact at 11 of 22 viewpoints
Effects on settlements (daylight hours)	Significant impact on 7 settlements
Effects on settlements (dark sky hours)	Significant impact on 7 settlements
Effects on core paths (daylight hours)	Significant impact on 5 core paths
Effects on core paths (dark sky hours)	Significant impact on 5 core paths
Effects on cycle routes (daylight hours)	Significant impact on Newton Stewart–Glentrool route

Effect	Residual Effect
Effects on cycle routes (dark sky hours)	Significant impact on Newton Stewart–Glentworth route
Effects on roads (daylight hours)	Significant impact on A712, B7079, and other local routes
Effects on roads (dark sky hours)	Significant impact up to 7km from the development
Effects on Galloway Dark Sky Park	Significant impact extending up to 7km

The Scottish Government (NPF4) mandates that decision-makers must consider these significant adverse effects when assessing wind farm proposals. The negative impact must be weighed against any socio-economic benefits and contribution to Net Zero.

1.2 Flawed Economic Justifications

Even the developer's own socio-economic assessment finds that:

- During the 2-year construction phase, benefits are "minor, temporary, and not significant".
- During the 50-year operational phase, benefits are "negligible and not significant".

The developer also fails to provide any evidence that the project would not negatively impact tourism, which is a crucial part of the local economy. Given the importance of Galloway Forest Park, Galloway Dark Sky Park, and the Southern Uplands, this creates an inherent risk to local businesses, tourism jobs, and visitor numbers.

1.3 Carbon Calculations are Inaccurate and Misleading

A detailed review of the **developer's carbon calculations** reveals:

- The carbon payback time has been miscalculated due to incorrect assumptions about the future energy grid mix.
- The project is located on peatland, which means carbon losses from soil disturbance could exceed any emissions savings from the turbines.
- The Scottish Government's renewable energy targets for 2030 are already on track without requiring additional onshore wind capacity.
- Grid infrastructure in Scotland is not capable of absorbing additional intermittent wind energy, which leads to constraint payments—costs passed onto consumers.

1.4 Failure to Justify the Need for This Development

- The National Grid is already struggling to accommodate existing wind power generation. More wind farms will increase constraints, leading to higher costs for consumers.
- The Blair Hill site is not a strategic priority for wind energy under Dumfries and Galloway Council's spatial strategy.
- No clear evidence has been presented to show that this development aligns with a sustainable energy strategy or will provide meaningful economic benefits to the region.

1.5 Threats to Health, Safety, and Local Wellbeing

The development poses **serious risks** to **public health, safety, and local quality of life** through:

- Private water supply contamination from construction activities, particularly in relation to the Penkiln Burn and Black Burn.

- Excessive noise pollution and low-frequency amplitude modulation (AM), which RES has failed to assess properly using outdated and discredited methodologies.
- Increased shadow flicker that could affect residents and visitors.
- Hazards from microplastic pollution as turbine blades degrade over time.

1.6 Aviation and Radar Issues

Statutory consultees NATS and Glasgow Prestwick Airport have objected due to concerns over radar interference and aviation safety. The developer has not yet secured an acceptable mitigation plan, meaning the proposal is non-compliant with aviation safety regulations.

1.7 Conclusion: This Wind Farm Should Be Rejected

The Blair Hill Wind Farm proposal is deeply flawed and should be refused on the grounds of:

1. Severe and irreversible environmental damage to an internationally important landscape.
2. Failure to align with Scottish Government and Dumfries and Galloway planning policies.
3. Negative impacts on tourism, public health, and local quality of life.
4. Failure to justify its necessity, given Scotland's existing surplus of onshore wind energy.
5. Unacceptable risks to local water supplies, ecology, and aviation safety.

We formally urge the Scottish Government's Energy Consents Unit (ECU) and Dumfries and Galloway Council to reject this application in the best interests of local residents, the environment, and Scotland's long-term sustainability goals.

Chapter 2: Objection To The Consultations

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Chapter 2: Objection To The Consultations

Our objections to community consultation are related to a lack of fair and inclusive community engagement in line with Dumfries & Galloway LDP3, the Energy Strategy and Just Transition Plan, and NPF4. In addition, the Onshore Wind Sector Deal states: 'Onshore wind in Scotland will continue to collaborate with local communities, building on good practices to enhance its existing 'good neighbour' approach through engagement at all stages of the project life cycle, offering impactful community benefits and practical routes to shared ownership.'

2.1 Summary

We object to the proposal on the basis that:

- The developer RES consultations were not inclusive, omitting key towns and villages.
- They were also leading, loaded in favour of the developer, and based on the assumption that the development would be approved.
- Both Hands Off Our Hills and the Cree Valley Community Council carried out exit poll surveys/community consultation with a resounding 95% of respondents against the application.
- The proposed community benefit is minimal given the concentration of population within just a few km's of the site. It is also not guaranteed. This is not a Just Transition in any sense.
- A Community Liaison Group (CLG) was created to allow for 'meaningful discussion with interested parties'. This was nothing more than a tick-box exercise so RES can state they have consulted with the community when in reality, it was with a few interested individuals, largely seeking access to the community fund. When difficult questions were posed by members they, largely, went unanswered.
- There is a significant imbalance in the planning process in favour of the developer and Government, with local democracy being largely absent.
- RES has published misleading statements in the press and elsewhere, paying for adverts in the press which are full of inaccuracies and lots of maybes and possibles, but no real fact.

2.2 RES Consultations

The first consultations were held in October 2023 in Newton Stewart and Wigtown and were reasonably well attended having only just received a flyer through the door a week earlier announcing this huge development. RES recorded attendance in excess of 400 across the two events. People were left to queue on the stairs to get in, as they were limiting how many could be in the hall at once. There were many RES staff present and to an extent they were initially engaging and happy to be approached until they realised they were talking to people who knew the area and were against the proposal.

What was utterly reprehensible was that none of their staff had a clue about the area. They were asked about the impact the project would have on RSPB Wood of Cree and RSPB Barclie and the consultee was met with blank faces. When asked how they felt it was appropriate to put a wind farm right next to a local, much loved beauty spot - Knockman Hill (Lone Tree Hill) they looked like rabbits in a headlight. They openly admitted to not having visited the site but having basically chosen it from speaking to the council and looking on an OS map.

Another RES representative, who clearly had no knowledge of the local roads, having admittedly never driven along them was asked how they were planning on getting the components onto site and she said they'd just use the A714 with no modifications. When it was explained that wouldn't be possible without some serious disruption to straighten out all the bends, she said their mapping system (on a computer) had said it was possible!

Another representative when asked how they'd get the electricity from site to source said they'd just use the existing power lines that run through the Galloway Forest Park to Kendoon. He then admitted they haven't actually gained permission from Scottish

Power to do that yet.

There were also typos on a number of their boards, including the classic and wholly inappropriate misspelling of *environment*!

RES conducted surveys at both initial presentations gauging the views of visitors which was provided as a feedback report at the May 2024 event. The first survey in October 2023 was conducted on a barely informed audience who could give their responses immediately or had a four further weeks to complete the online version of the survey. Questions in this survey were framed to give RES feedback on their ability to present their case and without informing visitors as to what the alternatives to the Blair Hill project could be. There were implications that this development would reduce energy bills, increase energy security and the feedback from visitors would help improve the design and application process. Their questionnaires were based on the premise that the development was happening and just asked how it could be improved. It was limited to mitigation of issues and was very skewed in how the questions were phrased.

By the second round of consultation events, held in May 2024 in both Newton Stewart and Kirkcowan (odd choice given their own report stated only 5 people from Kirkcowan had attended the initial event), RES staff were less willing to engage and were disinterested and dismissive to discussion; most stood around, just talked to each other, or were looking at their mobiles. The large number of thick desk files and information were overwhelming, even for the RES consultation manager and staff. RES staff could not answer questions about the actual carbon footprint of the manufacture, production and transportation of turbine components, the carbon footprint was a calculation of the construction of the wind farm only, therefore not an actual carbon footprint and holistically not meeting Net Zero. RES staff spoken to had still not visited the proposed site and had no idea or appreciation of the landscape and environmental qualities of the site, only what their display panels said. They made contradictory comments e.g. There is no issue with peat as turbines are not located on areas of peat, then conceded that access roads will disturb peat. Then advised that they will be 'relocating' peat into borrow pits, then said they will be restoring and enhancing peat. When asked how long it will take to do this, they did concede that peat is only built up 1mm per year, and so their 'peat restoration' has a rather long lead time.

No understanding about wildlife using the hills. No understanding about woodland pasture, and its inherent value and how rare it is. Contradictory statements about how the site can 'enhance' biodiversity. Consultant surveys exemplify the rich, diverse and protected natural species, habitats and ecosystems of the site, but only blithely say they 'mitigate' for habitat damage and loss. Abnormal Loads routes were not known for certain, only hypothetically and still very little in terms of necessary works to make these roads accessible. There was still no mention of connection to the grid. RES staff did not know how much concrete would be needed or where water would be extracted for concrete mixing on site. The public consultations were simply a tick-box exercise and a sham and this was felt broadly by many members of HOOH.

Very little effort was put into considering the cumulative effect of other impending windfarm projects just a few km's away. The chance to show residents just how imposing these 2 or even 3 projects together would be should have been made perfectly clear, but like their wireline drawings and even their poor quality video, they have downplayed the visual impact, never mind the utter destruction of our hills.

2.3 Community Response

RES's own feedback report, produced for the May 2024 consultation events from the feedback received at the Oct 23 events provides a clear signal of the level of opposition to the project with 81% of respondents stating they were opposed and only 3% in support of the project. This was further proved when HOOH and the Cree Valley Community Council (CVCC) carried out exit polls at the May 2024 event with a resounding 95% of respondents stating absolute opposition to the project. The CVCC has since carried out their own engagement events to again gauge the public opinion now there is a full application submitted, with similar results.

2.4 Community Benefit

As is expected, RES have offered the minimum of £5000 per MWh/pa for community benefit. This takes no account of the close proximity of population to this site, the fact people's lives are being potentially destroyed, nor are they stating in their promotional materials that they are likely to sell within a year of permission being granted, in which case, the new owner can drop the community benefit suggested by RES. They openly told HOOH members that the plan was to sell and that they are already in talks with Octopus Energy.

However, they have taken the opportunity to show how generous they are by already donating to community groups and having in-depth talks with the Cree Valley Area Development Trust (CVADT) who are very much in favour of getting their hands on the money. Perhaps it would be prudent for RES to carry out a thorough examination of CVADT's accounts. In addition to the funds already given to community groups, RES delivered Christmas hampers in Dec 2023 to those closest to the site. Some might call this outright bribery.

2.5 Community Liaison Group

HOOH were approached by RES to join their CLG, which we refused, based on the fact that we see this as nothing more than a way to avoid genuine community engagement and simply as a box-ticking exercise. Minutes from the meetings are made available on the RES website and HOOH have closely monitored these. From feedback from associates who are a part of the CLG, it is clear that RES don't want to engage with the community, continuing to make decisions on their events themselves without consultation with the CLG who could have provided valuable insight e.g. the second consultation event being held in Kirkcowan, instead of Wigtown, when only 5 Kirkcowan residents attended the initial consultation.

Could this be because Kirkcowan Community Council has supported wind farm applications in the past, and again, RES has been a significant contributor to their community bus? Wigtown Community Council are against this development, and thankfully so are Kirkcowan CC.

2.6 Local Democracy

As the installed capacity of the proposed development is over 50 MW, it requires consent from the Scottish Ministers under the Electricity Act 1989, enabled through the Energy Consents Unit (ECU). This means that the local Planning Authority (Dumfries & Galloway) is a statutory consultee and not a decision maker. D&G Council has declined to accept comments from the public; we believe that this effectively deprives residents and communities of their local democratic rights.

Depending on the process and delegation mechanism chosen by the local Planning Authority, there is a high risk that local communities have very little input or say on the decision of a development that will significantly impact their lives and environment. Whilst the elements for decision making are clear (e.g., NPF4) there is potential for considerable interpretation of 'impact' and 'balance' that underpin the final decision, and a mismatch in the relative weighting given to Local Development Plans, developed, and agreed with local knowledge and NPF4, as an overarching national policy.

There is significant imbalance in the whole process. The developer has worked for over two years to prepare the proposal, using a paid workforce of many experts. The application document comprises several volumes of complex technical information and is available in hard copy form in only two locations: Newton Stewart library and Wigtown library. This is despite Community Councils requesting that copies be made available, free of charge, at community locations. The developer requested £1,500 for each additional copy. Whilst we appreciate RES has provided additional time for the community to respond, it will still take weeks to analyse, comment and give input, using a small group of unpaid volunteers, who in the main are not experts in the required disciplines. They are, however, experts in the local area, what it's like to live here, what will work, what won't and the potential impact of the proposed development. The consultation period has fallen over the Easter holidays which of course impacts people's ability to respond.

It appears to be the case that the only way to influence the Planning Authority, the ECU, and Scottish Ministers, is to engage the community widely, raising awareness and motivating action to raise objections. This takes considerable time and effort. Even then we are not confident that we will be heard and can only conclude that local democracy does not count in Dumfries & Galloway, and nationally in Scotland.

2.7 RES Publicity

RES has published statements which are misleading right across their media, some of which are countered here:

Generating clean, green electricity for the equivalent of approximately 115,703 homes annually.

HOOH State: D&G has a population of 148,000. Given most houses will have more than one occupant, RES is suggesting this one development can provide energy for the whole of the region. D&G already provides 4 times more wind energy capacity per head of population than the rest of Scotland. This wind farm will not power homes in Scotland. When the wind blows, Scotland is already more than self-sufficient in wind power. The National Grid still needs to build major export routes south to transport the excess wind energy generated in Scotland. Turbines are regularly shut down, generating constraints payments which have already cost the country £393 million in wasted money last year. **This project of destruction on pristine land is not needed.**

Reducing carbon emissions by over 72,159 tonnes each year. Carbon payback within a year.

HOOH State: Peat removal, tree felling, and concrete create a significant carbon deficit. Due to the low carbon displaced from the grid over most of its life, the wind farm will barely pay back the carbon emitted in building it and will provide a minimal long term carbon reduction. A true carbon calculation has not been carried out given full details of peat on site, transport routes, turbine construction, concrete bases etc have all yet to be calculated. This application is hugely lacking in detail and cannot possibly be approved with so much information 'not available' or 'to be produced once consent granted'.

Predicted to deliver around £17 million inward investment in the form of jobs, employment and the use of local services during construction.

HOOH State: This is a highly misleading statement. Most employment will be from 'shipped in' workers as specialist staff of this nature are few and far between locally. Turbines will likely be bought in China and only materials such as concrete might be obtained locally. Cranes and abnormal load HGV's will be brought in from elsewhere. Very little opportunity for local trades or suppliers.

Providing a community benefit package worth over £23 million over the wind farm lifetime.

HOOH States: This figure is over 50 years and corresponds to the minimum recommended of £462,000/year. An insult of an amount given the irreversible destruction this project will cause to our hills. Also, no guarantee this will continue once the site is sold.

Potential to deliver an annual discount on the electricity bills of homes closest to the wind farm.

HOOH States:No details of LEDS have been given and no guarantees. Any electricity discount may come out of the community benefit package leaving less for the rest of the community.

2.8 RES and Social Media

A Facebook page and Instagram account called 'Local Planning Scotland'

<https://www.facebook.com/profile.php?id=61561201010482>, were created, we believe by RES, or a PR company employed by RES, which were again full of misleading statements. The account was framed to look like a government organisation and left a lot of people very confused about what or who it was. Members of HOOH asked questions directly and received no response. It also included a link to <https://supportblairhillwindfarm.consultationonline.co.uk/> as a quick way to support the Blairhill application. This actively encouraged anyone over the age of 13 to submit their details to make a submission of support to the ECU.

This was one of their 'paid for adverts' https://www.facebook.com/61561201010482/videos/978710390510932/?extid=CL-UNK-UNK-UNK-IOS_GK0T-GK1C&ref=sharing full of misleading statements and included the link to the above website, leading us to raise concerns about legality and GDPR violations:

1. Failure to Obtain Parental Consent for Data Processing of Children Under 16

Under Article 8 of the UK GDPR, the age of digital consent for processing personal data in relation to information society services (ISS) is 13 years old. However, this exemption does not extend to the processing of personal data for legal or official purposes, such as submitting representations to a governmental authority. In Scotland, under the Age of Legal Capacity (Scotland) Act 1991, individuals under 16 do not have full legal capacity except in specific circumstances. By soliciting statements of support from individuals aged 13 and over, RES appears to be collecting personal data from minors without the explicit consent of a parent or legal guardian, which is a violation of GDPR requirements for lawful processing.

2. Lack of Transparent and Informed Consent Mechanisms

Under Article 7 of the UK GDPR, consent must be freely given, specific, informed, and unambiguous. The website in question does not adequately inform users, particularly minors, about:

- The full extent of data collection and processing (i.e., how their data will be used and stored, whether it will be published, or shared with third parties such as the ECU).
- Their right to withdraw consent and how to do so.
- The potential long-term consequences of submitting support for a planning application, which may become a matter of public record.

Without clear, accessible explanations tailored to young individuals, it is unlikely that those aged 13-16 can provide legally valid consent to data processing.

3. Failure to Ensure Adequate Data Protection for Minors

The Data Protection Act 2018 (Part 3, Section 123) imposes an obligation on organisations to implement appropriate safeguards when processing data from minors. However, the website does not appear to have:

- Age verification mechanisms to confirm the age of users submitting their details.
- A parental consent process for individuals under 16.
- A clear privacy policy specifically addressing children's data processing.

This constitutes a failure to implement necessary safeguards, which is especially concerning given the public and political nature of planning applications, where minors' personal views and details could be made publicly accessible without their or their parents' informed understanding.

4. Failure to Clearly Demonstrate How Personal Data Will Be Used

The website fails to clearly outline how personal data will be processed, stored, and used. There is no visible privacy policy or terms and conditions explaining data handling procedures, which is a fundamental breach of Articles 5, 12, and 13 of the UK GDPR, which require transparency and clear communication about data processing.

Additionally, there is no guidance or disclosure regarding what information is being submitted to the ECU. This means users, particularly minors, have no way of knowing what they are agreeing to, nor what is being written on their behalf. This lack of transparency completely undermines the concept of informed consent.

5. Failure to Meet Basic Data Protection Standards Expected from a Company of RES's Size

Given that RES is a large, well-established company with extensive experience in the renewable energy sector, it is shocking that they have failed to uphold even the most basic principles of data protection. A company of this size and expertise should be well aware of GDPR compliance requirements, yet this website demonstrates a complete disregard for legal obligations at every level.

The absence of clear data policies, proper consent mechanisms, and safeguards for minors makes this website a clear breach of GDPR and Data Protection laws.

2.9 Summary

Given the widespread destruction, not only visually but to the environment, the birds and wildlife in general, the impact on tourism (which has been completely disregarded), and the likely impacts on residents mental and physical health, one would assume a developer could at least make a concerted effort to really connect with the community. The sheer impudence of RES staff having never even set foot on these hills that they are intent on destroying leaves us astounded.

Such is the widespread outrage at this development that our Facebook group had over 1,000 members in less than a month and sits on average, at around 1600 members. Every exit poll and community council event has returned with the same answer, **this development is not welcome here, it is not the right place, it is not even needed**, yet the Scottish countryside is being auctioned off to the highest bidder at the behest of the Scottish Government. Soon there will be nothing left to see but industrialisation. Scotland's carbon footprint, measured by its greenhouse gas emissions, represents roughly 0.1% of global emissions. This figure is based on Scotland's net carbon dioxide emissions in 2020, which were estimated at 26.3 MtCO₂e. Global carbon dioxide emissions in 2020 were estimated at 36 GtCO₂e. Complete destruction of Scotland to this industrialisation will provide no impact at all on the world's climate crisis; it would be far better to protect our environment than to destroy it in order to provide energy for elsewhere. You can't call it green just because the environmental destruction is happening in another country. Fury is growing across many rural communities in Scotland as our voices and concerns are ignored. **Our local communities object to this application in the strongest possible terms and there is evidence to support this.**

The consultation process conducted by RES in relation to the Blair Hill Wind Farm has not met the standards of transparency, inclusion, or fairness expected in a democratic planning system. The consultation was perceived locally as manipulative, poorly executed, and undemocratic, with clear procedural gaps and ethical concerns.

We urge the Energy Consents Unit and Scottish Ministers to take seriously the failures highlighted here and demand a reset: one that prioritises genuine public engagement, transparency, and respect for the people who actually live in these hills.

Chapter 3: Statutory & Policy Framework

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Chapter 3: Statutory & Policy Framework

The Blair Hill Wind Farm proposal (ECU00004878) is fundamentally inconsistent with key national and local planning policies. RES has selectively interpreted National Planning Framework 4 (NPF4) and Dumfries and Galloway Local Development Plan 2 (LDP2) to justify the project while ignoring critical constraints and adverse impacts.

3.1 Key Policy Conflicts

The proposal contravenes multiple policies within NPF4, LDP2, and other national planning guidance, including:

Policy	Conflict
NPF4 Policy 3 – Biodiversity	The development will damage peatlands, habitats, and protected species, failing to "protect, restore and enhance biodiversity."
NPF4 Policy 4 – Natural Places	The wind farm threatens the Galloway and Southern Ayrshire Biosphere and Galloway Dark Sky Park, designated for their outstanding natural and cultural heritage.
NPF4 Policy 5 – Soils	The site contains deep peat, and the proposal fails to demonstrate how soil disturbance will be minimised or mitigated.
NPF4 Policy 11 – Energy	The proposal fails to demonstrate a net benefit to Scotland's energy mix, given existing surplus capacity and grid constraints.
NPF4 Policy 16 – Quality Homes	The turbines will be located too close to residential properties, harming residential amenity through noise, shadow flicker, and visual impact.
LDP2 OP1 – Development Considerations	The development fails to safeguard environmental quality and does not respect local landscape character.
LDP2 IN2 – Renewable Energy	The site is not designated as a preferred area for wind energy, and the proposal does not meet criteria for acceptable development.
LDP2 NE11 – Dark Skies	The turbines will introduce aviation lighting, harming the Galloway Dark Sky Park, a UNESCO Biosphere Reserve Core Area.

3.2 Failure to Justify Need for This Development

- Scotland is already on track to meet its 2030 onshore wind targets. There is no demonstrated need for additional capacity at Blair Hill.
- Grid constraints mean excess energy will be curtailed, leading to constraint payments to developers at public expense.
- The proposal is developer-led, not policy-led. RES is pursuing this site purely for financial gain, not based on a strategic national energy need.

3.3 Peatland Destruction and Carbon Miscalculations

- NPF4 and Scottish Government policy prioritise peatland conservation, but the proposal disturbs extensive deep peat deposits.
- The carbon payback calculations are flawed, as they fail to account for full peatland emissions and overestimate fossil fuel displacement.
- The development will not achieve a net carbon reduction and contradicts Scotland's Net Zero targets.

3.4 Landscape, Tourism, and Economic Harm

- NPF4 Policy 4 protects areas with "significant landscape value." Blair Hill forms part of the Galloway and Southern Ayrshire Biosphere, which will be severely impacted by this development.
- The developer's own analysis shows that tourism could be negatively affected, yet they fail to assess the true scale of potential losses.
- Dumfries and Galloway is highly dependent on tourism, particularly in the Galloway Forest Park and Dark Sky Park areas. The risk to tourism jobs and revenue is not justified by the project's negligible economic benefits.

3.5 Conclusion: This Proposal Fails the Planning Balance Test

- The adverse impacts on landscape, ecology, tourism, and local communities outweigh any supposed benefits.
- The developer's justification for the project is weak, and the proposal fails to align with national and local policy priorities.
- The Scottish Government's Energy Consents Unit (ECU) and Dumfries and Galloway Council should refuse consent on the basis of significant policy conflicts and failure to demonstrate public benefit.

Chapter 4: Landscape and Visual Impact Assessment

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Chapter 4: Landscape and Visual Impact Assessment

4.1 Summary of Objections to the Proposed Blair Hill Wind Farm on Landscape and Visual Grounds

This section sets out reasons and evidence for our objection and challenges the developers Landscape and Visual Amenity Assessment, calling into question their methodology and findings with regard to significance. The proposed Blair Hill Wind Farm would create a wide range of unacceptable and significant detrimental impacts on landscape and visual amenity in the Cree Valley and wider landscape area. **On those grounds we object to the proposal.**

4.2 Key Objections

- The proposed development due to its large vertical scale and prominent position within the landscape would be highly visible at distance and would dominate the Cree Valley and the settlement of Newton Stewart, only 2.7km away.
- The site and its surrounding landscape is considered to be of high value and scenic quality and has a rich cultural heritage with many important archaeological assets present within the Coldstream Burn Archaeological Sensitive Area (ASA) close to the Moor of Barclay.
- The proposed development is in contravention of a number of national and local planning policies, including National Planning Framework 4 (NPF4 2023), Schedule 9 of the Electricity Act (1989) and local authority policies laid out in the Dumfries and Galloway Local Development Plan 2 (LDP2 2019).
- There has been very little consideration in addressing impacts via design other than reduction of the number of turbines and lateral extent of the development. The focus appears to have been to reduce adverse impacts on cultural heritage assets but this has largely failed and the settings of these important historic assets is still compromised. In addition there has been little attempt to address widespread and significant Landscape and Visual Amenity issues.
- The proposed development falls within the Galloway Hills Regional Scenic Area, is surrounded by the Galloway Forest Park and is adjacent to the core area of the Galloway Forest Dark Sky Park. All are highly important designations that contribute to the area's exceptional scenic quality and landscape value that draws many thousands of tourists per year. The proposed development will have a detrimental impact on these designations.
- The Galloway Dark Skies Park is the UK's first dark sky park and was awarded Gold Tier status in 2009 due to its exceptional dark skies. The site lies directly adjacent to the core area, with a 250m lit turbine only 150 metres from the boundary and it is surrounded on 2 sides by the dark sky buffer zone. Dumfries and Galloway Council is committed to discouraging light pollution in this zone and also the transition zone in which the development is sited where 'lighting within this zone can directly impact on the quality of the dark sky within the park'
- Introduction of 6 highly visible red aviation warning lights into a dark sky environment which would potentially be visible from many locations within and close to the park is likely to compromise its internationally recognised status.
- The aviation lights will introduce highly visible and man-made intrusive elements into a landscape valued for its dark skies, not just affecting the dark sky park itself but also residents and visitors within surrounding settlements and isolated properties. Even in street-lit environments these red lights will be seen against the dark backdrop of the Galloway hills and light attenuation relating to angle and distance will only have a limited effect.
- The proposed Blair Hill Wind farm will not relate to the existing wind farm pattern due to its distance and difference in scale from operational wind farms. It would set a precedent affecting the primary mountain resource of the Galloway Hills and one of its highly valued coastal landscapes at Wigtownshire Bay.
- The Lamachan /Curleywee Group of Hills which are in close proximity to the scheme, rise to approximately 700m and would be diminished in scale and presence due to the height of the 250m high turbines extending to within 1.5 km of the summits.

- The turbines set on the south western slopes of the hills would be highly visible across the full range of sensitive lowland receptors. These hills form a focal point from these areas and are an integral part of the Galloway Hills Skyline.
- Because of vertical scale, blades and hubs including aviation lights will break the skyline in many views and diminish the experience of more distant views towards the hills in the north and west including the Merrick.
- The turbines lie within two landscape character types- the Upland Fringe LCT 172 and the Merrick Rugged Uplands with Forest LCT181. The Dumfries and Galloway Windfarm Landscape Capacity study (DGWLCS 2017) and the most recent draft consultation document (2024) assessed these as unsuitable for both large (80-150m) and very large (150+m) typology turbines.
- In addition to significant adverse impacts on LCT172 and LCT181 there will be direct impacts on LCT176 Foothills with Forest due to the access track to the development. Also there will be indirect impacts on highly sensitive LCT's within and surrounding the Galloway hills including LCT180-Rugged granite uplands, LCT160-Narrow wooded valley and LCT168-Drumlin pasture in moss and moor lowland.
- The site will be visible from key roads, many of which are promoted tourist routes. The A714 and A75 in both directions will be severely affected, particularly the A714 where receptors travelling north towards Newton Stewart will experience direct uninterrupted views of the scheme for large sections of the road. The network of minor roads that criss-cross the Machars will experience uninterrupted views from certain sections that are on slightly higher ground e.g. Kirkland of Long Castle.
- Receptors using core footpaths and National Cycle Routes within 15km will be substantially affected. Walkers on the Southern Upland Way, particularly on Glenvernoch Fell will experience significant visual disturbance of views to the south-east towards the development. Also summits within close proximity of the site such as Lamachan, Millfore and Garlick Hill, situated 800m from the nearest turbine and renowned for having some of the 'best views of the surrounding countryside' will diminish the experience of hill walkers and other recreational receptors. Newton Stewart, known as the 'Gateway to the Galloway Hills' hosts an annual Walking Festival, now in its 21st year, highlighting the importance of the area as a 'go to' destination to enjoy a rich hill walking experience within a beautiful setting.
- Residential and recreational receptors based in Newton Stewart, Minnigaff and surrounding areas will experience significant impacts from many locations. There are many local paths popular with dog walkers and visitors including Knockman Wood, Penkiln Burn, Wild Wood and Torwhinnoch Hill where there will be reveals of turbine towers, hubs and blades at certain points.
- There are also important ecological designations of regional and national importance close to the site boundary, such as Wood of Cree SSSI and Galloway Oak Woods SAC, which could be indirectly impacted by the development. These designations are incorporated into the RSPB Wood of Cree (Barclye) nature reserve which is an important recreational location offering a range of nature trails. Some of these nature trails are over open areas where there will be significant disturbance of views towards the turbines at close range e.g. Mill Hill trail.

4.3 Key Objections in Relation to the LVIA

- The LVIA chapter and associated technical appendix is weak in terms of detail and there are a large number of omissions which would make it difficult for decision makers, statutory consultees and other stakeholders to make informed judgement decisions.
- One of the key weaknesses in the methodology is that the landscape consultant has chosen not to define certain assessment criteria such as levels of magnitude Figure 6.– Significance does not provide a clear indication on how significance values are derived and how significant and nonsignificant effects are determined. The figure appears to have been constructed to allow for considerable ambiguity in determining levels of significance and as such presents an unusual approach. A standard significance matrix table would have provided better clarity and would have been easier to interpret
- Also in relation to LVIA methodology, visual receptor sensitivity values appear to have been largely underestimated. Although levels of magnitude may vary, based on professional judgement, there is usually a consensus regarding sensitivities of visual receptors in LVIA's which appears not to have been adhered to in this instance. Lower visual receptor sensitivity values will ultimately translate into lower levels of accorded significance.

- Daytime viewpoints remain inadequate, despite advice and suggestions of more appropriate locations offered by Dumfries and Galloway Council and Cree Valley Community Council at the scoping stage. Some selected viewpoints are unnecessary due to distance and should have been replaced by more relevant viewpoints closer to the development. Photomontages from important hill summits in close proximity to the site were omitted and only wirelines produced.
- Due to the sensitivity of the Dark Sky Park and the overall levels of darkness in the area as a whole, as illustrated by figure 6.12: Existing Light Pollution, it would be expected that a greater number of night time photomontages would have been included in the LVIA. There are no night time photomontages from within the Galloway Dark Sky Park at all and viewpoint 5 on the minor road north of Glentroll should have included a night time photomontage as 5 of the 6 aviation lights are visible at this location.
- Assessment of night time effects, particularly in relation to the Dark Sky Park, has been given cursory and dismissive treatment and adverse impacts have been significantly underestimated.
- Dr Lumsden's report on aviation lighting, although informative, cannot be viewed without being mindful that he is (1) a member of the aviation lighting advisory committee, but more importantly (2) he has been commissioned by the developer of the proposed wind farm and therefore concerns whether the report can be regarded as truly independent cannot be dismissed.
- The LVIA contains very little sequential analysis of effects from important roads, paths and cycle routes as requested by the Dumfries and Galloway Landscape Architect in their scoping opinion. This is the case both for the development itself and for the assessment of potential combined cumulative effects.
- The Residential Visual Amenity Assessment is substandard, mainly due to a lack of detail, for visual representation and evidential based arguments. The study area is inadequate given the scale of the very large typology turbines and the proximity of a sizeable population within Newton Stewart. At least 3 properties have not been assessed that lie on or within the 3 km boundary. No reason is given for this.
- Construction effects on landscape character and visual amenity have not been assessed and is at variance with the scoping report where it was implied that these would be considered. Construction effects are different in many ways from operational effects. Such omission is unacceptable and could be considered non-standard practice.

4.4 Conclusions

We conclude that the application for development of very large-scale turbines at Blair Hill, 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.

We challenge some of the findings and conclusions stated in the applicants LVIA and believe that there is substantial argument for reconsideration of some sensitivity, magnitude of change and significance of effect values presented in the assessment.

4.5 Introduction

This section sets out our **OBJECTION** with regard to Landscape and Visual matters including relevant policy and guidance regarding the design and siting of wind farms in the landscape. It sets out reasons and evidence for our objection and challenges the developers Landscape and Visual Amenity Assessment, calling into question their methodology and findings with regard to significance.

Blair Hill Wind farm is a proposed development sited 2.7km north of Newton Stewart comprising 14 turbines, 12 at 250 metres and 2 at 210 metres with associated infrastructure. The wind farm is located on the south west slopes of the Lamachan /Curleywee group of hills within the sensitive and highly valued landscape of the Galloway Hills Regional Scenic Area. The site is immediately adjacent to, and surrounded by the Galloway Forest Park, and is contiguous with the Galloway Forest Dark Sky Park core and buffer areas. Important environmental designations lie in close proximity including the Wood of Cree SSSI and Galloway

Oakwoods SAC. The development would be highly visible from many areas, particularly to the south and west, adversely affecting the important lower lying landscape character types (LCTs) on the Machars peninsula.

The above are key constraints but there are many more including potentially significant adverse effects on cultural heritage, peat, hydrology and ecology. For these reasons this development should have been deemed unsuitable at the feasibility stage by the developer and we concur with Dumfries and Galloway's Landscape Architect that **'Blair Hill is a proposal that should be discouraged at the outset'**.

4.6 Contravention of Planning Policy and Guidance Relating to Landscape and Visual Matters

Electricity Act 1989. Schedule 9 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.

National Planning Framework 4 (NPF4) was introduced in 2023 by the Scottish government. In relation to wind farm development, there is now a greater presumption to consent than in NPF3 but it is also very clear that **'the wrong development in the wrong place will not be supported'**. In this case the Blair Hill proposal is a clear exemplar of this statement and contravenes many national and local planning policies and guidance as set out below:

NPF4 Policy 4 :Natural places: Policy 4 states:

- LDP's should 'identify and protect locally, regionally, nationally and internationally important natural assets'
- 'Development proposals which by virtue of type, location or scale will have an unacceptable impact on the natural environment will not be supported'
- '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'

Policy 4 relates to the following Dumfries and Galloway LDP2 policies:

Overarching policy (OP1)-Development considerations - Of particular relevance is OP1(c)-Landscape which states that developments 'should respect, protect and/or enhance the region's rich landscape character, and scenic qualities' and should take into account the scale and local distinctiveness of the landscape.

Natural Environment (NE1) Regional Scenic Area - This policy seeks to protect RSAs from inappropriate developments and states that developments would only be supported if the RSA 'would not be significantly adversely affected by the proposals.

Natural Environment (NE3) Areas Wild Land Area - This policy is similarly unsupportive of developments in WLAs 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'.

Infrastructure (IN2) Wind Energy - This 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'.

It should be noted that in relation to this policy the council states that acceptability of a development in relation to IN2 is judged with respect to compliance with the Dumfries and Galloway Wind Farm Landscape Capacity Study guidance (DGLWCS) for the host landscape units/Landscape Character types (LCT's) and also with respect to indirect effects on the surrounding units.

It can be demonstrated that the applicant has not adhered to the DGLWCS and therefore has clearly contravened policy IN2-Wind Energy.

Economic Development (ED11) Dark Skies - This policy relates to Dumfries and Galloway Council's 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**'.

Economic Development:(ED 10): Galloway Southern and Ayrshire Biosphere (GSAB) : The policy states that '**the Council supports the designation and aims of the Biosphere...and Development must be appropriate to the role of the different zones within the Biosphere**'. The GSAB board is not supportive of developments in the transition zone that would have a negative impact on the core or buffers of the biosphere or '**its sense of place**'.

In relation to both national and local planning policies, the development, can be considered to be out of character and scale with the surrounding landscape and to be inappropriately located, being immediately adjacent to, and thus impacting upon, protected highly valued landscapes such as the Galloway Hills RSA, the Galloway Forest Park the Dark Skies Park and the UNESCO Galloway and South Ayrshire Biosphere (GSAB). **We consider the 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 the above policies.**

NPF4 Policy 11 Energy - This policy states that development proposals that impact on international or national designations should be assessed in relation to NPF4 Policy 4 (discussed above). The policy also requires that project design and mitigation have to demonstrate how the following impacts are addressed:

1. 'Impacts on communities and individual dwellings, including, residential amenity, visual impact, noise and shadow flicker'
2. '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'
3. Public access, including impact on long distance walking and cycling routes and scenic routes

NPF4 Policy 11 relates to LDP2 policies IN2-Wind Energy, OP1-Development considerations (OP1c-Landscape as described above) and Infrastructure: Renewable Energy (IN1)

Infrastructure: Renewable Energy (IN1) - This policy states that the council is supportive of renewable energy generation and/or energy storage 'which are located, sited and designed appropriately.' Acceptability 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.

In relation to these policies the proposed development has not successfully implemented any embedded mitigation measures to address these issues and should be therefore considered unacceptable. The location and scale of development gives rise to adverse and widespread landscape and visual impacts which cannot be considered to be localised. It is argued that impacts on the natural and historic environment, local communities, residential visual amenity and recreational receptors on long distance footpaths (SUW), core paths and national cycle routes will be substantial and adverse.

NPF4 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.

Policy 29 relates to LDP2 policies IN2 Wind Energy and OP1 (c)- Landscape as dealt with above in relation to NPF4 policy 4 and 11 Other LDP2 policies related to NPF4 policy 29 are OP2 Design Quality and Placemaking and HES6, the historic environment.

OP2 Design Quality and Placemaking - This policy states that ‘Development proposals should achieve high quality design in terms of their contribution to the existing built and natural environment...as well as respecting the important physical, historic and landscape features of the site and its vicinity’.

Historic Environment HES: Gardens and Designed Landscapes - This policy states that the; ‘Council will support development that protects or enhances the significant elements, specific qualities, integrity and setting, including key views to and from, gardens and designed landscapes....including those of the Non-Inventory Designed Landscape and Gardens (NIDL).

It is clear that the proposal does not adhere to the principals of the stated policy, being inappropriately sited and out of scale and character with the surrounding landscape. Adverse effects on heritage assets of national importance close to the site and their setting within the landscape as well their relationship with each other will be disrupted by the development and is in clear contravention of NPF4 Policy 29 and associated policies of the Dumfries and Galloway LDP2.

In conclusion the development contravenes a number of important national and local planning policies and guidance and therefore should be rejected.

4.7 Issues with Siting and Design

The developer states that a number of site selection criteria were applied in order to assess suitability of the site, including consideration of the underlying landscape and its scale, consideration of the size and scale appropriate to proximity to residential properties, sensitive siting to avoid environmental and archaeological receptors, and deploying more efficient and larger wind turbines where they can be reasonably accommodated within the landscape. It is clear that if these selection criteria were correctly adhered to the developer would have dismissed the site as totally unsuitable. We maintain that the principal reasons for selection are commercial and considerations of wind speed and availability of a grid connection.

The development is considered unsuitable for the proposed location because:

- The site occupies a transitional landscape which is regarded as highly sensitive.
- The scale of the development is totally unsuitable as it occupies a highly prominent position where it will be visible from significant distance. The size of the turbines on high ground will dominate the Cree Valley and the nearest settlement of Newton Stewart.
- Due to scale and proximity to Newton Stewart, a large number of residential receptors will be severely affected. The 3km study area of the RVAA is totally inadequate and if this boundary was extended even 500 metres at least 50 additional properties would have to be included in the assessment.

The **Dumfries and Galloway Wind Farm Landscape Capacity Study(DGWLCS 2017)** and an updated draft version (consultation in 2024) highlights the area occupied by the proposed development is unsuitable for both large (80-150m) and very large typology turbines (150+m). The site is in close proximity to a large number of important heritage assets and sensitive ecological sites.

The design of the development also does not adhere to many of the design principles laid out in **NatureScot’s** guidance document ‘**Siting and Designing Wind Farms in the Landscape version 3a (August 2017)**’ and **Dumfries and Galloway’s LDP2 Supplementary Guidance ‘Wind Energy Development: Development Management Considerations February 2020’**

In relation to the **NatureScot** document the guidance states:-

- **'Wind farms should be sited and designed so that adverse effects on landscape and visual amenity are minimised and so that landscapes which are highly valued are given due protection.'** Significant adverse landscape and visual effects would arise from this development impacting the Galloway Hills RSA, Galloway Forest Park and Dark Sky Park. Also indirect effects impact adjoining landscapes of value and sensitivity.
- In relation to scale: **large typology turbines are 'best suited to more extensive, upland areas, and set back from more sensitive upland fringes'.** This can reduce effects on settled smaller-scale valleys and lowland landscapes. The development is sited in a transitional, sensitive, upland fringe landscape close to the sensitive small-scale intimate landscape of the Cree Valley and Newton Stewart.
- **'Care should be taken to ensure that the wind farm does not overwhelm the skyline. Distinctive and prominent skylines should not be interrupted by turbines.'** Turbines would break the skyline from many view points and would compromise the important iconic back drop of the Galloway hills.

The applicant has not effectively mitigated adverse effects in their design iterations. They have reduced the number of turbines from 22 to 14 but all but 2 turbines still stand at 250 metres, the remaining two standing at 210 metres. The applicant appears to have concentrated efforts on reducing impacts on sensitive heritage assets and has paid little regard to Landscape and Visual Amenity issues, particularly regarding impacts to the south and west of the site. The Merrick WLA land area lies only 4.7km north of the site and rotating blade tips will be viewed from the Merrick itself at relatively close proximity and will impact on the special qualities of this designation. Also other areas within the WLA will be potentially affected, particularly at Shalloch on Minnoch.

4.8 Assessment Methods and Significance Criteria

The methodology applied in the LVIA lacks clarity and definition and appears to downplay both sensitivity and magnitude of effect, leading to erroneous conclusions of non-significance of effect.

Table 6.2 Landscape Susceptibility (page 6-16) simply gives a sliding scale of higher to lower landscape susceptibilities with no definitions in between. The table is ambiguous and makes it difficult to determine how judgements have been derived.

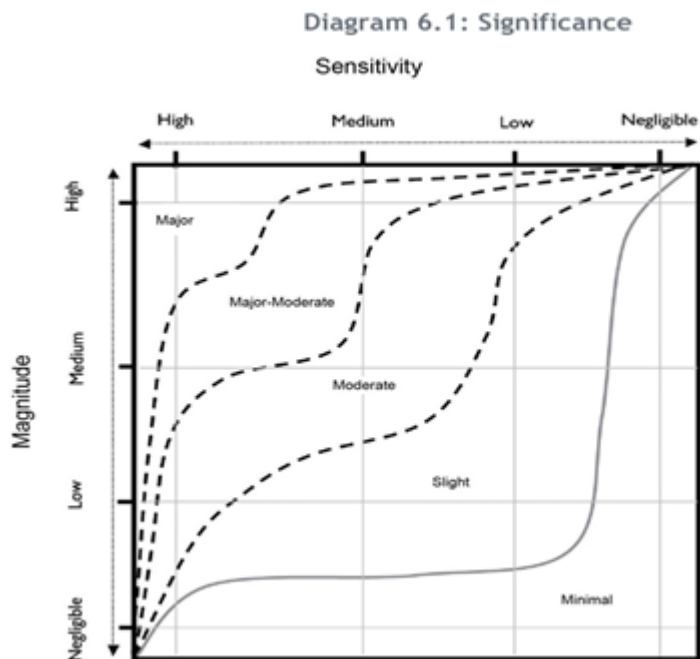
Table 6.3 Landscape Value is also open to criticism (page 6-17). Although local authorities are responsible for designating regional scenic areas, it could be argued that there should be another tier in the table above local, recognising in most cases the greater value and geographic extent that a regional scenic area designation carries. Regional scenic areas often have scenic qualities akin to National Scenic Areas. Dumfries and Galloway's technical paper on Regional Scenic Areas published January 2018 states: 'Indeed, several of our locally designated landscapes bear comparison with nationally designated landscapes elsewhere'. The effect of placing RSA's in this very broad group would appear to devalue this important designation and reduce its landscape value. If a RSA or parts of it have qualities that align with NSA's these should be given an equivalent Landscape sensitivity score of High.

Similarly, Table 6.5 Visual sensitivity (page 6-18) underestimates sensitivity values for regional scenic areas. The Galloway Hills RSA attracts the same high value visual receptors that NSA's do, therefore the highest value visual receptor as defined by Visual receptor group (1) 'Visitors to valued viewpoints or routes which people might visit purely to experience the view, e.g. promoted or well-known viewpoints, routes from which views that form part of the special qualities of a designated landscape can be well appreciated; key designed views; panoramic viewpoints marked on maps.' will apply to visitors to this RSA. This is one of many examples where the LVIA underplays effects, in this case visual sensitivity, by downgrading the value of the landscape visited and the susceptibility of the visitor by applying stringent designation hierarchies. Although designations should be taken into account, assessments should be carried out on a case by case basis as locally designated landscapes can have high value .

Again Table 6.6 Magnitude of effect uses the same sliding scales for magnitude with no definition reference points for high, medium, low, or negligible values which are used throughout the assessment.

4.9 Assessment of Significance

The LVIA assigns significance based on the diagram below:



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The diagram is difficult to interpret without any clear reference points or definitions. It is of interest that between medium to high sensitivity and medium to high magnitude the curve identifying the boundary between major moderate and moderate is steeper (almost vertical) than any other thus pushing more decisions into moderate, which has been deemed to be either significant or non-significant by professional judgement. It is also of interest that not one moderate decision has been deemed significant. The lack of definition of sensitivity and magnitude criteria and also the apparent arbitrary assignation of significance criteria at the moderate boundary using figure 6.1 makes it difficult to understand how conclusions have been reached.

Below is an example of good practice in defining sensitivity values that should have been followed so decision makers have a reference point for assessing judgements in the LVIA.

Sensitivity	Description
High	Residents within the curtilage of their homes; users of outdoor recreational facilities including footpaths, cycle ways and recreational road users; people experiencing views from important landscape features of physical, cultural or historic interest, beauty spots and picnic areas.
Medium	Road users and travellers on trains experiencing views from transport routes. People engaged in outdoor sport other than appreciation of the landscape, e.g. nature conservation, golf and water based recreation.
Low	Workers, users of facilities and commercial buildings (indoors) experiencing views from buildings.
Negligible	People with very low susceptibility to visual change due to the very low quality / value of existing views.

Although it is acknowledged that the assessment of magnitude of change can vary between landscape professionals, landscape and visual sensitivity is usually fairly standardised. In this LVIA there are many examples where sensitivity is different from what

would be expected for particular receptors.

With reference to significance the LVIA states 'Moderate effects are considered to be potentially significant and professional judgment is used to determine whether the effect in question is Significant or Not Significant, with analysis provided to justify the rating'. However there is little evidence of this justification which will be discussed at the relevant section.

4.10 Adverse Effects arising from the Proposed Development

The proposed Blair Hill Wind farm due to its siting and vertical extent would lead to significant adverse effects on landscape character, visual amenity and on important landscape designations such as the Galloway Hills Regional Scenic Area, the Galloway Forest Park, Dark Skies Park and the Merrick Wild Land Area. As well as daytime effects significant adverse night time effects will occur due to the presence of aviation lighting. Daytime and night time effects will be considered separately.

Effects of the proposed development on landscape are considered by examining effects on individual Landscape Character Types (LCT) as defined by NatureScot (and Dumfries and Galloway Landscape Character Assessment). Effects on visual receptors (residents, visitors to settlements, users of recreational routes, public spaces and road users) are evaluated considering a number of representative viewpoints listed in table 6.10 on page 6.47 of the LVIA. The applicant has chosen to create 'visual receptor groups' where visual receptors within close proximity of each other are judged to experience similar visual effects arising from the Proposed Development and are considered together.

4.11 Daytime Landscape Effects

Construction

The applicant claims that construction effects will only have impacts within 2k m and would be no greater than operational effects and therefore will not be assessed. This is unacceptable as construction activities differ markedly from operational ones including views to the site, plant, cranes, temporary borrow pits, road disruptions due to modifications and increase in HGV traffic and activities relating to turbine component delivery. Construction activities will clearly be visible from elevated recreational hills and routes and from lower ground at much greater distances than the 2 km as claimed.

4.12 Detrimental Effects on Landscape Character Types (LCT's)

The development is sited within LCT 172 -Upland Fringe and LCT181-Rugged Uplands with Forest and LCTs affected by the access tracks are LCTs 172, LCT181 and LCT176-Foothills with Forest.

The development will have direct adverse impacts on these Landscape Character Types. Also there will be indirect impacts on highly sensitive LCT's within and surrounding the Galloway hills including LCT180-Rugged granite uplands (LCT21), LCT160-Narrow wooded valley (LCT4) and LCT168-Drumlin pasture in moss and moor lowland (LCT162).

According to the Dumfries and Galloway Wind Farm Landscape Capacity Study (2017) LCT 172- DG(16)- Upland Fringe and LCT181- DG(21a) Rugged Granite Upland with Forest Landscape character types have no capacity for large (80-150m) and very large (150+ m) typology turbines

The developer refers to the site as being on low hills. This is debatable. Given the proximity to the adjacent low valley floor and more distant lowland areas the hills have a relatively high elevation in relation to the surrounding landscape. The turbines are on

elevations ranging from approximately 200m to 400m AOD with blade tip heights ranging from approximately 406m to 641m. This makes the development a prominent addition to the landscape dominating the Cree Valley and the settlement of Newton Stewart.

In terms of the host LCTs, the north of the site cannot be described as having a 'rolling character' but has more of craggy rugged upland feel as befits the LCT181 landscape character definition -Rugged Uplands with Forest. The most northern tip of the site lies within LCT 180 Rugged Upland and the landscape character of the whole northern extent of the site can be considered to bear more relationship with this LCT. This opinion is shared by Dumfries and Galloway Council's landscape Architect who in response to the scoping report stated: 'the landscape occupied by the north west Blair Hill turbines are not typical of the Rugged Granite Uplands with Forest (LCT 181-LCT 19a). The turbines would occupy an open tract of the uplands, more typical of the Merrick unit of Rugged Granite Uplands (L180-LCT 21), with which the site is continuous, lying immediately to the north'. Four of the turbines still occupy this area referenced by the DGC Landscape architect.

The applicant has down played the sensitivities of LCT 172 and LCT181 as high-medium and high to high-medium (these broad ranging sensitivity scores are unhelpful) respectively The DGWLCS assessed both of these landscape character types as having high sensitivity and this value should be applied in the assessment. It is curious that the live, comparable Glenvernoch application LVIA assessed the same LCTs as having high sensitivity. It casts doubt on the validity and the rigour of the applicant's LVIA process applied by this applicant. In addition the Glenvernoch application LVIA also assessed LCT174 as having high rather than medium sensitivity, as assessed in this LVIA. The DGWLCS also assesses this LCT as having high sensitivity to very large typology turbines.

4.13 Evaluation of Important Neighbouring LCTs

LCT160 Narrow Wooded Valley-Dumfries and Galloway (1.6 km south)

The LVIA has assessed LCT160 as having medium sensitivity when DGWLCS assessed this as having high sensitivity, to very large typology turbines, due to its small scale nature. The Glenvernoch application LVIA has also assessed this as high. Interrogation of the ZTV and local knowledge of the Cree and Penkiln valleys can confirm that the magnitude assessment of medium to low is inappropriate. Magnitude of effect is better assessed high-medium at certain points in the LCT particularly from between Peninghame to Newton Stewart where there are open views towards the development, as evidenced by vp26 - Challoch Church, and in the Penkiln Burn valley, as evidenced by vp20 - Monigaff Church. Also it can be demonstrated that there will be extensive views from the Sparling Bridge in the southern tip of the LCT, where all 14 turbine hubs and many turbine towers will be perceptible. At some points within the LCT enclosure will reduce magnitude to low. Overall effects will be of medium magnitude which will result in a Major-moderate Significant effect and not as the LVIA concludes as Moderate-slight (Not Significant) and Adverse.

Large-medium scale effects extend further out into the surrounding hills than assessed particularly to Millfore and Drigmorn Hill. It cannot be agreed that effects on the coastal landscape character type incorporating Cairnsmore is a small-scale effect and should be considered to be at least medium.

LCT181-Rugged Uplands with Forest (7.8 km east)

There will be indirect effects perceptible from LCT181, further away from the site. This is the case for local peaks such as Craigmurchie, rocky outcrops and open unforested areas.

LCT 168 Drumlin Pasture in Moss and Moorland

Again the sensitivity value for this LCT assessed as medium-low widely differs from the DGWLCS and Glenvernoch application

assessment value of high. From review of vp9 Kirkcowan it cannot be agreed that there will be small scale effects up to 14.5km and the magnitude should be assessed as medium in this instance

LCT158 Coastal Flats incorporating Creetown and Wigtown

Once again sensitivity differs from the DGWLCS and is assessed as high-medium as opposed to high. From assessment of vp8 Creetown and vp10 Wigtown, the magnitude of effect on the LCT cannot be described as low and more appropriately should be assigned medium.

LCT179 Coastal Upland

Cairnsmore of Fleet is an important and defining landmark in this LCT and the proposed development would bring a large wind farm in close proximity to it as shown by vp6. Sensitivity in the LVIA is judged to be high-medium with effects resulting in a low level of magnitude of change. This again is at odds with DGWLCS where high sensitivity is accorded. It cannot be agreed that the magnitude of effect is low and would be more accurately assessed as medium. Wind farms in the view are at distance so, although noticeable, they have minimal effect on the quality of this LCT.

LCT169 Drumlin Pastures

This is a large LCT lying within the Machars peninsula and is particularly sensitive to wind farm development, not just within the LCT itself. DGWLCS states **“The Drumlin Pastures are particularly sensitive to wind farms sited in adjacent landscapes towards their margins where turbines on nearby back drops and sky lines can dominate the smaller scale of the farmed and settled landscape, and impinge on the setting of features within them, detracting from general visual amenity and views. Extended and multiple developments in surrounding uplands could dominate landmark features, or successively, surround the area and would be seen from well used roads and settlement”**. The applicant has judged sensitivity to be medium-low, but as evidenced by the above statement this is unacceptable. Magnitude of effects would NOT be small scale as also illustrated by viewpoint 10 from the minor road north of Wigtown. The development will be a dominating presence within this LCT. Magnitude of effects are judged as Low magnitude. Slight (Not significant) and adverse but are more accurately assessed as Medium-low and Moderate significant effect.

LCT 176 Foothills with Forest

The access track of the proposed development is situated in this LCT and the fabric of the landscape will be damaged by the removal of some areas of potentially ancient woodland, independent of other indirect effects from the site itself. The applicant has judged sensitivity to be high-medium to medium (again this wide spread of sensitivity is unhelpful) when DGWLCS has assessed the LCT as having high sensitivity . Magnitude of effects have been deemed to be Medium-low to low in the LVIA. Taken into account both direct and indirect effects the magnitude of change should be at least medium therefore resulting in a Moderate Significant effect.

4.14 Conclusions on Assessment of Landscape Character Day Time Effects

The applicant has used the presence of turbines in neighbouring LCTs as justification for reducing sensitivity values throughout the assessment. We do not agree with this blanket approach and argue that a more in depth analysis of how the proximity and scale of distant turbines affects specific LCTs should be carried out. To our knowledge this has already been done and incorporated within the assessment of sensitivity values stated in the DGWLCS and as such the sensitivity values of this document are considered to be more accurate and, we contend, should have been adhered to in this report.

As discussed earlier it is contentious that Landscape Value, as defined in table 6.3 showing categories of National and International /Local-District/Community/Limited should be rigorously applied and effectively downplay the value and consequently the sensitivity of important landscapes outwith NSAs and international designations. It is acknowledged that GLVIA 3 makes references to these categories but it also states in its technical guidance note 02/21, regarding criteria for assessing landscape value that are not national designations, 'to consider natural heritage; cultural heritage; landscape condition; associations; distinctiveness; recreational value; perceptual (scenic) qualities; perceptual (wildness and tranquillity) qualities; and function.' The Galloway area has a distinctiveness and perceptual quality not found anywhere in Scotland or the UK and this is one of the reasons that it has been taken forward as the next potential National Park. Also its distinct qualities are recognised by Dumfries and Galloway in their RSA technical paper assessment for the Galloway area including the Galloway Hill's RSA.

4.15 Night Time Landscape Effects

The developer acknowledges that there will be significant day time effects on LCTs 172, 180 and 181 which occupy the site but maintains there will be no significant night time effects citing the reporter's decision in relation to Crystal Rig IV, which states "It is noted that the Reporters conclude that proposed aviation lighting would be a visual impact alone and consider that without being able to see and fully appreciate the features of the landscape and the composition of views, it is not possible to carry out a meaningful landscape character assessment. The Scottish Ministers concur with this conclusion"

We cannot agree that night time effects on landscape character should not be considered. Turbine aviation lighting is a relatively new phenomenon and the reporter in the Crystal Rig IV may have misjudged that landscape character as it is not just about what you can see. Landscape character, it can be argued, is about a perceptual quality and expectation and in this case, maintenance of a dark sky within and close to the Dark Sky Park is crucial for this element of the landscape character integrity. Also aviation lights are visible at both dawn and dusk where important elements of the landscape are still visible, albeit against an increasing or decreasing darkness of the sky. At such times iconic land forms, hills and mountains are discernible silhouetted against the sky and are therefore still contributing to landscape character.

NatureScot writes in their aviation lighting guidance 'As many landscape features become less distinct in low light conditions, at twilight, during the night and at dawn - with only natural ambient lighting from the setting sun, moon and stars - perceptions of darkness and remoteness may become heightened as constituent elements of landscapes, where they are uninterrupted by artificial light. These elements are implicit in the enjoyment and appreciation of many rural settings, where the natural beauty of the night sky is often important.'

The introduction of 6 highly discernible, red, incongruous, warning aviation lights into an area celebrated for its exceptional dark skies is unacceptable. Even outwith the DSP the whole area is appreciated for its dark skies by both residents and visitors alike and on the outer fringes of settlements exceptional levels of darkness can be experienced that can invoke a sense of awe when looking up at the night sky.

4.16 Daytime Visual Effects

Viewpoint assessment

Representative viewpoints selected by the applicant is shown in table 6.10 of the LVIA. The following discussion concerns only viewpoints where we believe there has been a substantial underestimation of effects and/or where we have specific comments to make.

Viewpoint 1: Drumwhirn Cairn, Moor of Barclye. (2.6 km south-west)

The applicant has rightly assessed this viewpoint as Major significant but visual receptor sensitivity should be assessed as high

and not high-medium and scale of effect as Large not Large-medium. Drumwhirn Cairn forms part of a promoted waymarked circular walk from the Wood of Cree across Mill Hill (another important recreational location) with open views to the turbines towards Drumwhirn Cairn and across the RSPB Barclye Moor nature reserve. This area has significant recreational value and the nearby nature reserves are a haven for wildlife and a destination for migrant birds. The presence of the Blair Hill wind farm will result in unacceptable detrimental impacts on landscape and wildlife alike.

Viewpoint 2: Corsbie Road, Newton Stewart (4.5 km south)

This viewpoint is evidence of the significant adverse impact the proposed development will have on residents, recreators and road users of Corsbie Road and indeed the whole of Newton Stewart - a town of over 4000 people. As accepted, residents are usually regarded as high sensitivity receptors and the magnitude of effect cannot be assessed as medium; at least a value of high-medium should be assigned. It is acknowledged that the applicant assessed this viewpoint as major-moderate and significant but sensitivities and magnitude have been downplayed within this LVIA. The viewpoints for Newton Stewart and Minnigaff are totally inadequate, given the size and scale of the development, its prominence in the landscape, and the proximity of the development to a town.

Viewpoint 3: Sustrans National Cycle Route 73/A714 south of Newton Stewart (6.4 km south)

This is a promoted Sustrans national cycle route with prominent views to the development along a large stretch of the route. The applicant consistently assesses sensitivity of cyclists as medium when it is usual to assess this group at least high medium. In this case both leisure cyclists and pedestrians use this dedicated cycle way which leads into Newton Stewart and their sensitivity could be described as high. Also the A714 towards Newton Stewart from Wigtown forms part of the SWC300 promoted tourist route. Impacts from this road are high with long stretches of the road having uninterrupted views towards the site. These road users should be considered medium-high and not medium as assessed by the applicant, therefore this would lead to significant effects.

Viewpoint 4: Glenvernoch Fell/Hill of Ochiltree (8.6 km west)

Sensitivity of receptors on long distance footpaths such as the SUW are usually regarded as high. The scale of effect is more accurately described as large-medium evidenced by the photomontage with magnitude best described as a high-medium therefore this would be regarded as a major-moderate and significant effect. The relatively close proximity, at only 8.6km to the nearest turbine, and the scale of the wind farm is such that currently open and unobstructed views to the south-east will be dominated by turbines. The turbines will substantially impinge on the skyline with 10 hubs and blades forming prominent and incongruous features above the natural profile of the hills.

Viewpoint 5: Minor Road North of Glentrool Village (8 km north-west)

This viewpoint is the only one within the forest park at ground level where photographic/evidence wirelines are provided. Users of the Galloway Forest park would normally be assigned a high sensitivity and so a small scale of effect and low magnitude would result in a moderate and significant effect and not a slight and not significant effect. The viewpoint information is misleading as there is no photomontage in the direction of Blair Hill but the wireline along with the base photograph shows likely visibility of the turbines. Also there is an error in the coordinates on the viewpoint 5 sheet with the northing labelled as 79128 (presumably meant to mean 57918). This viewpoint has been assessed separately for night time aviation lighting, showing 5 turbine lights visible and therefore a night time visualisation should have been produced as well in addition to a daytime one.

Viewpoint 6: Cairnsmore of Fleet. (8.6 km south-east)

This an important viewpoint location for visiting and local recreational users and is correctly assigned to high sensitivity. The view from Cairnsmore, although having visibility of operational wind farms, they are sufficiently separated not to feel an impingement

into the middle ground of the view which Blair hill, if consented would introduce. As such the scale of effect and magnitude would be at least medium and therefore Significant.

Viewpoint 7: Merrick (11.3 km north)

The Merrick is an important focus of the wild land area and is extremely sensitive to wind farm development. Both bare earth and woodland/settlement ZTVs show some visibility of blade tips in the upland area surrounding the Merrick and approaches to the summit. Although there are only 2 blades tips showing on the Merrick summit (the text reports 3) the constant presence of these on access tracks towards the summit (where it may be possible to see more than 2-3 blade tips dependent on position) will be an unwelcome addition to the view and detract from the sense of wildness and tranquillity that the Merrick WLA is renowned for. The development is only 11.3 km away, bringing a wind farm closer than any other operational or consented development.

Viewpoint 8: A75 near Creetown. (13.1 km south-east)

The photomontage highlights the prominence and visibility of the development along this section of the A75, which forms part of the SWC300 tourist route and there will be also significant effects on recreational receptors visiting the caravan parks in this area. Recreational receptors and residents should be considered high sensitivity, with road users high-medium. The scale of effect is high-medium with medium magnitude, resulting in a significant effect. The turbines will be highly visible for users of the A75 moving towards Creetown and Newton Stewart for long stretches of road. All hubs and 9 turbine towers are clearly in view.

Viewpoint 9: Kirkcowan (12.7 km west)

The development introduces turbines into a view that is scenic and unspoilt and will have impacts for residents and visitors of Kirkcowan. The development will be clearly seen from the bowling green within the village, just a few metres from where the viewpoint is located as well with other locations within the village (with backs of houses facing the development) and surrounding roads. The scale of effect and magnitude would be more correctly assessed as medium and not medium-low and medium-small.

Viewpoint 10: NCR73 on minor road north of Wigtown. (14 km south)

This viewpoint is marginally further away than viewpoint 9 but shows turbines in a highly prominent location interrupting a stunning panoramic view with the Galloway Hills as a backdrop and defining what the Galloway Hills represent. This shot is rather damning, considering the distance of 14km, and illustrates how adverse the impacts are at significant distance. The conclusion that scale of effect is small and magnitude is low therefore slight and not significant cannot be agreed. This should be revised to a medium scale of effect and medium magnitude leading to a major-moderate and significant

Viewpoint 11: Bengueina lookout (14.1 km east)

This is a promoted viewpoint which will bring a large wind farm closer into the view that any operational or consented wind farm disrupting scenic long distant views. It is of particular note from the wireframes that there are very few wind farms in the direction of the development with the nearest wind farm, Airies, being 30.1km away and barely perceptible. Sensitivity of receptors will be high and scale of effect medium-small and magnitude medium-low leading to a moderate and significant effect

Viewpoint 20: Monigaff Church. (3.4 km south)

It is claimed this viewpoint is representative of views from Minigaff and is the closest residential viewpoint at 3.4km assessed by the applicant. The conclusion is that effects are major-moderate and significant but it cannot be agreed that scale of effect and magnitude is medium and would more correctly be assessed as high-medium in both cases. This is a road that links Cumloden

Road to Wood of Cree passing Knockman Wood, both important recreational locations frequently used by visitors and locals. Also it is a slow narrow road where views to the site can be seen approaching Knockman wood. In this case road users should be deemed high-medium and therefore also significant. Scale of effect is more appropriately assessed as high-medium and magnitude as high-medium resulting in a major and significant effect. The ZTV's and also google modelling show that residents, visitors and road users will have significant views of turbine hubs from many locations within Minnigaff which will be particularly noticeable on higher ground including Bower drive.

Viewpoint 21: Lamachan (3 km north-east) and Viewpoint 22: Millfore (5.4 km north east)

It is of note these important landmark hills rising to 717m and 656m respectively and extremely close to the development were never climbed to assess the viewpoints and produce photomontages. Only wireframes were produced; this is unacceptable. These hills have high recreational value and therefore high visual receptor sensitivity and not high medium sensitivity as assigned by the applicant. The wireframes produced show the scale and proximity of the turbines, indicating that scale of effect should be large and magnitude should be high, resulting in major and significant effect.

Viewpoint 23: Meikle Millyea (12.3 km north-east)

Meikle Millyea forms part of the Rhinns of Kells and the ZTV's show there will be substantial visibility of both hubs and blades from the surrounding landscape. Although there is a slight moderation of impact due to distance and topography, the development will, due to scale, introduce industrial elements into the landscape with 7 full hubs and parts of towers, 4 with the hubs just visible and 2 blades visible in clear views. The nearest wind farm is 15 km distant in the Glenkens and in the opposite direction to Blair Hill, the next nearest is 27 km west from the summit and therefore the view in the direction to Blair Hill is not significantly affected by wind farms. In view of this the sensitivity would be regarded as high and a magnitude of medium, resulting in a major-moderate significant effect.

Viewpoint 25: Penninghame Estate Pond, Castle Stewart (4.3 km)

This is a popular pleasant woodland experience incorporating a pond, a network of paths and a picnic area covering 14 acres. This is an example of a viewpoint with marginally screened views (see vp25) that still experience impacts due to the proximity and scale of the turbines. Although within woodland, there are a number of locations where the turbines may be seen, at least in part. Our assessment shows that scale will be medium with medium magnitude but with high recreational sensitivity value leading to a major-moderate significant score. Also in relation to night time assessment this location is one of the dark sky park monitoring locations for SQM readings which monitors the luminance of the night sky.

Viewpoint 26: All Saints Church Challoch (4 km)

This viewpoint shows the large adverse impact the development will have on the Cree Valley and surrounding landscape. As evidenced by the photomontage, views from the church show all 14 turbines will be highly prominent with 8 almost full length towers visible and 6 with hubs and partial towers visible. All Saints is a working church with the entrance facing the development but there is no mention of assessment of residents and/or congregation in this viewpoint assessment. The applicant has assessed this correctly as significant but only as major-moderate with High-medium magnitude and high-medium sensitivity. Due to the closeness of the turbines and the openness of the view with large numbers of full towers showing this would be more correctly assessed as High magnitude and high visual receptor sensitivity resulting in Major-Significant.

4.17 Visual Receptor Groups

The applicant has chosen to create 'visual receptor groups' where visual receptors within close proximity of each other are judged to experience similar visual effects arising from a development often bringing together the assessments from relatively close

viewpoints over a defined geographic area. Although this is an approach that can be used, sensitivities of visual receptors can differ as part of a visual receptor group leading to averaging of sensitivity values that can bring final values down and reduces significance.

There are only 8 visual receptor groups taken forward for assessment - as shown in Table 6.9.

4.18 Critique of Applicant's Assessment of Visual Receptor Groups

VRG 1: Moor of Barclye wider area - represented by vp1-Moor of Barclye

Viewpoint 1 illustrates the substantial impact this development will have looking towards Larg Hill and the surrounding landscape. Core Path 416 crosses the RSPB Moor of Barclye reserve and runs close to Coldstream Burn, an Archeologically Sensitive Area linking up with the network of paths in Knockman Wood and Garlies Castle (core path 363 network). These are important recreational routes and the development will be viewed from many points along these paths. The applicant claims that there will be negligible visibility in and around Knockman Wood, but both daytime ZTV and the night time lighting ZTV figures show visibility of turbines along some paths and at the cairn at Knockman Hill. The proximity of 2 turbines close to the northern edge of wood, as evidenced by the cultural heritage viewpoint CH6 Drumwhirl Cairn, illustrates it is likely that these will be seen over the tops of trees within the wood itself both during the day and at night. The development is highly visible approaching Knockman Wood from the Wood of Cree road and also on the eastern side of the wood where tree cover is less dense and also leaving Knockman Wood to the east where largely open views can be gained of the development. Also part of the 363 core path network runs along the Penkiln Burn with largely uninterrupted views of the development linking a path entering into Knockman Wood where the development will also dominate the view. Our assessment for the wider geographic area is Major- Significant and in the south of the VRG is moderate-significant

VRG2 Lamachan Hill/ Curleywee Group of Hills: represented by vp21-Lamachan Hill and vp22-Millfore

The adverse impacts of the development from these hills due to their elevation and proximity are of significant concern. It is disappointing and unacceptable that the applicant has chosen only to provide wireframes for Lamachan and Millfore, and not include photomontages. The excuse that it was considered disproportionate to expect every hill to be climbed, and that wire frames were sufficient to illustrate impacts, is highly disrespectful and unprofessional. We maintain that a viewpoint cannot be assessed if it has not been visited. The applicant should make sure enough resources are available for the assessments to be rigorous when iconic landscapes are at stake and large numbers of people will be affected. Garlick Hill a smaller hill at 445 metres but closest to the development at approximately 850 metres from the nearest turbine, has not been assessed despite being requested by Dumfries and Galloway Council. It is unacceptable that the applicant has not provided a wire frame from this location. High impacts will be experienced (ref. Glenvernoch application ECU00004892 cumulative wireframe from vp14). This hill 'compensates for its lack of stature by offering arguably the finest closeup view of the Minnigaff mountains from the South'. We contest that recreational receptors visiting are high-medium rather than high sensitivity and effects should be assessed as a high magnitude of change and as Major and not Major Moderate.

VRG3: River Cree and Penkiln valleys: represented by vp2-Corsbie Road, vp20-Monigaff Church and vp26-Challoch Church

These are said to be representative view points from Newton Stewart and surrounding area but the LVIA grossly underestimates the extent of visibility from many areas of Newton Stewart and Minnigaff as illustrated by Figure 6.7 Woodland and settlements ZTV.

Due to the scale of the development and prominence of the site, the Corsbie Road viewpoint vp2 and Challoch Church viewpoint vp26 both approximately 4km away, illustrate the level of significant impacts experienced from these locations. It cannot be agreed

that scale and magnitude of effects from both Corsbie Road and Monigaff Church are medium. We maintain that the level of effect is more appropriately at least high-medium and of a Major-Moderate significant effect.

There are open views to the development from residential properties on the Wood of Cree Road close to Kirkland Farm which will be subject to significant impacts. Residents on or near Cumlodan Road, the main route through old Minnigaff, will have views of the turbines at many points.

Due to the scale and proximity of the development even partial views that reveal a number of turbine hubs, partial towers and full blade lengths can be considered significantly adverse and such views will be extensive in both Newton Stewart and Minnigaff. The viewpoint from Challock Church shows all 14 turbine hubs will be perceptible with only 4 turbine towers substantially screened

The applicant confirms effects on the Cree Valley, north-west of the Newton Stewart: 'To the north west of the town, along the valley of the River Cree, there would be stretches of the valley with relatively open views towards the Proposed Development, with intervening landform screening parts of some of the turbine towers'.

The applicant maintains that effects from the centre of Newton Stewart are negligible, however it can be demonstrated that significant views of all 14 turbines can be viewed from the Sparling Bridge right in the heart of the town and views of 9 hubs and 9 sets of blades would be seen from outside the Royal Bank of Scotland on the High street. The close proximity of the development will make the movement of the blades discernible and eye catching, creating an even greater visual intrusion.

Paragraph 6.7.87 claims that the nacelles are about at the level of the hilltops. Vp2 clearly shows that this is not the case with 11 nacelles/hubs breaking the skyline. The viewpoint also illustrates how the scale of the development is not in proportion to the landscape.

This is also true for the vp20 Monigaff Church where the applicant admits 'all of the turbines would break the skyline, but would be partially screened by vegetation and trees'. The close proximity of the turbines is such that the effects are not substantially diminished by sparse screening.

VRG4: Merrick and the Rhinns visual receptor group.

Viewpoint 5 - Minor Road North of Glentworth is not representative of this receptor group and is therefore not appropriate for assessing effects. It is over 5km distant from Bruce's Stone, the main access point to the Merrick, and would be more appropriate in assessing effects on the Forest Park itself. However there has been very little assessment of effects even from this viewpoint as there has been no day time or night time visualisations carried out.

The Merrick Wild Land area lies only about 5 kilometres from the nearest turbine and although it would appear there is limited visibility from the Merrick itself, with 2-3 blade tips visible (the wireframe and narrative disagree), the closeness of such industrial elements being only 11km kilometres distant along with the perceptible movement of the blade would have the potential to impact on the wildness and the sense of tranquillity from the summit and from wherever they were visible in a way that more visible distant wind farms do not. Also it is noted that the summit of Shalloch on Minnoch/Shalloch will experience distant views of two hubs from approximately 16 km away.

The Meikle Millyea viewpoint 23, representing views from the Rhinns of Kells at 12 kilometres, illustrates significant intrusion from the Blair Hill wind farm development as there are no other noticeable wind farms in that direction of view, the nearest being 27km distant to the west. This should be assessed as Major-Moderate and Significant

VRG5: Cairnsmore of Fleet viewpoint vp6

From the vp6 photomontage the Blair Hill turbines are clearly noticeable in the view towards the middle distance against a backdrop of distant turbines of the Wigtownshire cluster. Receptor sensitivity is high and the development takes up more than 50% of the view in the image, leading to a medium magnitude of effect resulting in a Major-moderate and significant effect and not moderate-not significant as concluded by the applicant. Cairnsmore is an important recreational location where 360 degree panoramas can be gained across the surrounding landscape. Although there are views out to wind farms in the north west, they are at sufficient distance not to detract substantially from scenic views of the intervening landscape. Blair Hill alone would be detrimental but cumulative impacts from both Glenvernoch and Shennanton would fill the view; advancing a wind farm landscape to the north-west with severe adverse effects.

VRG6: River Cree Valley and Wigtown Bay including Wigtown vp3, 8 and 10

Vp3 from the A714/SustransNCR73 route shows substantial and significant adverse effects are likely, due to the prominence of the site. The LVIA states that major roads will be assessed separately and this is of vital importance as the A714 and B roads connecting to it, e.g. at Culquhirk with views of all turbine towers perceptible against the Galloway Hills, will be substantially impacted. Vp10 shows views from the minor road north of Wigtown, which also is part of the NCR73 cycle route; this extra distance does little to diminish effects as all turbines and most towers are in full view.

Vp8 from the A75 at Creetown is not a particularly good photomontage with some turbines not clearly reproduced. Worst case scenarios should always be presented, whatever the conditions, and should provide a realistic illustration of what the development will look like. Irrespective of the poor quality, this photomontage and that from vp10 illustrates a significant adverse effect even at distances approaching 14km. The Creetown photomontage shows 9 turbine towers and 5 hubs, making the development a highly prominent feature visible on the A75 at this point and affecting recreational receptors using the Castle Cary caravan park.

Photomontages of all three viewpoints 3, 8, 10 show high visibility and prominence with hubs and blades breaking the skyline with significant impacts. The cycleway is a recreational route for leisure cyclists and pedestrians and the view to the development is extensive and dominating. This cycleway, being off the road, has a higher degree of safety than for cyclists on the road and there is opportunity to stop and take in the view. The applicant has consistently downgraded the sensitivity of cyclists to medium which is usually regarded as at least high-medium. This should particularly be the case for dedicated cycle ways in scenic environments.

VRG 7: Effects on Drumlin pasture settlements including Kirkcowan and Wigtown

This is represented by vp9 Kirkcowan , vp10 North of Wigtown and vp12 Mochrum lochs

Vp9 at Kirkcowan shows prominent views towards the development with 12 full towers revealed. This road runs into Kirkcowan main street and there are open views from the street including from the bowling green and from the rear of properties orientated towards the development. Again, because of the high visibility and scale of the site, the 12.7 km distance does little to diminish adverse impacts. This also the case for vp10 where views are also extensive.

Because the Machars is largely low lying and criss-crossed by a network of roads without any significant elevated intervening landform the development will often become visible, particularly on some marginally higher areas e.g. Kirkland of Longcastle. Even with increasing distances significant visual intrusion will occur. Magnitude in this instance is best described as medium.

Also, within Wigtown itself, there are some views towards the site from key recreational points such as the Martyrs Stake and points on Lover's Walk.

VRG8: Viewpoints representing moorland landscapes west of the site

Viewpoint 4 shows the view from the SUW at Glenvernoch Fell. Although there are a number of wind farms visible from this viewpoint, the nearest being 8 km away at Airies and Kilgallioch, the view looking towards the proposed site against the backdrop of the hills is currently unspoilt and has high scenic value, as evidenced in the photomontage and wirelines. It should be considered important to ensure that long distance scenic paths and promoted viewpoints should not be completely surrounded by wind farm development. Eleven turbines break the skyline and their vertical extent viewed at this point on the Fell is out of scale with the underlying topography. In combination with Glenvernoch Wind Farm, should it be consented, the significant adverse effects would be magnified to make this section of the SUW an unpleasant walking experience.

4.19 Road Assessment

A712 (3.3 km west)

The A712 an important promoted tourist route running from the A75 near Newton Stewart through the Galloway Forest Park to New Galloway, only 3.3 km from the development, referred to as Queensway. The road is a pleasant winding drive with a high scenic quality with many important tourist 'stops' on the way with a new dark sky observatory planned at Clatteringshaws Loch.

The Dumfries and Galloway Landscape Architect requested a photomontage from this section but the applicant declined. The Landscape Architect comments: **'the A712, an iconic tourist route, approaching Newton Stewart would also be disrupted. These views from the road are particularly sensitive in terms of the finale of the drive, where the road exits forest cover and attention focuses on the quite different valley and coastal scenery'**.

Although there is some screening of the development by landform and roadside vegetation, clear visibility is experienced from sections of the road, particularly around Glenamour. Due to the proximity of the development and importance of the route a viewpoint should have been considered from a 'worst case scenario' section of the road. It cannot be agreed that users of this road are medium sensitivity and should be assigned at least high- medium sensitivity for reasons highlighted by the council's Landscape Architect.

The road would require comprehensive modification including widening, reinforcing and the removal of large numbers of roadside trees and vegetation. These effects, including the high volume of construction traffic and AIL delivery of turbine components, would result in unacceptable and significant adverse effects to the road and surrounding landscape and have detrimental impacts on tourism. It is noted that the access track itself from the A714 to the site appears to follows a section of a recreational traffic free cycle route towards Auchinleck on a section of the old Edinburgh road.

A714 north of Newton Stewart

The closest views of the development would be from north of Newton Stewart running to Penninghame, where there are large scale open views of the development in both directions as evidenced by vp26 Challoch Church. The development is obliquely viewed but is highly visible due to open views and very little screening vegetation. The magnitude for this section should be a high-medium-moderate resulting in a major-moderate effect.

A714 South of Newton Stewart

A714 south of Newton Stewart towards Wigtown is promoted as a tourist route. The biggest impact is driving north from Wigtown and also from roads joining the A714 e.g. Culquhirk junction towards Newton Stewart. The effect is dramatic, due to the elevated position and scale of the development, with large stretches of road having uninterrupted head on views and it is unacceptable for the applicant not to provide a photomontage along this section of road. An excuse was that it was unsafe to stop, however there are plenty of safe 'pull in' opportunities for photography and a suggested location would be Baltersan (approximately E242244 ,

N561488). Views from this road provide a highly scenic panorama of the Galloway Hills, arguably the best in the area, and the development would cause significant adverse landscape and visual effects that are unacceptable. Viewpoint 10, the minor road north of Wigtown, is not a suitable surrogate, as suggested, as the distance and slightly oblique orientation, although still adverse, dilutes the true impact and in addition does not experience the same volume of road users

As a promoted tourist route and the special scenic quality experienced for long stretches of the road by car users should be regarded as high medium and cyclists and other recreators as having high sensitivity. The scale of effect and magnitude is large resulting in a major significant effect.

A75

The A75 east (driving north-west towards the town) of Newton Stewart is promoted as part of the SWC 300, and despite being a euro-route is particularly scenic. Viewpoint 8 Creetown represents the likely views from sections of the road running west of Creetown to around Palnure. The development is often prominent and highly noticeable in the view due to its elevation and should be assigned medium sensitivity and medium magnitude with moderate but significant effects.

The A75 west of Newton Stewart (driving east towards the town) has frequent and often sustained views towards the development, as is evidenced by the ZTV's. Despite this, the applicant has failed to include a viewpoint as requested by Dumfries and Galloway Council and Cree Valley Community Council. Along this section there will be largely interrupted views of the development and this is the case as one travels toward Newton Stewart. Sensitivity could be described as medium and magnitude of effect as medium also resulting in a moderate but significant effect.

Long distance Routes

The Southern Upland Way, is the longest long distance route in Scotland and runs close to the proposed development 5 km north on Glenvernoch Fell. Although wind farms do feature along the route, this region of Galloway has largely been unaffected and the view towards the Galloway Hills from this Fell is particularly scenic. Indeed it is important to protect the route from any further encroachment of wind farm development particularly so close to the Galloway Forest park. It cannot be agreed that that effects along this section of the route are medium-small and are at least medium with sensitivity of long distance walkers being high, this would result in a Major-moderate significant effect

Regional and Local Cycle Routes

Cycling is an increasingly popular pastime and there are a number of promoted national cycle networks within the area: the NCR7 and NCR73. (This southern section is now referred to as NCR83 by Sustrans on their website.)

The development will have significant adverse impacts on the NCR73, particularly the section connecting Wigtown with Newton Stewart as viewpoint 3 (Sustrans NCR73 near Newton Stewart) and viewpoint 10 (north of Wigtown) testify. The cycle way running alongside the A714 has dominant and sustained views towards the site and viewpoint 10 shows that there will be little cover from forest on the road around the Moss of Cree, as the applicant suggests. Indeed the woodland and settlement ZTV shows that there will be no respite from views of hubs and blades for the whole extent of the route between viewpoint 10 and 3. Such receptors have between high and high medium sensitivity, due to the recreational nature of the activity and the magnitude of effects will be at least high-medium given the duration and geographic extent of effects, therefore resulting in a Major-moderate significant effect.

The NCR7 will also be affected as it passes through Newton Stewart and out via the Wood of Cree road where there will be views to the development. Viewpoint 5 on the minor road forms part of the route and the ZTV indicates visibility of hubs for a section of this road. It is regrettable that the applicant did not produce a photomontage for this viewpoint as the development is visible

intermittently and would draw the eye of slower moving leisure cyclists.

4.20 Objection to Applicant's Conclusions Regarding Visual Effects

Paragraph 6.7.76 of the LVIA asserts that Large and Large-medium scale effects will only occur out to approximately 5 km. This cannot be agreed as large to large-medium scale effects occur much further out, as evidenced by Viewpoints 3 Sustrans National Cycle Route 73/ A714 south of Newton Stewart at 6.4 kilometres extending further out to viewpoint 9 Kirkcowan and viewpoint 10 North of Wigtown at distances of 12.7 km and 14 km respectively. Beyond 15 km effects begin to reduce to the south and south-west, but medium effects remain, particularly on higher ground on the Machars where there would be open views to the development accentuated by the lower lying surrounding landscape. A good example would be on the B7085 around Kirkland of Longcastle approximately 24 kilometres away.

It is of note that key view points on the A714 between Wigtown and Newton Stewart, representing this promoted tourist route and road users of this important section, is not represented and is not adequately addressed by vp10 on the minor road north of Wigtown. There are several representative viewpoints but perhaps the best is at Baltersan on the A714 where there are 'head on' dominating unscreened views to the development against the backdrop of the Galloway Hills.

This LVIA has down played the sensitivities of various receptor groups, such as recreational users and residents, which they have defined as high-medium, justifying this because the area is within a RSA and not an NSA albeit upgrading to high for Galloway Forest and Dark Sky park visual receptors. It is usual to assess all these receptors as high sensitivity and a live application concurrent with the Blair Hill application, assessing very similar geographic and visual receptor profiles, define recreational receptors and residents as high. This reduction in sensitivities, of both visual receptors and indeed landscape receptors, consistently carried out by the applicant, against standard practice, has a 'knock-on' effect on significance.

4.21 Designated Landscapes and Mapped Interests

Operational Effects of the proposed development

Operational effects have been considered in the LVIA for the Dark Sky Park, the Galloway Hills Regional Scenic Area (RSA) and the Merrick Wild Land Area (WLA) but there is no consideration of effects on the Galloway Forest Park itself which surrounds the site on 2 sides with isolated pockets of the park to the south and south-west at Knockman Wood and Wild Wood.

Effects on the Galloway Forest Park should have been considered separately from the Galloway Hills RSA. Also the local landscape area of the Carrick Hills in South Ayrshire should also have been considered, as it lies in the Forest Park 12.8 km north and also occupies part of the WLA and may be affected by aviation lighting. The LVIA states there should be limited visibility except on high peaks but due to the scale of the turbines and potential night time effects this should have been assessed.

Galloway Forest Park

The Galloway Forest Park was designated in 1947, and is the largest forest park in Scotland, covering 774 square kilometres. As well as being a commercial forest it is an important recreational resource, attracting over 800,000 visitors per year, and plays a vital role in supporting the area's local economy. As stated above, very little assessment of the Galloway Forest Park itself has been produced in the LVIA. Only one viewpoint at ground level has been assessed and the ZTV shows visibility around Glentroot visitor centre car park and promoted trails leading from this area.

Galloway Regional Scenic Area

This RSA is extensive and is the largest in Dumfries and Galloway, covering a large part of the study area where the ZTV show high visibility from many locations. The Dumfries and Galloway LDP2 technical paper on RSAs describes the Galloway Hills RSA:

'This is the largest Regional Scenic Area, a reflection both of the scale of the landscape of the Galloway Hills and the interesting juxtaposition of contrasting upland, valley and coastal landscapes. The relationship between the hills and the adjacent lowlands gives rise to sweeping and dramatic views of the hills, in particular from the western side of Wigtown Bay and certain sections of the perimeter valleys . The Galloway Hills is a high value landscape with many iconic views towards the hills and a much loved destination for hill walkers. The proposed development would have a significant detrimental effect upon the landscape of the RSA, its scenic quality and its valued mountain resource.'

A discussed earlier, although Regional Scenic Areas are designated by local authorities, they often have high scenic value comparable to designated National Scenic Areas, as pointed out in Dumfries and Galloway Council's technical paper on RSAs. Therefore landscape value within RSA's should be assessed on a case by case basis rather than RES's strategy of assigning an automatic lower local/district value. This underplays the landscape value of RSAs, particularly in the case of the Galloway Hills.

Dumfries and Galloway Council in their scoping response requested that Non Inventory Designed landscapes (NIDL) be included, as there are number that may be affected within the theoretical viewshed. A viewpoint has been taken at Penninghame Pond, Castle Stewart but no other NIDL's have been considered including Merton Hall NIDL which appears to orientate towards the site and should have been assessed.

Merrick Wild Land Area

The designated Wild Land Area mainly comprises the Merrick Uplands and the Silver Flowe, an extensive blanket bog lying below the Dungeon Hills, which is one of the least interrupted undisturbed mire systems in Europe and is also designated as a Ramsar site. The southern boundary of the WLA extends to just south of Loch Trool and Loch Dee and is only 5 km from the proposed development site. The Wild Land Area has been designated due to it possessing a number of key attributes and special qualities, including its remoteness and naturalness, which inspire feelings of awe, free from the intrusions of man-made developments.

The Merrick Wild Land Area lies approximately 5 kilometres from the nearest turbine and, although it would appear there is limited visibility from the Merrick itself with 2-3 blade tips visible (the wireframe and narrative disagree), the closeness of these industrial elements being only 11km kilometres distant along with the perceptible movement of the blade would have the potential to impact on the wild character and the sense of tranquillity from the summit and also from approaches to the summit. The ZTV does shows other areas are affected, such as Benyellary approximately 2 kilometres further south and closer to the development. Also it is noted that Shalloch/Shalloch on Minnoch will experience views of two hubs at about 16km away. The Merrick and its approaches have some visibility of distant wind farms but are far enough away and of smaller scale to have minimal impact on views from the summit. The nearest is at Mark Hill 16.6km where the turbines are only 110metres blade to tip.

There is a concern that this unique but relatively small area of WLA in South-West Scotland, designated for its special qualities of remoteness and wildness, is incrementally being eroded by wind farm development and the encroachment of man-made structures. It is important to limit any unnecessary developments compromising those special qualities.

Galloway Dark Sky Park (DSP)

The Galloway Forest Dark Sky Park is an internationally recognised designation formed in 2009 and awarded Gold Tier status in 2012, because of the exceptional quality of the night sky in this area. Dumfries and Galloway Council's Dark Skies Friendly Lighting guidance (LDP2) writes: **'The DSP is therefore an important and unique natural resource that should be protected'**.

The management of the park recognises the dark skies as a valuable resource and is committed to protecting and preserving them. Forestry & Land Scotland identifies the remoteness and sparse population of the area, combined with a lighting management plan, and aims to ensure that Galloway Forest Park's skies will remain pristine. The DSP is a highly important asset

bringing tourists to the region, particularly in winter extending the tourist season and bringing extra economic benefits. Adverse effects relating to aviation turbine lighting is dealt with in detail in the night time effects section below.

4.22 Night Time Visual Effects

Blair Hill Wind Farm Proposed Aviation Lighting Scheme

Due to the height of the turbines the proposed development is required to fit red aviation lights to the nacelle of the towers. In this case 6 turbine lights are proposed that will operate at 2000 candela where visibility is less than 5 km and where greater will operate at 10% intensity at 200 candela. The apparent intensity of the light will also be reduced due to the viewer being below the light and also by atmospheric conditions and distance. However if the viewer is on the same horizontal plane as the light, or above it, there will be no reduction in intensity and the lights will appear to be at 200/2000 candela

Comments on 'Visibility of Aviation Warning Lights', Dr Stuart Lumsden

The applicant, supported by a stand-alone report from Dr Stuart Lumsden (an expert in wind farm visible aviation lighting and a member of the Scottish Government Aviation Lighting Guidance Working Group), seeks to allay fears that the lights will be highly visible and intrusive. Central to Dr Lumsden's argument is that the lights will be of fairly low intensity to the viewer as the eye never becomes fully dark-adapted where extraneous lights, such as street lighting, domestic lighting and personal lights (e.g. torches) are present. In our view the effect of incomplete dark adaptation is overstated and does little to reduce the impacts of visible red aviation lights.

Although increasing vertical angle will reduce apparent intensity of the aviation light it is unlikely to make it significantly less noticeable. This is particularly true the closer to the development you are, where the light will appear to be larger than further away, and thus the total amount of light (illuminance) an observer receives is greater. The use of candela values alone is misleading and the actual illuminance (measured in microlux) that an observer receives from a particular location would be more useful. NatureScot, in their aviation guidance relating to ZTVs showing lighting intensity in candela states: 'It should also be noted that this type of ZTV only provides indication of the candela value (luminous intensity) emitted at specific range of angles from the horizontal and does not represent the illuminance (measured in microlux (μlx)) that may be experienced by receptors at particular locations'

Although intensity of the light is a consideration it is simply the presence of the red light in a valued dark environment that is important. NatureScot in its aviation lighting guidance states: 'It is worth noting that red lights are not perceived as being as bright as other colours at the same intensity; however, they are among the most noticeable colours, which is why they are commonly used for warning lights. There is not a direct correlation between the brightness of the light and how noticeable it is to people.'

Night Time Effects from Viewpoints

The applicant has assessed all viewpoints as having no significant effects at night time. This is contentious and the argument of incomplete dark adaptation is used in part, as justification of this conclusion. This could be due to the effects of street lighting, domestic lighting or in darker environments the use of personal lighting.

Table 6.11 showing the scale of night time effects records grossly underestimated values. Sensitivity values have been downgraded for residents, cyclists and road users but not for recreational users of the countryside. If sensitivity does not change for recreators then there is good argument that sensitivity should not change for any receptor and the recent Glenvernoch application assessing very similar viewpoints have the same night time sensitivity values as during the day. Also the magnitude of change values have dropped excessively from daytime values, leading to a 'slight and not significant' effects in nearly all cases and cannot be defended. Although it is understood that certain viewpoints will not be visited in complete darkness, although not

impossible if wild camping, the lights operate at both dawn and dusk when people may still be at these locations and this must be taken into account. NatureScot in their Aviation lighting guidance points out 'This Guidance recognises the importance of distinctive landform as a factor in shaping the appearance of important skylines at twilight and dawn... As it darkens other perceptual characteristics can however be strengthened, such as the apparent absence of development, or the profile of an important skyline'.

Paragraph 6.7.177 states: 'There are unlikely to be any locations where the proposed aviation lights will form a major new element in the view and result in Large scale visual effects due to the vertical angle at which the proposed wind turbine lights would be viewed within 5 km of the Proposed Development (where light attenuation would be at its lowest)'. This is a highly controversial statement and it is simply not the case. The aviation lights are introducing an alien highly visible man-made element into skies even when viewed from a lit environment. The effects will be magnified from the Dark Sky Park and a large area of the countryside around the development where high levels of darkness are appreciated.

Night Time Effects from Roads and National Cycle Routes

The applicant has assessed reduced magnitude and no significant night time effects on the A714, A712 and A75, again due to incomplete dark adaptation caused by headlights and personal lights for pedestrians and cyclists. Effects from car headlights are overstated, as traffic is extremely sparse on local unlit rural roads, including on the A714 and A712, and any effects from 'blinding' headlights will be extremely transient. Although it is acknowledged that sensitivity of drivers is reduced due to concentrating on the road, a contributor to this objection can testify from personal experience that red aviation lights both out to sea and on land are highly visible from a well-lit urban environment while driving. It is often the contrast between the aviation light and the dark back drop that is important rather than the ambient levels of light the viewer finds themselves in. This contrast is massively accentuated when viewing the lights in a perceptually dark environment, as is found in the Dark Sky Park itself and other locations that experience very dark skies - which is most of the region. The fainter stars in Orion's belt which Dr Lumsden uses as a reference point for the experience of viewing the aviation lights at 200 candela (the level that the lights will operate for the majority of the time) from many viewpoints are extremely prominent and are still noticeable where ambient light levels are increased.

Night Time Effects from the SUW

The LVIA assessment found no significant effects from the SUW due to small scale effects. This is disputable as there will be at least medium scale effects on Glenvernock Fell closest to the development due to all 6 aviation lights being clearly visible with no attenuation due to the vertical angle.

Night Time Effects from Hills

The LVIA assessed hills close to the development, such as Lamachan/Curlywee and Millfore, as having a moderate but not significant effect (all moderate effects have been deemed not significant throughout the whole LVIA). Their justification being that people are unlikely to be at that location at night time but if they were they would not be able to achieve full dark adaptation because of close range personal lighting. This reasoning, with regard personal lighting which runs through this LVIA, lacks credibility. Personal lighting will have little effect on reducing the ability of seeing even the faintest stars and the torch can always be turned off if so desired and when it is safe to do so.

Adverse Effects of Aviation Lighting on the Galloway Dark Sky Park

The Galloway Forest Dark Sky Park surrounds the development on 3 sides with the sensitive core area directly adjacent to the nearest turbine T1 and the buffer zone surrounding the rest. Turbine T1, which carries a red aviation light on its hub is only approximately 150 metres from its border. This turbine sits on land at approximately 391 metres AOD, so the elevation of the light is at approximately 556 metres. The other 5 lit turbines range in elevation from 321 metres to 516 metres, which would mean red

aviation lights would be highly visible at great distances from the site and would significantly compromise the status of the Dark Sky Park. Even outwith the DSP there is an appreciation of the value of the darkness of the night sky and Dumfries and Galloway Council are committed to its protection and, where possible, further enhancement of the night environment by reducing unnecessary lighting and light pollution.

The adverse effects of aviation lighting on dark skies and the Galloway Forest Park have been grossly underestimated. The lights would be highly noticeable as incongruous red 'alien' elements in the night sky in an extremely dark environment.

Both NatureScot and the Dumfries and Galloway Council's Landscape Architect, in their scoping opinions, raised the impacts of aviation lighting on the DSP as a key concern. The Council Landscape Architect states: **'The sensitivity of the site in terms of proximity to residential and recreational night time receptors, the long range of potential prominent visibility, and the recognised value of the dark skies for the Galloway Hills in terms of the Galloway Forest Dark Sky Park, and the Merrick WLA, all are at odds with any visibly lit wind farm development.'**

Dark skies are highly valued in the region and even outwith the Dark Sky Park high levels of darkness and generally low levels of artificial light are experienced in the region as shown by figure 6.1. The aviation lights will be operational for long periods during the winter months. Also red lights will be seen to flicker in an uncoordinated fashion when the blades pass in front of them causing an increased visual 'nuisance' to observers. Although aviation lights do not cause sky glow in the same way that other lighting sources can, in poor weather conditions a localised halo effect can be witnessed which could add 'nuisance' value if observed at close proximity.

Within the dark sky park itself, 4-5 aviation lights will be clearly visible from north of Glentool and 2 from the Glentool visitor centre as assessed in the Aviation lighting report prepared by Dr Stuart Lumsden. These are both important dark sky locations where star gazing events are held. Lights will be visible from a number of promoted trails within Glentool Forest and many areas within the Dark Sky Park. It is self-evident that these will be visible from the most elevated points but it is wrong for the applicants to dismiss these areas as places people would not visit at night. Indeed promotion of dark skies is more than just effects on people, although health benefits are recognised, it is equally about the idea of creating a dark tranquil sanctuary free from man's influence at night for the benefit of wildlife and protecting an increasingly diminishing resource from artificial lighting.

4.23 Criticism of Night Time Assessment

The night time assessments are inadequate and only 4 night time photomontages have been produced but none from the Dark Sky Park itself. A night time photomontage should have been provided for viewpoint 5 (a lighting assessment was done as above) within the Dark Sky Park boundary near Glentool as 4-5 turbine lights will be visible from this point. Night time photomontages should have been produced for vp20 Monigaff Church and vp26 Challoch Church.

The LVIA states that from Corsbie Road vp2 the red lights will appear 'no brighter than the brightest stars' at 200 candela. This is hardly reassuring, as the photomontage from this viewpoint shows the lights are bright and highly noticeable against the dark backdrop (although it is acknowledged these are illustrating 2000 candela), even within a street lit environment. Intensity of the lights will be much greater when moving into darker environments. In addition when visibility is less than 5 km the lights will appear to brighten and this will be the case for every location within 5 km of the lights as evidenced in figure 6.14, lighting ZTV which will include all of Newton Stewart, Minnigaff, Challoch and isolated properties. Therefore it is likely that these locations will all experience the same lighting intensity when the lights are operating at 200 candela.

It is stated that there is already turbine aviation lighting on individual turbines close to Creetown, assumed to be the same intensity as required for the proposed turbines. This is inaccurate and demonstrates how desk-based research and lack of sufficient site research can result in poor accuracy. There is indeed one turbine with an aviation light operating at 25 candela of total height 45.9 metres on a small hill east of Creetown at Kirkmabreck (Planning application no 11/P/2/0290). This is visible from Wigtown approximately 6 kilometres distant.

Concluding Remarks regarding the DSP

The LVIA concludes that effects on the Dark Sky Park would be medium low due to only a small area of the Dark Sky Park being affected. This is disputed and a significant part of the Dark Sky Park core area will be affected in the south and east, including all elevated areas, as evidenced by the ZTV woodland and settlements figure 6.13. Also it must be considered that commercial coniferous forests are impermanent entities and both daytime and night time views could be revealed over time.

In conclusion Dark Skies are becoming a diminishing resource and it is important to preserve those areas that remain and have been internationally recognised for their exceptional and pristine dark skies. This development would introduce highly visible intrusive aviation lights and adversely affect the special qualities for which it has been designated for and on those grounds the proposed development should be rejected.

Night Time Effects on the Galloway Hill RSA

This has been covered in relation to relevant viewpoints within the RSA as above. In conclusion the red aviation lights will be seen from great distance and affect a significant extent of the RSA particularly from the south and east as shown on the figure 6.13 lighting ZTV.

Night Time effects on the Merrick Wild Land Area

It is acknowledged that from the ZTV's turbine lights from the WLA around the Merrick area will not be visible, however 2 turbine lights will be visible at approximately 16 km away, around Shalloch on Minnoch/Shalloch. Even at this distance they will be noticeable due to elevation and compromise the sense of wilderness at this location within the Wild Land Area.

Cumulative Effects

There are 16 operational and consented wind farms within 25 km of the proposed development; the nearest schemes being at Killgallioch (including its consented extension) and Airies between 14 km and 16 km distance to the west. Due to the distance and scale of these wind farms there are unlikely to be any cumulative interactions individually with the proposed development. However taken the wider Wigtownshire cluster, Blair Hill would be a significant addition and further significant adverse cumulative effects would occur if the proposed wind farms at Glenvernoch Fell, currently at the application stage, and Shennanton and Balunton wind farms, currently at the scoping stage, were consented. Dumfries and Galloway Council requested that both Shennanton and Balunton be considered in the cumulative assessment but the applicant failed to do so.

Of greatest concern is the proximity of Glenvernoch to the proposed development, lying only 5.4 km to the west, it would lead to highly significant and unacceptable cumulative landscape and visual effects. If Shennanton was consented also these effects would intensify, bringing a wind farm landscape closer to the sensitive Galloway Hills and Wigtown Bay landscapes and the Forest Park. Cumulative effects would be adverse from a number of viewpoints and visual receptor groups the most severely affected being from Glenvernoch Fell, the closest hilltops including Garlick hill, Lamachan/Larg ridge Curylwee and Millfore and associated routes to these. At further distance there will be intervisibility with both Glenvernoch and Shennanton from the south-west and from the A75 west around Knockbrex. Blair Hill will be seen in combination with Glenvernoch on the A714 travelling both north and south and on the A75 east of Newton Stewart near Creetown.

4.24 Critique of the Residential Visual Amenity Assessment. (RVAA)

The RVAA is very poor and cannot be considered to be a detailed and credible assessment.

The size of the study area is inadequate at 3 km given the scale of the development, its prominence in the landscape and its

proximity to a small town of over 4000 residents. The LVIA states: 'This study area responds to the height of the proposed wind turbines which have maximum tip heights of 250m.' We cannot agree, and the study area should have at least extended to 4 km; it is noted that Cree Valley Community Council requested a study area of 5 km. Although there are no specific guidelines on how large a study area should be, the current 2-3 km convention was adopted when turbines were significantly smaller. Given the very large typology of these turbines, the study area should be extended to be commensurate with extra height. The Landscape Technical Guidance note 02/19 paragraph 4.4 states: 'there are no standard criteria for defining the RVAA study area nor for the scope of the RVAA, which should be determined on a case-by-case basis taking both the type and scale of proposed development, as well as the landscape and visual context, into account.' It is of note that this was written in 2019 when the largest turbine consented at the time was unlikely to be greater than 130 metres. These turbines at 250 metres are almost double this size; as such the study area should be extended to 4 kilometres.

The 3 km study area identifies 18 properties and 15 of these have been taken forward. However at least 3 properties within and on the boundary have not been included. Also, even if the study area was extended another 500m at least 50 properties would have to be included from the northern parts of Newton Stewart and Minnigaff and also properties opposite Penninghame Home Farm. Many of these properties will experience significant views of hubs and in some cases more open views from curtilages.

It would appear from the text that in many cases residential properties have been assessed wholly by desk-based methods, including ZTVs, and not verified by site visits. This clearly is bad practice. Property P1 has been excluded because mature woodland is said to block views but the ZTV shows potential visibility from the front of the property. Has this been verified by a site visit?

Construction Effects

Construction effects have not been assessed, as is the case in the main LVIA, claiming effects will be temporary and there will only be impacts from sight of cranes and turbines being erected. However this is dismissive and there may be visual intrusion from properties at more elevated height or that have minimal screening that look directly onto the site. In these cases there could be visual intrusion due to general construction activities such as plant movement, access track construction, blasting of borrow pits etc.

Night Time Effects

All the properties in the RVAA are sited in very dark environments with no external lighting. In such places people often have no need to close their curtains as they are not overlooked. The introduction of 6 highly visible aviation lights which will be potentially seen from within properties or within curtilages could be highly intrusive. Also incomplete dark adaptation within a lit room does not prevent the red lights being seen as incongruous man-made elements in the sky. Residents that have full view of these turbines through the day cannot even escape them at night. The turbine lighting will be highly visible as people approach their properties along access drives and red lights would not be perceived as a 'background element' as stated in the text but would be a focus as people approach their properties depending on orientation.

Examination of the initial assessment table (TA6.5.2) leads to the conclusion that the assignment of magnitude, particularly at the medium level is rather random and does not follow any logical process. It is noted that all properties have been assigned major-moderate significance except P16 Glenshalloch which is concluded to have a large magnitude of change and major significance and therefore this has been taken forward for detailed assessment.

P16 Glenshalloch, indeed is severely affected, to such an extent that the residential visual amenity threshold which is typically described as the point at which the development becomes 'overbearing or overwhelming' (used for tall structures) or 'overly intrusive' (used for development overlooking a garden or principal room)' has been reached and therefore the Blair Hill wind farm should be refused. The applicant concedes the proposed development would be 'spread across the view' and night time impacts

would be large with 5 turbine lights visible. The 'detailed' assessment is rather lacking in detail, without complete photographic evidence. The wirelines illustrate the severe and detrimental effects on residential visual amenity at Glenshalloch but should have also been supported with photomontages and photographs of existing views outwards to the proposed development.

Examination of initial assessment shows a number of other properties should have also been taken forward to detailed assessment. These are P5 Claghrie Lodge, P6 Cumloden House, P11 Glenmalloch Lodge, P12 Glenhoise cottage, P13 Risk Cottage, P14 Risk Farm, P15 Auchinleck Lodge and P17 Auchinleck. Out of these only Auchinleck Lodge has been assigned a High-medium magnitude of change. All the rest have been assigned a medium magnitude of change but this is clearly not the case and all should have been assigned at least a High-medium magnitude of change based on ZTV's and local knowledge of a number of these properties.

For all properties, wirelines should have been produced and for those closest to the development and/or with clearly open views, photomontages and aerial views showing the lateral extent should have been presented to support the descriptions in the table. This raises serious concerns about the assessment and raises the question: how can consultees and decision makers make informed judgements without them?

As stated above there has been little differential analysis of the effects on properties particularly at the medium level of magnitude. There are a number of cases where a medium magnitude of change has been assigned to one property that clearly has visibility of the development and the same level of magnitude for another that has very limited views. For e.g. P11 Glenmalloch Lodge and P5 Claghrie Lodge, both have open views towards the development from their garden areas and two properties P7 and P8 both at Cumloden stables within a courtyard setting has the potential to see 2 turbines over Cumloden Woods but all four properties have been assigned the same level of magnitude of medium. The applicant has circumvented this problem by assigning all 4 as experiencing major moderate and significant effects, with no differential analysis applied, rendering the whole assessment as having questionable validity.

In conclusion the RVAA underestimates magnitudes of change for many properties and at least 9 should have been taken forward for further assessment as all were assessed as being major-moderate and significant.

The analysis of effects on residential visual amenity is incomplete for Glenshalloch with only a wireframe provided and an aerial view showing lateral extent of the wind farm in the view. Photomontages, photographic evidence of orientation of the property and existing views towards the development should have been provided to support descriptions.

4.25 Detrimental Landscape Effects in Relation to Heritage Assets

Objection to the adverse impacts of the proposed development on cultural heritage assets and their setting is addressed in Chapter 6.

However considering the extra information relating to the adverse landscape effects demonstrated in the twelve cultural heritage viewpoints the likely substantial impacts on both landscape and its role as the setting of these important heritage assets will be discussed. The land adjacent to the site is rich in archaeology and forms part of Coldstream Burn Archaeologically Sensitive Area. A number of nationally important heritage assets are present that, although will not suffer risk of direct physical damage, could suffer adverse setting effects that are also considered direct. Landscape setting is important to the cultural significance of heritage assets and their relationship to each other. Many of the assets are prehistoric funerary monuments, have intentional inter-visibility with one another, often related to celestial alignments. The location here could be regarded as sacred and the intrusion of 250m turbines in close proximity to these important heritage assets is of national and regional concern. It is said that many of the assets are positioned to draw the focus out to the Cree Valley and to the west but the presence of the turbines, where in some cases they will become a notable physical intrusion, will distract the viewer to focus on the turbines due to their physical presence, blade movement and noise.

Although the applicant has attempted mitigation by increasing distances from the most important assets it is has failed to remove the threat of a devaluation and potential desecration of important assets of cultural national significance

The information available from the cultural heritage asset photomontages has been useful in informing how much greater the adverse landscape impacts will be in this location and from other sites that have views to it. The photomontage from Drumwhirn Cairn is a good example; the applicant maintains that effects from Knockman Wood would be negligible but this shows the visibility at very close range of at least 2 turbines over Knockman Wood which would be visible from many parts of the wood, visible above the trees. Also there would be views potentially through and above trees at the north eastern end and open views exiting the wood onto a path joining the Penkiln Burn and/or route to Garlies Castle.

Appendix 4.0



A view of the proposed Blair Hill Wind Farm from Newton Stewart High Street outside the Royal Bank of Scotland.



A view of the proposed Blair Hill Wind Farm from the Sparling Bridge over the River Cree in the heart of Newton Stewart.

Chapter 5: Socio-economic

Objection to Blair Hill Wind Farm - ECU00004878

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Chapter 5: Socio-economic

5.1 Introduction

This section is a critique of Biggar Economics' Economic and Community Impact Report of Blair Hill Wind Farm provided to RES, the applicant. It forms an objection to the proposed development on the grounds that the significant adverse effects on the landscape and scenic quality of the area that would occur could damage the tourist economy on which the region heavily depends.

The applicant has chosen to scope out Socio-economics from the Environmental Impact Assessment Report but has provided a stand-alone document on socio-economics and tourism compiled by Biggar Economics. However the conclusion of the applicant as stated in their executive summary, is that 'No significant socio-economic effects are expected to occur in EIA terms in the presence of the Proposed Development'. This aligns with the conclusions of a similar RES wind farm development proposal at Hill of Fare in Aberdeenshire, of comparable size to Blair Hill wind farm, which stated that the construction phase would result in a temporary minor beneficial but not significant effect and a negligible effect and not significant during the operation and maintenance phase in EIA terms.

In light of this, considering the negative effects of the proposed development on the tourist economy and a reduction in the appeal of the area as a place to live and work, Blair Hill Wind Farm should not be consented.

The Biggar Report has two main themes; (1) Socio-economics related to construction and operation of the proposed development and (2) Tourism and recreation.

5.2 Relevant policies

It is recognised from both 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).1

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 is in direct contravention of these.

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 including the Galloway Hills Regional Scenic Area, the Galloway Forest Park and the Dark Sky Park, as well as being in close proximity to the Wood of Cree SSSI, the development is in contravention of policy 4.

Policy 11: Energy

Policy 11c states: '**Development proposals will only be supported where they maximise net economic impact, including local and community socio-economic benefits such as employment, associated business and supply chain opportunities.**'

The Biggar report focuses on Policy 11 (c) but the policy also requires consideration of policy 4 Natural Places relating to protection of international and national designations and also how design and mitigation will reduce impacts on communities and public access. In regard to this the Galloway Dark Sky Park, an international designation, will be adversely impacted and the poor design of the development will have negative impacts on communities, recreational routes and biodiversity. In addition the construction phase is transient and is unlikely to create any new sustainable employment and the operation phase provides minimal employment on a part-time basis and thus the proposed development does not align with Policy 11 (c).

As there will be no net economic benefit and no sustainable employment opportunities provided by the proposed development the Blair Hill Wind Farm should not be consented.

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 Blair Hill site has highlighted the need for a number of significant modifications to roads. The modifications of the A712 from the A75 to the site are particularly substantial. The negligible socio-economic benefits plus the detrimental effects on local business due to major impacts on the road work as well as the physical damage of the road network itself 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 Blair Hill Wind Farm should not be consented.

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 alien to the character of 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 Blair Hill Wind Farm should not be consented.

Dumfries and Galloway Council Local Development Plan 2

Dumfries and Galloway's Council's LDP2 document Wind Energy Development: Development Management Considerations Supplementary Guidance 2 and the associated Appendix C: Dumfries & Galloway Wind Farm Landscape Capacity Study 2023 provides guidance for assessing the suitability of turbines of differing sizes within the landscape.

The Blair Hill site, where the development is proposed, falls into 2 LCTs: LCT172-Upland Fringe and LCT181-Rugged Upland with Forest. **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 Blair Hill 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 socio-economic benefits from the proposed development and a risk of negative effects from loss of tourist income Blair Hill wind farm should not be consented.

5.3 Biggar Economics 'Economic and Community Impact Report'

Socio-economic Impacts of the development

The report sets out the socio-economic profile of the area and Dumfries and Galloway as a whole; concluding that 'The socio-economic structure of Dumfries and Galloway and future demographic pressures highlight the need for the creation of job opportunities'.

The socio-economic profile of Dumfries and Galloway is typical of a rural economy. The Dumfries and Galloway economy is largely based on farming, forestry and tourism, with Galloway taking a significant share of the tourism sector. Job creation is important but these need to be sustainable long-term employment opportunities and not transient employment that last a few months at a time. It is not clear how the development could help with projected population decline in the area or the provision of long-term high quality jobs in the wind energy sector. There do not appear to be any onshore wind energy firms in Dumfries and Galloway, at the present time, providing high quality jobs but there are only opportunities for short-term construction contracts or labour supporting construction of wind farms. The number of jobs stated during the operational phase of the development **of 6** needs no further comment and could be regarded as part-time positions - as time on the wind farms for maintenance and servicing purposes will be largely sporadic and supported by a firm that may not be from the area.

As stated above the economic profile is typical of rural economies where wages may not be as high as they should be. However there are other benefits of living in a rural setting, such as easy access to the outdoors and nature, scenic landscapes, lack of industrialisation and low population. This is reflected in Dumfries and Galloway having a high well-being score and a having a low suicide rate. Both tourists and residents are drawn for those reasons and the industrialisation of iconic tourist destinations and scenic landscapes by inappropriate siting of wind farm developments would jeopardise this.

5.4 Economic Impact

Development and Construction Phase

The report sets out the projected economic benefits of the proposed development during development and construction in terms of Gross Added Value (GVA) for Dumfries and Galloway and Scotland as a whole and similarly for the number of jobs supported in the 2-year construction phase. However these are speculative and likely overstated figures and it is interesting that such socio-economic reports never provide any real-life breakdown of actual share of expenditure and generation of income, which would not be impossible to do and would provide some transparency. It is acknowledged that all projects are different and developers have to use projections, however at the application stage there is no guarantee that local firms will have the capacity to accommodate large-scale projects such as these and it is well known that developers have their favoured principal contractors and in turn principal contractors have their favoured and trusted sub-contractors. It would be expected that if consented that local firms and local supply chains would take priority but there is no guarantee and it is not often the case.

Table 6-2 provides the share of expenditure for Dumfries and Galloway and Scotland as a whole giving the total expenditure in Dumfries and Galloway at 16% and 29% for Scotland as a whole. This deviates from a Renewable UK study paper that showed expenditure was usually only 7% at the local level so this report has estimated more than double the figure in the Renewable Energy Paper.

Construction Employment

The applicant estimates that the level of employment for the development and construction phase of the proposed development will be 128 job years of employment in Dumfries and Galloway and 360 years of employment at the Scottish level. Years of employment in use for short-term projects is an interesting construct that provides eye-catching figures but in reality represents extremely short-term employment, for 2-9 months in many cases. The report states that the proposed development would contribute to high quality local employment but there is no definition of what high quality means and what type of jobs these would be. An indicative construction programme presented in table 2.2 of Chapter 2 shows that many construction activities are of short duration and some individual contracted firms and/or individuals will be on site for relatively short periods of time, and as stated above, typically between 2-9 months dependent on the activity with the exception perhaps of the principal contractor workforce.

Figure 6-1 showing employment impacts in Scotland over time shows that the balance of plant works where local contractors and workers are expected to benefit the most only lasts for 12 months and not 24. 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.

Operations and Maintenance

According to the applicant, the operations and maintenance phase of the proposed development could sustain 19 jobs within Scotland with 6 being in Dumfries and Galloway, providing £1.1 million per annum in GVA for the region. A similar project at the application stage and with a similar number of turbines estimates that the operation phase will generate around 704,000 GVA per annum. Although it is appreciated that these estimates must have been arrived by different models it would have been expected that the figures would have had greater parity and calls into question the credibility of such estimates. Nevertheless this represents a negligible and not significant effect in socio-economic terms annually and over the life time of the proposed development.

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 development's 50-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 figure of £1.1 million generated in business rates 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 does not go back to the local area that hosts them but goes to the council for use in general services for the local authority. Therefore generation of business rates cannot be deemed a significant net economic benefit for the local area hosting a wind farm. For this reason generation of business rates from the Blair Hill Wind Farm will not provide a net economic benefit for the local area.

5.5 Tourism and Recreation

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 attracts 800,000 visitors per year and the Dark Sky Park has international recognition for its exceptional and pristine dark skies. There are a number of star-gazing locations within the Park and it is considered an important asset as it extends the tourist season into the winter months, creating extra income.

Latest tourist statistics -VisitScotland 2023

Table: 1 Overnight Tourism in Dumfries and Galloway 2023

Source: Great Britain Tourism Survey 2023: Dumfries and Galloway Local Area Factsheet

	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 VisitScotland 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 Blair Hill lies within the Galloway Hill's Regional Scenic Area and only 150 metres from the Forest

Park and Dark Sky Park core area border. A turbine at 250 metres which will carry a red aviation warning light is directly adjacent to the Dark Sky Park core area where no lighting is permitted. The proposed development is in very close proximity to a number of iconic hills within the RSA and will be seen from many viewpoints in the 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.

Newton Stewart, lying only 2.7 km from the development, is an important base to explore the wider area. The small town known as the 'Gateway to the Galloway Hills' hosts an annual walking festival which is now in its 21st year and is extremely popular. Wigtown lies 12 km away on the historic Machars Peninsula and was Scotland's first 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.

These are all compelling reasons why the Blair Hill Wind Farm should not be consented.

5.6 Relevant Policies and Strategic Initiatives Related to Tourism

There are 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 – 2026

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 i.e. 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'.

5.7 Tourism Impact Assessment Prepared by Biggar Economics

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 wind farms 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 Blair Hill Wind Farm on the tourist economy in the area surrounding the development and 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 15 km 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 15 km 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 is subtle and complex and depends on
 - (1) The characteristics of the proposed development alone and cumulatively.
 - (2) The nature of the local tourism offer 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 landscape the site occupies and the surrounding hills and valley 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 9.58 GW. 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 wind farms, 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.

5.8 Biggar Economics Assessment of Recreation and Tourism

Biggar's Assessment highlights the wide range of recreational assets and activities that are available in the area including hillwalking, mountain biking, wildlife watching, star gazing and exploring the rich network of core paths and other trails. The Forest Park is a key focus of many of these activities but there are many other exceptional tourist destinations to explore using Newton Stewart and the Cree Valley as a base.

Biggar claims that aviation lighting will have minimal impact on the dark sky park however we contest this in our response to the applicant's Landscape and Visual Amenity Assessment that highlights their assessment of night time impacts of aviation lighting is deficient and significantly underestimates effects. It is of interest that no night time photomontages were taken from the Dark Sky Park.

The Biggar Economics report has provided detailed lists of core paths, nature trails and hill walking routes; illustrating how important the region is as tourist destination and also its appeal as a place to live for outdoor enthusiasts and nature lovers. However it is unacceptable that the LVIA did not to assess the effects of the development on these routes and locations as would be expected. Although some routes will experience minor effects, many will experience major significant and highly adverse effects including hilltops, routes close to the development, such as Moor of Barclie, and from many of the core paths listed. As stated above, effects on recreational routes is an important issue that requires detailed and professional landscape and visual assessment rather than a superficial assessment in a Tourist Impact Report.

5.9 Community Benefits and Opportunities

'Developers can play a transformational role within the communities where they operate and can make an important contribution to their economic development. This fosters a collaborative relationship with the local community and ensures that a lasting legacy of economic development can be created.'

The proposals to maximise economic opportunities include:

1. providing funding to support local ambitions and needs;
2. increasing local resilience;
3. strengthening the local business base; and
4. delivering skills.

This section of the report, although rather grand in its delivery and ambition, appears to relate to:

1. The community benefits package expected of all developers and usually agreed at £5000/MW.
2. The offer of a Local Electricity Discount Scheme to residents living closest to the development. RES operates similar schemes elsewhere but evidence from one scheme shows the uptake is not always 100% and the money returns to the community fund. Such LEDS are said to increase 'resilience' so people can spend more on other necessities such as food and clothing and also on recreation.
3. The developer will 'commit' to prioritising local contractors and supply chains during the development and construction and operational phases of the wind farm. This of course should be the case and is a requirement of NPF4 policy 11 but it is well known that developers and in turn principal contractors often employ firms who they have worked with in the past and know they can trust. Also 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 infrastructure projects. These 'commitments' are purely speculative and designed to cast the application in a 'favourable light' so no significant weight should be given to them.
4. An 'offer' to support field courses for archaeology university students which relates to the rich archaeological history content of the site and potentially support an apprenticeship scheme in wind energy in collaboration with Dumfries and

Also in relation to the cultural heritage of the site the developer proposes an enhancement scheme of improved access, information boards, parking and rest areas. The report states feedback from the public consultations indicated this was an important aspect for the local community. We do not recall seeing any section relating to approval/disapproval of the cultural heritage proposals on the feedback forms and there were no feedback forms available at the last post-submission exhibition in Wigtown. It would be useful to have information on how much positive feedback was received regarding the 'cultural heritage trail' as the general consensus is that this an unacceptable idea and the site should be left alone, even if the development was consented. To develop the site further with information boards and seating would inflict even greater harm on an important and sacred archaeological site.

All of the above represent compensatory schemes in an attempt to offset the adverse impacts the proposed development will have on the iconic landscape of the Galloway hills and the detrimental effect it will have on the tourist industry in the area.

5.10 Conclusions

Socio-Economic Benefits

The Biggar Economics report's focus has been to demonstrate how the proposed development aligns with NPF4 Wind Energy Policy 11(c) on Maximising Economic benefits. However policy 11, although supportive of renewable energy, requires other considerations to be taken into account. Policy 11(d) states that developments that impact on international and national designations must be assessed in relation to NPF4 Policy 4: Natural Places. In regard to this the internationally designated Dark Sky Park within the Galloway Forest Park will be adversely impacted and its status compromised by the 6 aviation warning lights adjacent to its core area. Also Policy 11(e) requires that project design and mitigation have to demonstrate how impacts on landscape, communities, cultural heritage, nature and biodiversity have been addressed. Because of the scale and siting of the proposed development, mitigation has been unsuccessful and significant adverse impacts remain for all listed above.

Also adherence to Policy 11(c) maximising net economic impact has not been achieved. The applicant has already acknowledged that during the development and construction phase there will be a minor beneficial but not significant effect and during the operation and maintenance phase there will be a negligible and not significant effect. The short-term nature of the construction phase ensures that any economic benefits are transitory and does not provide any meaningful, sustainable employment opportunities for local people. Also the low level of employment during the operations and maintenance phase for the proposed development's 50 year operation provides little economic benefit to the local area. 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 does not go back to the local area that hosts them but instead to the council for use in general services for the local authority. Therefore generation of business rates cannot be deemed a significant net economic benefit for the local area hosting a wind farm.

Tourism

The Cree Valley and the associated Galloway hills rely heavily on tourism for its economic stability. This brings in a reliable and predictable revenue stream which it is hoped can be enhanced by a number of initiatives including becoming part of a new Galloway National Park.

The proposed Blair Hill Wind Farm will be highly visible from numerous locations 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 many vantage points and will impact a very high number of people, not just a few, who come to enjoy the breath taking scenery and special qualities of the local landscape, which can only be found in this part of Galloway. Indeed the most recent VisitScotland survey found that 89% of visitors to Dumfries and Galloway were return visitors.

Biggar Economics, in a series of reports, 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. And we concur with this conclusion.

The proposed wind farm would seriously damage the tourist industry in the area and jeopardise its fragile rural economy and for that reason the Blair Hill Wind Farm should not be consented.

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Chapter 6: Cultural Heritage Assessment

Objection to Blair Hill Wind Farm - ECU00004878

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Chapter 6: Cultural Heritage Assessment

The Blair Hill Wind Farm, comprising fourteen industrial-scale turbines - twelve with a tip height of 250 metres and two reaching 210 metres - is proposed for a site just 2.7 kilometres northeast of Newton Stewart, within the Dumfries and Galloway Council area. This proposal sits at the very heart of a landscape rich in cultural, historical, and archaeological value. From prehistoric chambered cairns and standing stones to medieval castles, churches, and designed landscapes, the area surrounding Blair Hill contains a dense concentration of both designated and non-designated heritage assets that form an irreplaceable part of Scotland's cultural fabric.

This chapter addresses Chapter 7 of the Environmental Impact Assessment Report (EIAR), prepared by SLR Consulting on behalf of RES Ltd, which seeks to assess the cultural heritage implications of the development. Despite its statutory obligations under the Electricity Act 1989, the Town and Country Planning (Scotland) Act 1997, and the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, the assessment submitted by the applicant fails to identify, evaluate, or mitigate the full spectrum of adverse effects that the Proposed Development would have on the historic environment.

The EIAR is legally and procedurally deficient. It treats cultural heritage as a collection of static points on a map rather than an interconnected and lived in landscape. It omits key sites, fails to address cumulative impacts, excludes experiential analysis, and provides no meaningful mitigation. **It thereby contravenes:**

- NPF4 Policy 7: Historic Assets and Places.
- The Historic Environment Policy for Scotland (HEPS).
- Dumfries and Galloway Local Development Plan 2 (LDP2), Policies HE1 to HE3.
- And undermines the principles of the European Landscape Convention, ratified by the UK in 2006.

The cultural heritage of the Blair Hill area is not incidental; it is defining. Newton Stewart and the Cree Valley form the historical threshold to the Galloway Hills, a region whose identity has been shaped over millennia by prehistoric ritual, medieval estate planning, ecclesiastical architecture, and rural industry. The turbines would intrude upon sightlines, diminish spiritual and associative values, and irreversibly alter the setting of numerous heritage assets - many of which are still in active community use. This chapter sets out a detailed and legally grounded objection to the Proposed Development on cultural heritage grounds, structured in the following sections.

6.1 Overview: The Historic Landscape at Risk

The landscape in which the Blair Hill Wind Farm is proposed is not a blank or neutral upland space. It is a rich cultural environment where archaeological, ecclesiastical, domestic, and ritual features interact to form a multi-period heritage landscape of national significance. The zone of influence extends across Newton Stewart, Minnigaff, Penninghame, and into the Cree Valley uplands, with visual and spatial relationships that have developed and endured over thousands of years.

The area contains an exceptional number of designated heritage assets, including:

- Scheduled Monuments, such as Drumfern Cairn and Stone Circle (SM1019), Mains of Penninghame Enclosure (SM1074), Glenkitten Burn Enclosures (SM1263), and Inch Farm Enclosure (SM1063);
- Listed Buildings, including Monigaff Parish Church (LB17370), Penninghame Parish Church (LB17373), Cree Bridge (LB17372), Bargrennan Bridge (LB17402), Cumloden House and gates (LB17052, LB17053), and Nappers Cottage (LB17379).
- Historic designed landscapes and rural settlement patterns associated with Cumloden and Penninghame estates.
- Visible archaeological sites, including chambered cairns, standing stones, shieling huts, historic routeways, and dykes.
- And a number of non-designated assets recognised in the Dumfries and Galloway Historic Environment Record (HER).

The proposal also lies within the broader context of the Galloway and Southern Ayrshire UNESCO Biosphere, the Cree Valley SSSI, and the Galloway Forest Dark Sky Park, which together establish an environmental and cultural character that is highly valued regionally, nationally and internationally.

6.1.1 Intervisibility and Cultural Cohesion



Napper's Cottage - Which Stands Adjacent to a Neolithic Clyde-type Chambered Cairn

Many of the assets affected are intervisible - they were constructed or located with the landscape in mind, often taking advantage of natural high points, watercourses, and skyward views. The cumulative presence of fourteen turbines, up to 250 metres tall, will fundamentally alter this spatial dialogue. **For example:**

- **Drumfern Cairn and Stone Circle** is likely aligned to celestial or seasonal events, and intervisibility with nearby upland cairns is essential to its ritual significance.
- **Napper's Cottage**, which stands adjacent to a Neolithic Clyde-type chambered cairn, holds both domestic and prehistoric value.
- **Garlies Castle**, sited strategically on a defensive slope, will suffer setting degradation due to its orientation towards the turbine array, particularly given its remaining tower façade and south-facing views.
- **The Thieves**, a site containing two upright standing stones, may be the remnants of a stone circle associated with lunar alignment, and is spatially linked to the very name of Blair Hill.

These examples illustrate how the development is not merely near heritage features; it is embedded within a densely layered cultural framework where setting, scale, and symbolism matter.

6.1.2 A Connected Historic Landscape

Rather than being scattered and isolated, the historic assets at risk from this development are part of a coherent and comprehensible landscape narrative, **which includes:**

- Prehistoric funerary and ritual monuments.
- Medieval and post-medieval ecclesiastical centres and laird's houses.
- 18th- and 19th-century estate planning and farm building typologies.
- Historic roads, bridges, fords, and upland drovers' routes still visible in the landform.

This network is not hypothetical - it is documented through the HER, appears on the 1st Edition OS maps, and remains legible in the field. Its integrity would be seriously compromised by the industrialisation of its visual and spatial context.

6.1.3 Summary of Risk

The EIAR fails to treat this landscape as a whole. It appraises designated heritage assets individually, without acknowledging their cumulative visibility, landscape function, or associative value. No experiential analysis is undertaken. No walking survey is reported. No community knowledge has been incorporated.

In doing so, the EIAR underrepresents the significance of these assets and underestimates the level of harm that would result. The development poses a high risk of:

- Visual dominance over ritual and ecclesiastical sites.
- Skyline intrusion in otherwise undeveloped views.
- Loss of tranquillity and spiritual character in sensitive churchyard and cairn locations.
- Cumulative degradation in a landscape already under increasing development pressure.

The setting of these assets is not peripheral to their value - it is intrinsic to it. The introduction of turbines on this scale will result in permanent and irreversible harm.

6.2 Impact on Scheduled Monuments

Scheduled Monuments are legally protected under the Ancient Monuments and Archaeological Areas Act 1979. Their preservation is a matter of national interest, and under both NPF4 Policy 7(a) and the Historic Environment Policy for Scotland (HEPS), development proposals must ensure their setting is safeguarded from significant adverse effects.

The EIAR submitted by RES fails to meet this test. While it identifies some of the Scheduled Monuments within the study area, it provides no meaningful setting analysis, no visualisations from affected monuments, and makes no attempt to understand their experiential, spatial, or symbolic value. This omission is critical. Setting is not a passive backdrop - it is an essential part of the significance of these sites, many of which were purposefully located to exploit views, celestial alignments, or relationships with other sites in the landscape.

The turbines proposed would introduce unprecedented visual and acoustic intrusion into a previously undeveloped historic environment, causing direct harm to the setting and interpretive value of several Scheduled Monuments. These include, but are not limited to:

6.2.1 Drumfern Cairn and Stone Circle (SM1019)

Located just south-east of the proposed development area, this Scheduled Monument consists of a Bronze Age cairn surrounded by a stone circle measuring approximately 26 metres in diameter. The location of the monument is significant - situated on elevated ground with wide-reaching views across the Cree Valley and uplands.

- The circle's orientation and positioning suggest ritual function and possible astronomical alignment, which is typical of similar Bronze Age structures in the region.
- The presence of turbines towering to 250 metres in the backdrop of these views would be visually jarring, especially during blade movement, which would interfere with the contemplative and symbolic character of the site.

No visual simulation is provided in the EIAR from this monument, and no account is taken of its intervisibility with other cairns and prehistoric features, breaching both HEPS and EIA Regulations.

6.2.2 Mains of Penninghame Enclosure (SM1074)

This large prehistoric enclosure sits on rising ground east of Newton Stewart and commands long views into the Cree Valley. It is likely to have been part of a wider prehistoric network of settlement and ritual landscapes.

- The enclosure is orientated westward, and the rising land beyond forms part of its visual setting. The Blair Hill turbines would dominate this skyline.
- The development would impair our understanding of the enclosure's strategic placement and destroy its historic relationship to the landscape.

The EIAR states there will be no significant impact, yet this is asserted without fieldwork, visibility analysis, or any evidence-based reasoning.

6.2.3 Glenkitten Burn Enclosures (SM1263)

The Glenkitten Burn Enclosures (Scheduled Monument SM1263) are a group of prehistoric archaeological sites located near Newton Stewart in Dumfries and Galloway, Scotland. Situated close to the Glenkitten Burn, these enclosures are believed to date from the later prehistoric period, possibly the Iron Age.

The site comprises several enclosed areas, likely used for settlement or agricultural purposes. These enclosures are typically defined by earthworks or stone banks, forming circular or oval shapes that would have enclosed domestic structures or livestock. Their location near a water source like Glenkitten Burn suggests strategic placement for access to water and fertile land.

As a Scheduled Monument, Glenkitten Burn Enclosures are legally protected due to their national importance. This designation helps preserve the site for future study and public education, ensuring that any changes or developments in the area consider the preservation of these ancient structures.

6.2.4 Inch Farm Enclosure (SM1063)

These Scheduled Monuments lie within the wider landscape setting of the proposal and contribute to the archaeological coherence of the region. Although less visually prominent than Drumfern or Mains of Penninghame, their importance lies in their spatial relationships.

- These sites demonstrate settlement patterns across time and reflect how prehistoric communities engaged with the Cree Valley and surrounding uplands.
- The cumulative presence of multiple turbines across the horizon line would break the sense of historic continuity, isolate these assets from their landscape context, and diminish their interpretive potential.

No consideration is given to this in the EIAR.

6.2.5 Garlies Castle (Scheduled Monument)

A late 15th/early 16th-century tower house positioned above a steep south-east slope, Garlies Castle was deliberately located for surveillance and territorial dominance. Despite encroaching woodland, the principal elevation and surviving walls still command clear views across the landscape.

- The proposed development would result in turbines being visible behind or beside the castle structure when approached from the south and east, altering its setting from one of isolation and defensiveness to one of industrial intrusion.
- The castle's orientation and designed outlook would be visually compromised, harming its aesthetic, defensive, and associative values.

The EIAR makes no meaningful reference to the site's viewshed or how it relates to turbines within the Blair Hill layout.

6.2.6 Dalvaired Cairn and Other Unassessed Sites

Dalvaired is a prehistoric burial cairn of notable visibility and preservation, with a distinct profile within a relatively open fieldscape.

- As with Drumfern and Napper's chambered cairn, its form and setting are key to its heritage value.
- It is located within theoretical visibility of the turbine array but is not assessed in the EIAR in any capacity.

The same is true of several other regionally important scheduled or candidate sites, such as:

- White Cairn
- Cordorcan Cairn
- Boreland Cairn
- Drumwhirn Cairn

These omissions constitute a serious failure under Schedule 4 of the EIA Regulations, which requires the identification and assessment of all likely significant effects.

6.2.7 Conclusion to Section 6.2

The EIAR fails to assess Scheduled Monuments with even the most basic diligence. The lack of field verification, visual impact simulations, or setting assessment renders the conclusions reached by the applicant unsound. The turbines will introduce towering vertical elements into the skyline of nationally important heritage assets, fundamentally altering their setting, intervisibility, and cultural value.

In doing so, the development breaches:

- NPF4 Policy 7(a) – by failing to protect the setting of Scheduled Monuments.
- HEPS Principles 1, 2 and 3 – by neglecting cultural significance, broader historic environments, and the precautionary principle.
- And the Electricity Act 1989, which prohibits granting consent unless full and lawful assessment of environmental impacts is provided.

6.3 Impacts on Listed Buildings and Designed Landscapes

In addition to the nationally significant Scheduled Monuments, the wider landscape surrounding the Blair Hill proposal is home to a series of Listed Buildings and designed historic environments which reflect the architectural, domestic, and spiritual evolution of the region. These structures are formally protected under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997, and their setting is a material consideration under NPF4, HEPS, and LDP2.

Many of these buildings retain high degrees of original character, and their significance is inextricably linked to their relationship with the surrounding landscape—including views to and from architectural focal points, historic processional routes, approaches, and gardens. The EIAR, however, does not provide adequate setting assessments for these buildings. No photomontages, field photographs, or experiential analysis are presented. Instead, broad generalisations are made, and conclusions of “no significant effect” are reached without evidence.

6.3.1 Cree Bridge (LB17372)



The Cree Bridge Built by John Rennie between 1812 and 1814

This Category B-listed structure is a multi-arched stone bridge dating from the 18th century. It marks the formal entrance into Newton Stewart and is visually aligned with the historic axis of the town centre.

- The bridge forms part of a visual approach route to the town, historically important for trade and pilgrimage.
- Turbines positioned to the north and east of the town will rise above the visual horizon, altering the townscape experience and breaking the framed composition of bridge, river, and sky.

The EIAR does not provide any photomontage or commentary on this important receptor.

6.3.2 Monigaff Parish Church (LB17370)



Monigaff Church - Category B-listed with Graveyard

Positioned on elevated ground on the east bank of the Cree, Monigaff Church is Category B-listed and stands within a graveyard of considerable spiritual and community value.

- The building is orientated to offer open views across to Newton Stewart and the surrounding hills.
- The spiritual setting of the site is tranquil, contemplative, and unmechanised - qualities that would be undermined by the imposition of turbine movement and aviation lighting on the skyline.

No setting assessment is provided by the applicant from within or around the churchyard.

6.3.3 Penninghame Parish Church (LB17373)

Dating to the early 19th century, Penninghame Church sits amid open rural surroundings and forms a long-standing ecclesiastical focal point in the Cree Valley.

- The building's location and setting are crucial to its spiritual and historic character. Intervisibility with upland areas contributes to a sense of rural isolation and pastoral continuity.

- Turbines sited to the north of the church would be visible above the landscape, introducing mechanical movement and vertical intrusion into a peaceful, sacred space.

The EIAR claims no significant impact without presenting any visualisation or assessment of this change in character.

6.3.4 Cumloden House and Estate (LB17052 and LB17053)

Cumloden House is a mid-18th-century estate house designed with formal landscape principles and clear visual relationships to its surrounding grounds, approach drives, and distant hills. The estate gates are separately listed and frame a processional entry into the property.

- The house was deliberately sited for views north and east - toward the very direction of the proposed turbine cluster.
- Turbines in this direction will dominate the distant skyline and disrupt the designed symmetry and framed outlook integral to the building's significance.

This is a textbook example of adverse effect on a designed landscape, and yet the EIAR provides no visual simulation or mitigation.

6.3.5 Nappers Cottage and Chambered Cairn (LB17379)



A Close-up Photo Of Nappers Cottage - Category C-listed Building

This modest vernacular structure lies in close proximity to one of the best-preserved Neolithic Clyde-type chambered cairns in the

area. While the cottage is Category C-listed, its significance is heightened by its physical and contextual relationship to the adjacent prehistoric monument.

- The cairn, clearly visible in the landscape, is a key archaeological asset, and its intervisibility with other ritual sites (including Drumfern and Dalvaird) is crucial to its meaning.
- The presence of towering turbines in this viewshed would fragment the cultural narrative of settlement and belief across time.

Neither the cottage nor the cairn are assessed adequately in the EIAR.

6.3.6 Bargrennan Bridge (LB17402)



(c) Google 2023 - Bargrennan Bridge - Category B-listed Bridge On A714

This upland Category B-listed bridge forms part of a historic route through the moorlands to the north-west. Its setting remains rural and open, with views across the upland zone.

- The introduction of turbines along this historic route would erode the experience of movement through time, particularly in a landscape where visual storytelling through landform and built elements is vital.

No site visit or visual simulation was undertaken by RES or SLR Consulting.

6.3.7 Challoch Church

Challoch Church, located just 3km north of Newton Stewart on the A75, is a modest yet historically significant ecclesiastical structure that has long served as a spiritual and community landmark in the region. An '**A-listed building**', its position on a minor rise and its traditional construction style lend it both visual prominence and cultural value within the local landscape.

The church is situated on a traditional route linking Newton Stewart to the upland areas of the Cree Valley, and its setting retains an atmosphere of rural tranquillity and sacred continuity. Views from the church extend toward the hills to the northeast — the very direction in which the Blair Hill turbines would rise.

The presence of turbines up to 250 metres tall in this viewshed would:

- Erode the contemplative setting and approach to the church.
- Visually dominate an otherwise undeveloped skyline of spiritual and cultural importance.
- Undermine the heritage character of a building still used for occasional services, memorial events, and community reflection.

Despite Challoch Church being mentioned in the EIAR. No assessment of its views, setting, or cultural function is presented, and no mitigation is proposed, in breach of **NPF4 Policy 7(e)** and **HEPS Principle 2**, which require recognition of the full historic environment.

6.3.8 Designed Landscape Elements

In addition to these listed structures, the wider area contains:

- Historic avenue plantings, field boundaries, and estate roads associated with Penninghame and Cumloden.
- Historic farm buildings, such as Drannadow Farmhouse, constructed with regional materials and oriented to benefit from light and views.
- Rural ecclesiastical groupings, forming clusters of church, manse, burial ground, and access paths.

Each of these features contributes to setting, scale, and coherence within the landscape. The introduction of turbines to the backdrop of these settings would undermine their value and sever connections between designed and natural elements.

6.3.9 Conclusion to Section 6.3

The listed buildings and designed landscapes surrounding Blair Hill derive their significance not just from physical fabric but from their dialogue with the landscape. These heritage assets were designed, oriented, and positioned with intention - and turbines of up to 250 metres in height directly undermine these spatial relationships.

The EIAR does not assess these impacts with the level of detail required by:

- NPF4 Policy 7(b) – safeguarding the setting of listed buildings.
- LDP2 Policy HE1 – preventing development that would adversely affect the historic environment.
- HEPS Principles 1 and 3 – requiring understanding of cultural significance and a precautionary approach.

As such, the conclusions of the applicant's assessment are fundamentally unsound, and planning permission must be withheld on this basis alone.

6.4 Underestimation of Non-Designated Heritage Assets

While the protection of designated sites is essential, the wider cultural environment includes a wealth of non-designated heritage assets which contribute substantially to the historic character, legibility, and significance of the Blair Hill landscape. These include prehistoric cairns, shielings, boundary walls, ancient routeways, and vernacular structures - all forming an interconnected narrative

of land use and settlement extending from the Neolithic to the 20th century.

The Historic Environment Policy for Scotland (HEPS) and NPF4 Policy 7(e) make clear that such assets should not be dismissed purely because they lack formal designation. They are often of regional or local significance, and where development would result in adverse effects, mitigation or redesign must be considered. The EIAR submitted by RES Ltd and SLR Consulting does not meet this requirement. It presents a superficial desk-based review and fails to conduct even a basic walkover survey, despite the known presence of visible archaeological features across the site. This is contrary to standard good practice as set out by the Chartered Institute for Archaeologists (CIfA) and the EIA Regulations 2017, Schedule 4.

6.4.1 Chambered Cairns and Burial Sites

The area surrounding Blair Hill contains numerous non-designated cairns and prehistoric burial structures, including:

- **Napper's Chambered Cairn** (adjacent to the listed cottage).
- **Dalvaird Cairn**, a sub-oval burial mound with upstanding remains.
- **White Cairn, Boreland Cairn, Cordorcan Cairn, and Drumwhirn Cairn** - all recorded in the Dumfries and Galloway HER.

These features form a coherent funerary landscape, which mirrors similar Neolithic and Bronze Age site groupings across the Galloway Hills and Southern Uplands. Turbines introduced into this network would not only compromise their visibility and context but risk disturbing subsurface deposits of high archaeological value. The EIAR fails to evaluate these features on site and presents no mitigation plan should they be affected during groundworks.

6.4.2 Standing Stones and Astronomical Alignments

Sites such as **The Thieves Standing Stones** - two upright stones possibly forming part of a former stone circle - are intimately tied to astronomical alignment and prehistoric cosmology. The area is known for such features, with orientation toward solstice or lunar cycles often built into their placement.

- These sites were meant to interact with natural horizons and celestial movement - precisely the spatial context turbines would disrupt.
- The site is also thought to give the name "Blair Hill" to the modern development site, linking the proposed wind farm directly to this ritual heritage.

The EIAR fails to assess how turbines would affect views to and from this site or its possible alignment with other prehistoric monuments in the area.

6.4.3 Shielings, Agricultural Features and Drovers' Routes

The moorland areas proposed for turbine construction are rich in post-medieval shieling huts, dykes, trackways, and seasonal grazing systems, all of which are visible on aerial imagery and historic OS maps. These represent the everyday history of life in upland Galloway - stories of transhumance, subsistence farming, and rural resilience.

- Access tracks and cable trenches will cut through areas of high archaeological potential, yet no test trenching or geophysical survey is proposed.
- The visual coherence of historic routeways across open hill land will be permanently altered by turbine intrusion.

Despite their legibility and cultural value, these features are entirely omitted from the EIAR's heritage assessment.

6.4.4 Community Significance and Cultural Memory

Non-designated assets are often linked to oral history, place names, local folklore, and community identity. The Cree Valley and surrounding uplands have long been the subject of cultural storytelling, much of it embedded in landscape features such as:

- **Deil's Dyke**, a linear earthwork whose origin is still debated.
- **Cairnsmore of Fleet** The region, used as a cultural anchor in regional tourism and artistic representation.
- Sacred wells, forgotten kilns, and deserted steadings.

These assets reflect the intangible cultural heritage of the area and contribute to regional identity. Their loss or degradation would be felt by the local community, not just archaeologists or planners. The EIAR provides no engagement with local knowledge holders or heritage groups, in violation of NPF4 Policy 7(g) and HEPS Principle 5, which require stakeholder inclusion and community input.

6.4.5 Conclusion to Section 6.4

The Blair Hill proposal risks the permanent loss or degradation of dozens of non-designated but culturally significant heritage features. The EIAR fails to assess, map, or even acknowledge many of them. No field verification has been undertaken. No watching brief or mitigation strategy is proposed.

This amounts to a breach of:

- EIA (Scotland) Regulations 2017, Schedule 4 – requiring the identification of all likely significant effects.
- NPF4 Policy 7(e) – requiring proper consideration of non-designated assets.
- LDP2 Policy HE3 – requiring archaeological evaluation and protection.
- HEPS Principles 1 and 2 – recognising significance across the whole historic environment.

The applicant has under-assessed risk, undervalued cultural assets, and undermined public trust in the planning system. Consent should not be granted in the face of such fundamental failures.

6.5 Methodological and Evidential Weaknesses

The Cultural Heritage assessment presented in Chapter 7 of the EIAR is deeply flawed in both methodology and evidence. The applicant, RES Ltd, and their consultants have failed to adhere to the standards required under environmental and planning law, and the resulting report cannot be considered a reliable basis for decision-making.

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, NPF4 Policy 7, and Historic Environment Policy for Scotland (HEPS) all require that cultural heritage impact assessments:

- Be based on a comprehensive understanding of cultural significance.
- Include experiential and visual analyses.
- Assess cumulative impacts and changes to setting.
- And involve appropriate fieldwork, consultation, and community engagement.

The submitted assessment fails in all of these respects.

6.5.1 Over-Reliance on Desk-Based ZTV Modelling

The EIAR relies heavily on Zone of Theoretical Visibility (ZTV) mapping to determine which assets may be affected by the turbines. While ZTV maps are a useful screening tool, they are not a substitute for experiential assessment. They do not capture:

- The importance of skyline context to ecclesiastical or ritual sites.
- The impact of moving blades in sensitive settings.
- Foreground and approach views, which can significantly affect setting.
- The auditory and atmospheric effects of turbines in otherwise quiet or spiritual locations.

No site-based testing of ZTV assumptions is provided. No field photography or viewpoint analysis is included from affected monuments or listed buildings.

6.5.2 Absence of Visualisations from Heritage Receptors

Despite the visual dominance of turbines up to 250 metres in height, the EIAR fails to include any photomontages or wireframes from critical cultural heritage sites. These include:

- **Drumfern Cairn and Stone Circle.**
- **Monigaff, Challoch and Penninghame Parish Churches.**
- **Garlies Castle.**
- **Napper's Chambered Cairn.**
- **Cumloden Estate.**
- **Cree Bridge** and approach roads.

This omission makes it impossible for consultees or the public to assess the likely impact on these receptors and undermines the transparency and legal adequacy of the EIA process.

6.5.3 No Setting or Experiential Assessment

The setting of heritage assets is not a matter of views alone. As per HEPS and Historic Environment Scotland's guidance on setting, setting includes:

- Sensory experience (e.g. quiet, light, atmosphere).
- Associative value (e.g. spiritual, symbolic, historical).
- Sequential or processional views (e.g. approach to estate houses or churches).
- Visibility relationships between assets (e.g. alignment of stone circles or towers).

The EIAR does not address these at all. It reduces setting to a matter of proximity and topographic screening, a method explicitly discouraged by HEPS and Planning Advice Note 2/2011.

6.5.4 Lack of Fieldwork or Ground Investigation

The applicant appears to have conducted no field survey, no walkover, no photographic study, and no geophysical or archaeological investigation of the development area. This is despite:

- Clear evidence of surface-visible features across Blair Hill and surrounding moorland.
- Proximity to known prehistoric cairns, shielings, and possible ritual sites.
- A development footprint involving deep excavations, trenching, road building, and drainage.

This breach of standard archaeological practice is unacceptable in a heritage-rich landscape and contravenes LDP2 Policy HE3, which requires appropriate archaeological investigation.

6.5.5 No Cumulative Impact Assessment

The EIAR fails to assess the cumulative impact of the Blair Hill proposal alongside other operational, consented, or proposed developments in the area. These include:

- **Glenvernoch Wind Farm** (submitted).
- **Shennanton Wind Farm** (at scoping).
- Existing developments across Dumfries and Galloway and South Ayrshire.

Several monuments and buildings are already affected by existing turbines, and the addition of Blair Hill would result in:

- Encirclement of sites like Drumfern and Penninghame by turbine visibility.
- Loss of remaining undeveloped skyline.
- Cultural landscape fragmentation, especially across ritual and ecclesiastical sites.

The omission of cumulative analysis is a direct breach of EIA Regulation 4(3)(e) and renders the assessment incomplete.

6.5.6 No Stakeholder Consultation or Community Engagement

There is no evidence that RES Ltd consulted with:

- Historic Environment Scotland (HES) on individual assets.
- The Dumfries and Galloway Archaeology Service.
- Local heritage or history groups, including community councils.
- Or the general public on matters of cultural significance.

This fails to meet NPF4 Policy 7(g) and HEPS Principle 5, both of which require that development decisions be informed by stakeholder engagement and community knowledge.

6.5.7 Conclusion to Section 6.5

The methodological failures of the applicant are so profound that the EIAR's conclusions on cultural heritage cannot be relied upon. Without the following the EIAR fails to meet the legal and policy requirements for Environmental Impact Assessment under Scottish law:

- Fieldwork.
- Visual analysis from receptors.
- Setting assessments.
- Cumulative impact evaluations
- Or community input.

This proposal cannot lawfully proceed without a full and compliant reassessment of cultural heritage impacts.

6.6 Planning Policy Conflict

The Blair Hill Wind Farm proposal, as submitted, is fundamentally incompatible with national, regional, and statutory policy relating to the protection of the historic environment. The failures in assessment, lack of mitigation, and demonstrable harm to multiple heritage assets place the development in direct conflict with planning policy at every level.

This section sets out how the proposal breaches:

- National Planning Framework 4 (NPF4)
- The Historic Environment Policy for Scotland (HEPS)

- The Dumfries and Galloway Local Development Plan 2 (LDP2)
- The Electricity Act 1989, as implemented through Section 36
- The Environmental Impact Assessment (Scotland) Regulations 2017

6.6.1 NPF4 – Policy 7: Historic Assets and Places

Policy 7 of NPF4 sets out a clear expectation that Scotland's historic environment must be valued and protected. Specifically, development proposals must:

- (a) Protect scheduled monuments and their settings.
- (b) Safeguard the character and setting of listed buildings.
- (c) Understand and respect setting, including experience and perception.
- (e) Assess cumulative impacts on the historic environment.
- (f) Avoid or mitigate significant impacts.
- (g) Demonstrate stakeholder and community engagement.

The Blair Hill Wind Farm proposal demonstrably fails on each of these fronts:

- It does not assess the effect of turbines on the setting of Drumfern Cairn, Garlies Castle, or other scheduled sites (breach of 7a).
- It ignores the experiential setting of listed churches and estate buildings (breach of 7b and 7c).
- It omits any cumulative assessment with Glenvernoch or Shennanton (breach of 7e).
- It proposes no mitigation, redesign, or heritage offsetting (breach of 7f).
- It fails to consult with Historic Environment Scotland, local archaeology officers, or the public on heritage issues (breach of 7g).

The development is therefore in direct violation of Scotland's top-tier national planning policy.

6.6.2 HEPS – Historic Environment Policy for Scotland

The Historic Environment Policy for Scotland (2019) sets out six principles and five outcomes to guide decisions affecting heritage. The Blair Hill proposal breaches the following:

HEPS Principle	Breach
Principle 1 – Decisions should be informed by an understanding of cultural significance	No fieldwork, experiential study, or receptor visualisation conducted
Principle 2 – Recognise and value the whole historic environment	Non-designated assets dismissed, cumulative cultural value ignored
Principle 3 – Apply a precautionary approach where significance is uncertain	Broad conclusions of “no impact” made without supporting evidence
Principle 5 – Decisions should be informed by consultation and community input	No community or stakeholder engagement undertaken

The proposal is therefore in fundamental conflict with national heritage management principles.

6.6.3 Dumfries and Galloway Local Development Plan 2 (LDP2)

The Dumfries and Galloway Local Development Plan 2 includes a series of protective policies for the historic environment:

LDP2 Policy	Conflict
HE1 – Listed Buildings	Turbines will impact the setting of Cumlodan House, Nappers Cottage, Penninghame and Monigaff Churches
HE2 – Archaeological Sites and Monuments	No mitigation or preservation strategy provided for known or potential archaeological features
HE3 – Archaeological Evaluation	No pre-determination evaluation undertaken; no archaeological watching brief proposed

These policies are clear: where development adversely affects the historic environment, it should not be supported. The Blair Hill EIAR fails to meet the assessment or policy thresholds.

6.6.4 The Electricity Act 1989 and EIA Regulations

Under Section 36 of the Electricity Act 1989, consent for generating stations (including wind farms over 50 MW) must consider environmental impacts, including cultural heritage.

This must be done in line with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, which require:

- Identification and assessment of significant effects on cultural heritage.
- Description of cumulative and synergistic impacts.
- Use of sufficient evidence and appropriate methods.

The EIAR fails to meet these standards. By omitting cumulative assessment, experiential analysis, and setting-based visualisations, the applicant has not complied with the regulatory requirements for Section 36 consent. Any decision by Scottish Ministers to approve the proposal in its current form would be vulnerable to legal challenge on the grounds of non-compliance with EIA law and material planning policy conflict.

6.6.5 Conclusion to Section 6.6

The Blair Hill Wind Farm proposal is incompatible with every relevant layer of cultural heritage policy and legislation. It fails to meet:

- National planning policy (NPF4).
- Historic environment policy (HEPS).
- Local development plan policy (LDP2).
- And statutory obligations under the Electricity Act and EIA Regulations.

There is no legal, procedural, or policy basis on which this development can be approved without a comprehensive reassessment. In the absence of that, the application must be refused.

6.7 Conclusion: Cultural and Historic Impacts Are Unacceptable

The Blair Hill Wind Farm proposal presents a direct and irreversible threat to the historic and cultural fabric of Wigtownshire and the broader Galloway region. Situated within a densely layered heritage landscape that includes nationally important monuments, listed ecclesiastical structures, designed estates, prehistoric ritual sites, and vernacular archaeological remains, the introduction of industrial turbines - measuring up to 250 metres in height - would cause substantial and widespread harm.

The cultural heritage impacts are not abstract or speculative. They are immediate, material, and demonstrable. The turbines would:

- Visually dominate Scheduled Monuments including Drumfern Cairn and Garlies Castle.
- Undermine the integrity and setting of listed buildings such as Monigaff and Penninghame Parish Churches, Cumloden House, Cree Bridge, and Nappers Cottage.
- Interrupt historic landscape relationships among burial cairns, standing stones, and designed estates.
- Erode the character of the Cree Valley, a historic and spiritual landscape of high regional value.
- And obliterate the skyline context that underpins the significance of upland ritual sites, estate approaches, and sacred buildings.

These impacts are compounded by a wholly inadequate assessment process. The EIAR submitted by RES Ltd:

- Fails to conduct setting or experiential analysis.
- Provides no receptor-based visualisations from key heritage sites.
- Omits cumulative impact evaluation.
- Neglects non-designated archaeological assets, including visible and documented cairns, dykes, and shielings.
- And engages in no meaningful consultation with stakeholders, heritage bodies, or the local community.

This constitutes a breach of:

- National Planning Framework 4 (Policy 7).
- The Historic Environment Policy for Scotland (HEPS).
- Dumfries and Galloway Local Development Plan 2 (Policies HE1–HE3).
- The Electricity Act 1989 and its requirements under Section 36.
- The Environmental Impact Assessment (Scotland) Regulations 2017, including Schedule 4 and Regulation 4(3)(e).

The cultural and historic value of the Blair Hill landscape cannot be overstated. It is not only a repository of archaeological knowledge but also a place of living heritage, community identity, and deep time continuity. The imposition of vertical industrial infrastructure (and the considerable area of groundworks involved with this) into this landscape represents a form of spatial and cultural erasure that cannot be undone. The adverse impacts are significant, avoidable, and contrary to public policy.

There is no credible planning rationale that justifies the harm that would result. The Blair Hill Wind Farm proposal should therefore be refused in full on cultural heritage grounds.

Chapter 7: Ecology Assessment

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Wood Warbler

The Merrick Wild Lands Area

The designated Wild Land area site is basically the Merrick upland and the Silver Flow, the southern boundary being a line just south of Loch Trool and Loch Dee, just 5km from this site. An area defined as remote, creating a feeling of awe and inspiring feelings of naturalness and solitude, free from the intrusions of manmade developments. The high plateau which runs from the designated Wild Land and Loch Trool south along the Lamachan and the Larg hills brings one directly to the proposed Blair Hill wind farm. It could be argued that this high plateau, being less visited than the Merrick, feels even more wild and remote (and therefore awe inspiring) while offering excellent views: sweeping west to Ailsa Craig, the Clyde and south over Wigtown Bay to the Lake District and the Isle of Man, a truly special view which would be completely compromised or even destroyed by this proposed development. The Southern Upland Way long distance footpath offers magnificent views of the Galloway Hills and this proposed development will completely alter the wild remote quality of that experience and make it profoundly industrial in nature. The approach on the A75 from Stranraer to Newton Stewart and similarly the approach from Wigtown to Newton Stewart offer fantastic views of the Galloway Hills; both will be severely compromised and greatly lessened by these intrusive turbines.

The switch to a Greener, Renewable Energy Source is being promoted as primary resolution to increasing CO2 levels and the Climate Crisis, which is believed to be the single largest threat to Biodiversity and life on earth. **Renewable Energy Developments should only take place in areas where they do not threaten or contribute to the decline of Biodiversity.** The Power companies driving these developments are solely interested in financial gain seeking out cheap land on which to deliver their industrial scale developments. In doing so they are disingenuous in paying lip service to Biodiversity to seek favour for their applications.

The Drannadow Farm of which Blair Hill forms a part supports a rich example of Pasture Woodland, now a very rare habitat in the UK and merits special consideration and conservation.

7.1 Ecology, Habitat and Species of National Conservation Concern found at Blair Hill

The proposed area of Blair Hill Wind Farm covers an area of semi-improved, unimproved acid grassland, plus areas of peatland and bog with associated vegetation (highlighted by the NVC surveys which demonstrate a rich mosaic of acid grassland and bog). 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-hyphae (known for wax cap fungi), invertebrate populations and a range of acid loving plants, including Sphagnum mosses 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 in the UK, with 80% now in forestry. The considerable number of Wind Turbines across SW Scotland, more than 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 (Curlew, Oystercatchers, Snipe, Lapwing, Golden Plover), 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. Curlew bred across the region in numbers of International importance and are now rare. 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 Blair Hill.

Residents of the Cree Valley have lived and worked here for many decades. Bird life and wildlife has been recorded and observed, noting 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 by the Cree Valley Woodland Trust in the past two decades, at great expense, to link and extend the woodlands 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. Recording 7 species of bat as common residents in the Cree Valley and as such is a national strong-hold for bats. 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.

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 important. Even species once considered common and widespread such as

Skylark, that were found in every field across the region and filled the skies with song, are now confined to these unimproved hillsides and rare coastal marshes. Elsewhere Skylarks are now extremely scarce where they were once found in profusion. These areas of low intensity farming, perhaps seen by many as poor quality farmland of low value, support a far richer biodiversity than the intensively farmed grasslands on richer soils.



Pied Flycatcher

The Cree Valley has a huge ecological value, is visually magnificent, supporting a rich mix of fast and slow running rivers, bordered in places by rich freshwater marshes and Nationally Important Ancient Broadleaved Woodlands, with a fabulous rich diversity of plants, insects, mammals and birds, set in a stunning landscape with the back drop of the Galloway Hills. Being a prime destination for visitors and tourists forming the backbone of the local economy, now recognised and proposed as a National Park, along with current designations of Dark-Skies Park, Galloway and South Ayrshire UNESCO Biosphere, Galloway Woodland Special Area of Conservation, Wood of Cree Site of Special Scientific Interest (which includes the River and freshwater marshes). Much of the oak woodland has a soft edge spilling out onto grazing land scattered with mature oaks forming attractive Grazed Pasture Woodland, which is recognised as a rare habitat and supports high number of Redstart, Tree Pipit, Whinchat, Owls, Buzzards and many other species. This graded woodland edge has been largely lost in England where hard edge woodlands lack this attractive slow gradation on to hill pasture.

This proposed Wind Farm would be totally and unacceptably intrusive into this most cherished and valuable area, altering and destroying the most significant landscape in SW Scotland. The Wood of Cree has often been cited as one of the top 10 destinations in the UK to view bluebells in the spring, attracting thousands of visitors. The proposed massive turbines with associated noise and flicker would be an unacceptable intrusion on this fabulous site, recognised as of national importance and visited by thousands of people. The minor road which follows the valley and passes through the Wood of Cree SSSI is part of a National Cycle Route no 7, which itself is used by many locals and visitors alike.

Not only will the construction of the proposed turbines, massively disrupt the soils, along with the necessary tracks, but the huge concrete and steel base plates needed to act as foundations will remain in the ground for ever (even after decommissioning), altering soil chemistry and water run-off. Not to mention the enormous Carbon dioxide emissions produced by creating the vast amount of concrete required. The concrete mix will also require millions of litres of fresh-water that will probably be extracted from the river catchment system or be imported by many inappropriately disruptive movements of HGV tankers to this tranquil location.

7.2 Flora

The NVC surveys illustrate a rich complex mix of varying vegetation communities with numerous Annex 1 Habitats and SBL Priority Habitat types listed in Table 6.3 of Tech Appendix 8.1. The wet flushed grassland on the Glenmalloch slopes above Garlies Castle support a healthy community of the regionally rare Pale Butterwort *Pinguicula lusitanica* and Dioecious Sedge *Carex dioica*, (M10 NVC Alkaline fen classed as 7230 Annex 1 habitat) along with numerous orchids. Such flushes are sensitive to compaction by machinery and change in pH of the run-off water, which is likely by placing tracks and quantities of concrete and cement on the site above this location. Turbines 13 and 14 are likely to impact these rare plants. This area is also used by Black Grouse and adders are also present.

M10 is an Annex 1 Habitat, a Ground Water Dependant Terrestrial Ecosystem (GWDTE) yet is not listed in Tech Appx 8.1, 6.5 Sensitivity Summary, nor does it appear in the table 6.3 Summary of study area communities and sensitivities. What else is missing? Pale Butterwort *Pinguicula lusitanica* is recorded in only five 10km squares in Dumfries and Galloway during 1987-1999 (New Atlas of British and Irish Flora, CD Preston, DA Pearman & TD Dines 2002).

The rare Wilson's Filmy Fern *Hymenophyllum wilsonii* grows on a number of rocks by waterfalls in Cadocan Burn, a burn which drains the northern part of the proposed site. Any change in the water flow, or composition of the water due to construction could threaten this rare plant, which was recorded in only 4, 10km squares in SW Scotland 1987-1999 (New Atlas of British and Irish Flora, CD Preston, DA Pearman & TD Dines 2002).

7.3 Bats in Relation to the Proposed Blair Hill Wind Farm (Bat Report Vol.3 TA 8.3)

All bat species in the UK are fully protected under the Conservation (Natural Habitats & c) Regulations 1994 (as amended). **It is an offence to deliberately or recklessly to:**

- Capture, injure or kill a bat
- Disturb a bat while it is migrating or hibernating

SW Scotland is recognised as the best region of Scotland for both numbers of bats and the diversity of bat species. The Cree Valley is one of the most important areas in Scotland for bat populations, they have been studied here for at least 40 years and numerous bat boxes provided and monitored over that time. There is a good understanding of bats in the Cree Valley. We know that the valley is of particular importance for the rare Leisler's bat which occurs here in numbers but is rare in the rest of Scotland.

The bat survey conducted by MacArthur Green, recorded the 7 bat species which are regular in the valley being: Common Pipistrelle, Soprano Pipistrelle, Brown Long-eared, Natterer's, Daubenton's, Leisler's and Noctule. Of these Common Pipistrelle, Soprano Pipistrelle, Daubenton's and Brown Long-eared have declined considerably in the Cree Valley and population levels are of concern. Of particular note, the survey also recorded 2 bats which are very rare in the region, Whiskered and Narthuisius' Pipistrelle. Narthusius' is especially rare on the west of Scotland and there are only a handful of records for D&G. The literature search, found a record of Brandt's bat within 5km of the proposed wind farm thus illustrating the richness of this area.

The Blair Hill survey using static anabat detectors, recognising that the detectors only have a realistic monitoring range of 30 meters. Therefore 14 locations (one of which was faulty for a period, location 11) will only ever hope to record a fraction of the bats using the air space over the proposed site. Nonetheless a surprising level of bat activity was recorded and high-risk species identified. This in a year when the weather was dreadful and a perception that bat activity locally was considerably reduced (personal observation)

The EIA report states that:

"Given the presence of high collision risk species on-site and the identification of some potential Moderate to High risk locations at certain times of the year, it is expected that a Bat Mitigation and Monitoring Plan (BMMP) may be required as a condition of consent. This BMMP will facilitate for post-construction/operational phase bat monitoring to ensure implemented mitigation is successful."

MacArthur Green recommend feathering the turbine blades at idle speed to reduce collisions (this action will only have an effect when the blades are idling, not turning to produce energy). They further recommend, at least for the first year of operations, to look for collisions and bat carcasses. Both of these actions are extremely worrying in that they recognise a real risk to the bats over the site. Searching for bat carcasses below turbines is a hopeless task as a multitude of predators, Owls, Red Kites, Buzzards, Foxes, Badgers, Stoats, Weasels, Crows, Ravens are far more likely to find the carcasses than any dog deployed, thereby skewing the results enormously and conceal the real fatality number. **Once the turbines are built at a huge cost these actions will be useless in protecting bats, it will not stop the turbines from turning.**

The statement in the EIA report:

"After the first year of monitoring, the information will be used to inform the development of a detailed curtailment plan, if this is deemed to be required. If implemented, the curtailment plan will be monitored further to establish its effectiveness and any changes in activity created by surrounding habitat change associated with forestry operations. A curtailment plan involves raising the cut-in speed with associated loss of power generation in combination with reducing the blade rotation below the cut-in speed. This can be considered where reduced rotation speed whilst idling does not provide sufficient reduction in risk to bats. Effective and efficient curtailment plans require high resolution information on bat activity combined with detailed weather data on rainfall and wind speed plus information from carcass searches. This information allows curtailment to focus on specific times and dates corresponding with periods of high bat activity."

This statement is appalling as it accepts that there is risk to vulnerable, threatened and fully protected species, but seems to skirt around the issue by suggesting actions which will have limited effect at best and no effect at worst and if followed could severely curtail the whole operation. This is a classic case of the wrong location.

The report states that Noctule, Soprano Pipistrelle and Brown long-eared are UK BAP species and it recognises that Whiskered, Brandt's, Nathusius', Noctule and Leisler's are the rarest bat species in Scotland and that Brown long-eared, Daubenton's and Natterer's are rare.

The report recorded that monitoring locations 12, 13, 14, 15 have the highest bat activity, these are spread across a large section of the site. Air turbulence created by turning turbine blades can draw small bats and birds in resulting not only collision but also cause barotrauma (damage to lungs and ear drums caused by changes in pressure created by the blades, small bats and birds can be swept up in the vortices created by turbines and even at distance can suffer fatal barotrauma without direct collision). Wind turbines are now thought to be one of the leading causes of death in bats. All of the vibration and noise may also impact on bats and disturb their ability to navigate and feed. A recent study, based largely in Germany, has identified that wind turbines decimate far more insects than was previously thought, to an alarming degree. This would impact directly on bat populations in the valley and could well have detrimental effect not only on the invertebrates themselves, but also on the birds and bats of the wider countryside, by reducing a primary food source to a wide section of animals.

It would seem in this sensitive location that a precautionary approach should be taken and therefore avoid putting turbines on the site altogether. The main driver for the shift to Renewable Energy is to reducing CO2 emission levels, protect and enhance biodiversity by alleviating the climate crisis. It therefore seems contrary to this initiative to build a wind farm with multiple enormous

turbines in an area where there is a known risk to one of our most vulnerable and threatened groups of mammals.

Furthermore the Cree Valley has a ribbon of fragmented ancient broadleaved woodlands (both SAC and SSSI) stretching from Newton Stewart to Glen Trool, considerable effort and cost has been expended since the turn of the century under the Cree Valley Community Woodland Project to restore all of these fragments, removing underplanted conifers reinstating the native species and then connecting all of these fragments into one continuous corridor of native broad-leaved woods stretching 18kms and now being one of the largest native broad-leaved woodlands in Scotland. Indeed, the direct neighbour to Blair Hill is the Barclye RSPB reserve where over 200 hectares of new broad-leaved trees have been planted to link Knockman Wood to the SSSI Wood of Cree.

These trees are now 20 years old and as they grow and mature will attract more bats and other wildlife, including Black Grouse, which makes the Blair Hill project location even more questionable and directly threatens this wonderful work, which has been achieved to encourage wildlife and wild places. This Cree Valley Woodland embraces both the Wood of Cree SSSI and all of the Galloway Oakwoods SAC along the valley.

This development will harm bats thereby infringing the law by causing harm and the reckless killing and disturbance of bats. It is clearly the wrong location as it is so close to the rich biodiverse Cree Valley and complex associated habitats.

7.4 Invertebrates

There is **no mention of invertebrates** in the EIA, we can only assume that no work has been carried out. This is quite an omission especially as recent reports of studies in Germany suggest that turbines kill far more invertebrates than was previously thought, which will have a negative effect on bats and birds.

7.5 Fungi

As ancient acid and neutral grasslands are known to be rich in fungal flora it is tragic that **no survey was conducted** in the EIA. Simply not considered.

7.6 Reptiles

The survey report fails to record Adders which are present across the site.

7.7 Fisheries (Fish Survey Report Technical Appendix 8.4)

This report highlights the **high sensitivity of protected species both Salmonid and European Eel**. The River Cree and its tributaries drain the most afforested catchment in the UK, the Cree has suffered a collapse in its Salmon fisheries since the 1980's and possibly earlier, there have been concerns over increased acidification. In the past 3 decades, the numbers of Dipper, a riverside bird that feeds exclusively on aquatic invertebrates, have also collapsed raising real concerns over the water quality. Considerable work has been carried out by the Galloway Fisheries Trust and others to help restore the fisheries by establishing hatcheries and continuous detailed monitoring.

As highlighted in the report all species are highly susceptible to water pollution both chemical and suspended sediment. All construction and decommissioning works, including building foundations, tracks, roads, water crossings, have a high risk of contamination especially on this industrial scale by operators who may not be particularly environmentally aware, being used to industrial sites. This Project is a threat to the aquatic environment by the industrial scale of the operations in a sensitive landscape, where chemicals, cement and sediment (both peat and dust) could cause catastrophic harm. This is exacerbated by the particularly long access route in to the site, crossing numerous burns and rivers, thereby greatly increasing the risk of damage and contamination, making this a poor location for this development.

The RES report provides a long list of potentially damaging operations and recommendations which would need to be adhered to with no accidents caused by human error. Is that possible in the real world in such remote and difficult terrain?

7.8 Mitigation: Blair Hill Outline Biodiversity Enhancement Plan (Appendix 8.6)

Whilst all the proposed works look interesting, they will no doubt, as claimed, improve the biodiversity of the site but in doing so would draw more birds and especially bats into the potential killing zone therefore negating the proposals. This is of serious concern. The biodiversity enhancement plan would be wonderful if there were to be no turbines but sadly that is not the proposal and as the turbines form a key part of this project, we feel it is misplaced and completely inappropriate for this location.

Any tree planting would take 30-50 years to begin to reach maturity which is beyond the life of this project. What guarantees are there that any such planting would be protected beyond the project? During the project trees and shrubs in their infancy will be of limited biodiversity value. All broadleaved tree planting is a very long-term project (100-200 years) and once the turbines are decommissioned what will prevent landowners re-establishing Sitka plantations and grazing?

The removal of Sitka spruce regeneration on areas of peat grassland would have to be undertaken over the lifetime of the development. The plan only seems to cater for reporting over the first 5 years. How will it be carried out? Heavy machinery on this land would be very damaging. Bracken removal, again to be effective needs to be carried out over a very long term. Chemical treatment using Asulox is no longer legal in the UK so regular cutting or rolling would be necessary, with follow up treatments for many years, and likely to crush ground nesting birds in the immediate vicinity.

Dam reprofiling and blocking active drains, could lead to increased silt contamination of ground waters which could potentially effect fisheries and hydrology. This would need to be carried out by very sensitive and aware ground staff.

7.9 Conclusion to Ecology Generally

RES's summary of the ecology of this area is a disgrace, dismissing often rare and scarce local species as not significant, sweeping aside Scheduled 1 birds based on very limited data. Not even monitoring or assessing Red and Amber bird species of Conservation Concern and virtually side-lining all of the bat species as not significant, is incomprehensible. Not even monitoring fundamentally important groups, invertebrates and fungi. Missing adders in a habitat which is so classic of this species. Missing locally rare M10 Alkaline Fen which is 7230 Annex 1 Habitat type from the sensitivity assessment. No assessment of nocturnal use of the site by birds both nocturnal hunters and migrants. This project would seriously jeopardise an important Black Grouse population of regional importance and limit the Golden Eagle reintroduction program. Dismissing the close proximity to SSSI and SAC Woodlands along the Cree Valley is appalling.

The proposed mitigation works will attract more red and amber listed birds of Conservation Concern, as well as Priority Schedule 1 birds and an increased number of bats into the area where they are likely to suffer from lethal barotrauma or direct collision with turbines. **Qualifying as wilful or reckless destruction of protected wildlife.**

It is depressing. No wonder all our wildlife is declining if this is the way developers and governments want to treat our precious wildlife habitats, which bring so much joy and mental well-being to so many.

Illustrations by Paul Collin

Chapter 8: Ornithology Assessment

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Chapter 8: Ornithology Assessment



Wood Warbler

8.1 The Key Species on this site are:

- Breeding Black Grouse
- Golden Eagle
- Hen Harrier
- Merlin
- Peregrine Falcon
- Migration along Cree Valley Corridor, effect on Wigtown Bay SPA

It must be borne in mind that during the whole survey period extensive forestry felling was taking place both day and night in the adjacent forest which could have negatively impacted the results and displaced birds away from the area, especially birds such as Golden Eagle, Hen Harrier.

Black Grouse: There is an extremely important remnant population of Black Grouse displaying on the site, the population is probably 3-7 males that wander over the Blair Hill, Barclay, Glenmalloch and Garlick Hill area. The Dumfries & Galloway, population (RSPB FLS survey in 2023 produced at total of 88 males lekking at 51 sites) is now very fragile and every bird and all lekking sites are of value and should be protected. The EIA report identifies 3 separate lek sites. Representing 5-10% of the D&G population.. This fragile remnant group is of high regional value and will be at risk from disruption due to disturbance, vibration, noise, flicker, lighting as well as collision risk and therefore this site should not be developed.

Golden Eagle: The EIA survey recorded one flight of Golden Eagle. A bird was flushed from seated vantage point and moved round to another vantage point giving every indication that these hunting vantage points were well known to the bird and thus regularly used. The former owner of Drannadow Farm, Robert Horne claimed to regularly see Golden Eagles. Kenneth Whaite who lived opposite Wood of Cree saw Golden Eagle on a number of occasions over Drannadow/Blair Hill. I personally have seen Golden Eagles over the area. The bird recorded does not appear to have a satellite tracked bird so was unlikely to be the female released from the introduction program in Moffat which has also been tracked over the area and has been in the area for 18 months. It is highly likely as the Eagle population grows this site will become more regularly used. Golden Eagles were reliably reported twice during 2024 a little further north in the Cree Valley within 5km of Blair Hill and have been tracked over this area by the Eagle Release project. Historically, in the last 20 to 25-years, Golden Eagle have nested within 5 miles (Ref: Donald and Jeff Watson, Roger Croft, 2025), well within feeding territory and it is hoped that this site will be recolonised

Hen Harrier: The most threatened and persecuted of British Raptors was recorded twice during the EIA survey period both flights during the breeding season (2 flight lines mapped yet table 9-1-2 lists 12 records this is surely an error). What is not reported is that a pair were seen displaying over Garlick Hill less than half a kilometre from the nearest turbine, which leads to the possibility that they bred nearby undetected.

Merlin: During VPs 9 Merlin flights were recorded 2 of which were during the breeding season indicating that this is an important area for both wintering and possibly breeding Merlins (nearby). See point below about each VP only representing 1.6% of available daylight hours thereby likely to be greatly under recording the use of the site by all important bird species

Peregrine Falcon: Only one flight was recorded during VPs, this species regularly breeds within 3km of the site and is often recorded over the area. The low number recorded during the VPs is very surprising.

Migration Route: During the baseline assessments the Solway Firth SPA, Cree Estuary SSSI and Wigtown Bay LNR were factored out of the assessment based largely on the foraging distance of geese and waterfowl, making the proposed Blair Hill site too far away and therefore of no impact. This assessment completely disregards the migration of the birds, many of which migrate in large numbers at night. For those of us that live in the Cree Valley the northwards passage of Pink-footed Geese in the spring, is well known. Hundreds move daily along the river corridor seeking an easy route around the hills, heading north to Iceland and Greenland, mainly late March to early May. This passage is likely to involve the whole of the Cree Estuary population running to ten thousand plus. Similarly in the autumn Whooper Swans arrive from the north and are regularly seen flying south along the Cree Valley, and returning north in spring; likely to involve over 100 individuals that winter on Wigtown Bay.

Passage of waders and wildfowl along this route is also well known; one can frequently hear Oystercatcher, Curlew, Lapwing, Wigeon passing over at night. This is illustrated by the EIA report records of both Golden Plover and Curlew on the site (up to 4000 GP occur on Wigtown Bay along with 300-500 Curlew). Casual Nocturnal migration monitoring using static sound recorders in Minnigaff have also regularly recorded scarcer species such as Common Scoter and Water Rail. I have personally have heard Sandwich Tern, Greenshank, Whimbrel migrating at night along the valley. It is highly likely that a large percentage of the birds using Wigtown Bay arrive and depart along this migratory corridor. Maximum counts of birds on Wigtown Bay regularly reach 15,000 birds and during the season there is likely to be a large turnover of individuals meaning that far higher numbers use the Bay. A high percentage of these birds will breed in Scotland but also further north in Iceland and Greenland. This Cree Valley corridor is the shortest route avoiding the high Galloway Hills to the coast at Girvan and on to the Western Isles and beyond. Herring Gulls (red listed) and Lesser Black-backed Gulls (amber listed) also use the Cree Valley in their hundreds, if not thousands, as a key migration route visible during day light hours in the spring.

In the autumn tens of thousands of migratory Redwings and Fieldfares can be heard moving at night and many more passerines are likely to be involved. Other key migratory species which use the valley and could be impacted by active turbines are Common Snipe, Jack Snipe and Woodcock, which are known to gather in the Wood of Cree marshes late Oct through November when

flocks of up to 100 can be found in single meadow and again as they return in the spring. These nocturnal movements are likely to involve thousands of birds, which are virtually impossible to monitor but seem to be completely ignored by this EIA which is incredibly worrying. Whilst not set in the valley bottom the proposed wind farm is close enough to be of concern and the site should not be considered for this inappropriate development for reasons of the importance for numerous and significant populations of migratory birds.

On several occasions Osprey has been recorded carrying flat fish, a marine species obviously caught in the Wigtown Bay, heading through the proposed site to a nesting territory some miles to the north. Under certain weather conditions, which make inland hunting difficult, this may be a regular occurrence.



Great Spotted Woodpecker

Wood of Cree is one of the key breeding sites in Scotland for Pied Flycatchers (less than 450 pairs in Scotland), it also supports one of the densest breeding populations of Wood Warblers in the UK and again a key Scottish breeding site, as well as a host of other African migrants including Redstart, Tree Pipit, Spotted Flycatcher, Grasshopper Warbler. The wider area including Barclye, Blair Hill, Drannadow Farm support other breeding migratory passerines, Wheatear, Whinchat, Skylark, Cuckoo. All of these Red and Amber listed species will be at threat either during their migration to their breeding sites or while on site either by direct collision, disturbance through vibration, flicker, noise or to loss of insects. Skylarks certainly fly high enough during their aerial display/song flights to encounter turbine blades. Many of these species are now extremely rare in the more developed areas of southern England and bringing these industrial scale proposals here seriously threatens the long-term future of these now threatened species. **All of these, red and amber listed passerine species have not been included in the EIA and this is of great concern.**

Other resident species which breed on the site or near to it include, Reed Bunting, Linnet, Meadow Pipit, Mistle Thrush, Tawny Owl, Barn Owl, Whitethroat. Crossbill breed in neighbouring forests and regularly pass over or through the site, all are red or amber listed as of conservation concern. Drannadow Farm/Blair Hill in the recent past held good numbers of displaying Black Grouse when up to 12 regularly displayed on Blair Hill, also 2 pairs of Curlew regularly bred. Snipe are known to still breed on the lower slopes of the site.

The EIA states:

"9.1.5 Collision mortality risks have been estimated for curlew, golden plover, greylag goose, hen harrier, herring gull, lapwing, merlin, peregrine falcon, pink-footed goose and red kite using the NatureScot Collision Risk Model (CRM). Collision mortality risks are predicted as being low or negligible for all species."



Long Tailed Tit

8.2 Vantage Point Surveys

The system of Vantage Point surveys, which involves spending 3 hours at a point twice a month and rotating through a number of vantage points to cover the whole site, will only ever hope to give a small sample of the birds which are actually using the site. VPs are focused mainly on the larger more obvious birds raptors and wildfowl and are not designed to accommodate the smaller more difficult to record species which are hard to see from a distance but which are nonetheless important, many of which are of conservation concern listed as either red or amber. The VPs do nothing with respect to monitoring of nocturnal migrants.

Vantage Point surveys during daylight which are spread evenly through the year and will therefore monitor a significant greater percentage of winter daylight hours (shorter days) than the longer summer day light, when far more birds are around. This system seems to be flawed in upland areas where birds tend to leave in the colder harsher winter conditions and by its design will be weighted to the winter when fewer birds are present. It entirely misses any nocturnal migration monitoring and as nocturnal migration is known to occur is alarming. Night time lighting of the towers is of great concern as migrant bird are known to be attracted to light sources.

If you take the average day length at 12 hours then 365 days for two years ($365 \times 12 \times 2 = 8760$ hours) gives 8760 available hours. Each VP at 6 hours a month over the same period produces 144hrs, a mere 1.6% of the available time. Each VP is designed to overlook a different area, so you cannot simply add the survey time at each VP together. If you include human error, concentrating for 3 hours straight looking for distant birds will result in some being missed. One sighting of an Eagle could represent only 2% of the time they are actually on the site.

8.3 Conclusion

The close proximity to the rich SSSI and SAC habitats of the Cree Valley coupled with the outstanding work of the Cree Valley Community Woodland Trust to reinstate the ancient woodlands, expand them and link them to create 18km of woodland from the coastal zone to the uplands. (Eagle to Seagull). See map Vol 4 NTS 8.1 Ecological designated sites and ancient woodlands within 5km shows a ring of important sites circling the south, west and north of Blair Hill. Also being near to an unquantified migratory

corridor which possibly sees thousands of birds migrating around the Galloway Hills. Many species migrate at night and may be attracted to the night lighting which has a potential to kill hundreds through barotrauma or direct collision and which the EIA has completely failed to monitor. **We conclude that this is absolutely the wrong location for this project. All of the important migratory birds of the SSSI and SAC woodlands are likely to arrive at night and many are likely to pass through this site.**



Wren

Illustrations by Paul Collin

Chapter 9: Geology, Hydrology and Peat (inc Radiological Risks from Cs-137)

Objection to Blair Hill Wind Farm - ECU00004878

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Chapter 9: Geology, Hydrology and Peat (inc Radiological Risks from Cs-137)

The site has been assessed as having good water quality with pockets of deep peat throughout and no contaminated land has been identified by SEPA.

9.1 Private Water Supplies

A response from SEPA on 5 May 2024 confirmed there are 24 CAR registered or licenced water abstractions within 2 km. 18 private water supplies, within 2km of the site, were identified and a total of four PWS have been determined to be likely to experience significant effects from the Proposed Development:

- **Craigdistant**
- **Dallash**
- **Glenshalloch**
- **River Cree Hatchery**

9.2 Designated Sites

Designated sites within the 10 km study area have been identified (Table 10.5 of RES report) and of these, four sites are connected hydrologically and scoped into further assessment of potential risks from the Proposed Development:

- **Galloway Oak Woods SAC**
- **Wood of Cree SSSI**
- **Lower River Cree SSSI**
- **Cree Estuary SSSI**

9.3 Flooding

A very small section is given to flooding in the RES report, although an increased risk is acknowledged and considerably downplayed. The Wood of Cree road, at the base of the site and access for numerous properties, currently floods in periods of high rainfall although this is not mentioned in the report. Likewise, Newton Stewart suffered serious flooding in 2015 and significant rainfall in the last 5 years has continued to pose a high risk, with areas of the town becoming impassable.

Flood defences are being considered (Solway Local Flood Risk Management Plan 2022-2028 for the Solway Local Plan District LPD 14) but none are in place or yet deemed acceptable. As no cumulative effect has been properly assessed, namely the additional effect of the proposed Glenvernoch site (RES 10.11.3), it is therefore misleading to conclude that the risk of flooding is at an acceptable level according to EIA standards (10.11.4).

9.4 Mitigation and Industry Standards

The RES report is peppered with justifications of conforming to CEMP Industry standards. The language is vague, and where it is not possible to conform to SEPA recommendations, they are ignored - for example:

- ***A 50m buffer has been maintained around all surface watercourses and waterbodies identified in OS 1:10k mapping, except where tracks are required to cross watercourses and where it was proved unavoidable through design iterations due to constraints.*** (10.7.1)
- ***The Proposed Development infrastructure is largely outwith areas of peat soils and deep peat.*** (10.7.1)

9.5 Radiological Risks from Disturbance of Peat Containing Caesium-137 (Cs-137)

The Galloway Hills region, including the Blair Hill site, is within an area that received measurable deposition of radioactive fallout following the Chernobyl disaster in 1986. Studies and monitoring data confirm that significant levels of Caesium-137 (Cs-137) remain bound within upland peat soils across southern Scotland, with peatlands acting as long-term reservoirs of this radiological contaminant.

Caesium-137 has a half-life of approximately 30 years, meaning a substantial proportion of the original fallout remains active today, continuing to pose ecological and human health risks. Disturbance of deep peat during wind farm construction, including excavations for turbine bases, roadways, and cable trenches, risks mobilising sequestered Cs-137 into surrounding soils, surface water, and groundwater systems. This creates new and unpredictable exposure pathways for humans, flora, and fauna, particularly in hydrologically connected areas such as the Lower River Cree, Cree Estuary, and Wood of Cree.

Notably, the proposed development lies immediately adjacent to multiple hydrologically sensitive SSSI sites and a Special Area of Conservation (Galloway Oak Woods SAC), all of which could be impacted by contaminated runoff or sediment displacement. The potential contamination of private water supplies (PWS), hatchery operations, and river ecosystems is of particular concern given the mobility of Cs-137 in aquatic environments and its capacity to bioaccumulate in fish and livestock, with downstream implications for human food chains.

Despite these risks, the applicant's Environmental Impact Assessment (EIA) fails to address the potential radiological hazards associated with peat disturbance, nor is there any evidence that baseline radiological surveys or Cs-137 risk modelling have been undertaken. This omission is **'a significant shortfall under EIA regulations'**, given the known contamination history of the region and the clear environmental sensitivity of the surrounding landscape.

Failure to consider radiological impacts renders the EIA fundamentally incomplete and places public health, agricultural viability, and internationally important conservation sites at unjustifiable risk. These considerations must weigh heavily against the approval of the proposal.

Full details of the radiological risks posed by Cs-137 in disturbed peatlands are outlined in **Appendix X: Radiological Caesium-137 Study**.

9.6 Conclusion

It would appear blindingly obvious that as there are so many risks of **environmental contamination, disturbance to deep peat** and potential increased **flood risk**, this is an unsuitable site for industrial scale development. The promise that PWS will be sampled and tested monthly (Water Quality Monitoring Plan 10.9.4) and covering the application with 'good practice' reassurances does not protect the site from human error. Being sited alongside three SSSI's and a Special Area of Conservation would surely prevent any other form of development. The recognised danger of contamination of PWS and a river containing a hatchery and two SSSI's should mean that they would have maximum protection. Blaming farming and forestry as already having caused harm is no justification to adding further damage to a wild and fragile environment.

On these points alone we strongly urge that the application is refused.

Chapter 10: Traffic and Transport

Objection to Blair Hill Wind Farm - ECU00004878

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Chapter 10: Traffic and Transport

The Blair Hill Wind Farm (ECU00004878) will cause severe disruption to local roads, increase accident risks, and create long-term transport issues. The developer's Environmental Impact Assessment Report (EIAR) underestimates these issues and fails to propose effective mitigation.

10.1 Key Concerns: Transport Disruption, Safety, and Road Damage

10.1.1 Severe Traffic Disruption During Construction, Maintenance and Decommissioning

- The developer estimates construction will take two years, with an intense period of HGV movements, abnormal indivisible loads (AILs), and road modifications.
- The developer states that the site will be operational for 50 years, where as wind turbines have a maximum lifetime span of 25 years, meaning these disruptions will be reoccurring midway through the sites operational span.
- At the end of the 50-year lifespan, the decommissioning of the turbines will require additional heavy traffic movements, significantly increasing pressure on the local road network and compounding disruption in the area.

Abnormal Loads

- The turbines, blades, and towers are exceptionally large, requiring specialised haulage and police escorts.
- Temporary road closures, delays, and diversions will severely impact residents, businesses, and emergency services.
- The developer fails to adequately assess the impact on public transport and school bus routes.

Peak Construction Traffic:

- The estimated number of daily HGV movements is too low, failing to account for material deliveries, workforce transport, and waste removal.
- The developer does not propose an enforceable traffic management plan, leaving key mitigation issues unresolved.

10.1.2 Increased Road Safety Risks

- The local road network (A712, B7079, Old Edinburgh Road, and minor roads) is not designed for high levels of HGV and AIL traffic.
- The developer fails to assess accident risk from increased heavy traffic, road widening, and abnormal load transport.

Key areas of concern:

- Narrow rural roads unsuitable for large turbine components.
- Increased risk of damage to bridges, culverts, and roadside infrastructure.
- Danger to cyclists, pedestrians, and horse riders on shared rural roads.
- Increased risk of collisions with agricultural vehicles.

10.1.3 Long-Term Road Damage and Maintenance Costs

- The weight and frequency of construction traffic will cause significant wear and tear to local roads.
- There is no guarantee that RES will fully fund repairs or maintenance.
- Dumfries and Galloway Council could be left with the financial burden of road damage, affecting local taxpayers.

10.1.4 Risks of Diversions and Delays on the A75

The transportation of exceptionally large turbine blades and components for the Blair Hill Wind Farm will frequently utilise the A75, a critical transport route within the region. Any accidents, delays, or obstructions involving these abnormal indivisible loads (AILs) will result in significant disruptions, leading to prolonged diversions on unsuitable alternative routes.

Key areas of concern:

- **Significant Traffic Diversions:**

- Any incidents on the A75 involving AILs will necessitate lengthy diversions via minor rural roads, which are not equipped to handle heavy or oversized traffic.
- Diversions could severely impact local communities by increasing journey times and creating congestion, especially during peak travel hours.

- **Impact on Emergency Services:**

- Diversions caused by accidents or delays on the A75 could significantly increase response times for emergency vehicles, endangering public safety and potentially exacerbating incidents. Especially at the Garroch Roundabout situated outside Dumfries and Galloway Royal Infirmary and has been noted as a pinch point. Any blockage of this vital roundabout '**however small**' will result in emergency access to and from the hospital being blocked.

- **Economic and Social Impacts:**

- Local businesses dependent on reliable transport routes will suffer from unpredictability and disruption, leading to economic losses.
- Commuters and residents relying on public transport and school bus services will experience frequent disruptions, adversely affecting daily life and community wellbeing.

The developer has failed to adequately assess the consequences of delays or accidents involving these large loads on the A75, and no practical contingency plans have been provided to mitigate the risks associated with such diversions and delays. This further underlines the inadequacies of the developer's transport assessment and highlights the significant, unaddressed risks posed by this proposal.

10.1.5 Safety and Accessibility Risks to Cyclists and Recreational Users

The proposed site access track includes crossing points such as the new junction on Old Edinburgh Road, frequently used by cyclists and other recreational users accessing the surrounding forest areas. Indicative layouts provided by the developer suggest that safe access along this route would be either closed off or severely restricted during construction.

Even if access were to be reinstated, the significant presence of construction vehicles continuously entering and exiting the site introduces unacceptable ongoing hazards. This not only compromises public safety but significantly diminishes the area's recreational value and usability. The developer has failed to adequately assess these risks or provide effective mitigation strategies, further reinforcing the inadequacy of their transport assessment.

Key areas of concern:

- **Penkilin Burn Crossing (Fig 2.9 RES EIAR):**

The Environmental Impact Assessment Report presents a design for the water crossings described explicitly as "**typical**," implying these are indicative proposals rather than approved, detailed designs. The lack of confirmed details means these crossings could significantly change post-consent, potentially introducing additional environmental impacts, disruption, or increased costs.

Approving the application based on indicative designs is inappropriate, as it fails to provide the necessary clarity, certainty, and safeguards needed to properly assess the full environmental consequences of the proposal.

- **Old Edinburgh Road Junction (Fig 2.6 RES EIAR):**

The proposed road modifications, particularly the new site access track crossing the Old Edinburgh Road, present

significant safety concerns. This road is regularly used by cyclists who access and enjoy the surrounding forest area. The indicative junction layout provided in the developer's documentation suggests that safe access for cyclists will be closed off or severely restricted during construction. Even if access is subsequently reopened, the presence of heavy construction vehicles frequently entering and exiting the site will continue to pose serious ongoing risks to cyclists and other recreational users.

This introduces unacceptable safety hazards and negatively impacts the recreational value of the area.

- **Typical Access Track (Fig 2.4 RES EIAR):**

The indicative design provided by the developer for the site access tracks raises further significant concerns. The drawings clearly indicate that track widths, drainage arrangements, embankments, and construction materials are only indicative and subject to change at the detailed design stage. The lack of definitive details and reliance on provisional information means there is insufficient clarity regarding the final impacts on drainage patterns, environmental stability, and landscape integration. Additionally, the possibility of extensive excavation and spoil management has been identified but not adequately detailed or assessed.

The absence of finalised and approved design specifics at this stage significantly undermines the reliability of the Environmental Impact Assessment and prevents a comprehensive evaluation of the proposal's environmental and infrastructural implications.

10.2 Failures in the Developer's Transport Assessment

Issue	Failure in Developer's Assessment
Traffic Volume Underestimated	The EIAR does not include full calculations for peak construction periods.
Road Capacity Issues Ignored	The EIAR fails to assess whether the A712 and local roads can handle the required abnormal load movements.
Accident Risk Not Assessed	The EIAR does not model the increased risk of collisions due to heavy traffic.
No Enforceable Traffic Management Plan	The EIAR lacks legally binding commitments for haulage routes, safety measures, and road maintenance.

10.3 Conflict with Planning Policy

Policy	Conflict
NPF4 Policy 13 – Sustainable Transport	The proposal increases road traffic, contradicting Scotland's goals of reducing transport emissions and congestion.
LDP2 T2 – Transport Infrastructure	The EIAR fails to assess road capacity constraints and accident risks.
LDP2 T3 – Road Network	The developer does not provide sufficient mitigation for increased road damage.

Policy	Conflict
Roads (Scotland) Act 1984	The developer fails to demonstrate how road safety and maintenance will be managed.

10.4 Conclusion: The Transport Impacts are Unacceptable

- The Blair Hill Wind Farm will cause severe traffic disruption, increase accident risks, and damage local roads.
- The developer’s transport assessment underestimates traffic volumes and does not properly assess road safety risks.
- There is no enforceable plan for road maintenance and repair, potentially leaving local taxpayers to cover the costs.
- Key mitigation measures, such as alternative access routes and traffic controls, have not been properly considered.

Recommendation: This Proposal Must Be Rejected

Given the significant risks to road safety, infrastructure, and community wellbeing, we strongly urge the Scottish Government’s Energy Consents Unit (ECU) and Dumfries and Galloway Council to reject this application.

Chapter 11: Acoustic Assessment

Objection to Blair Hill Wind Farm - ECU00004878

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Chapter 11: Acoustic Assessment

11.1 Impact on the local population

We are objecting to the proposal on the basis that the impact of noise has not been adequately assessed. This is a rural area, with very low levels of background noise and there is increasing recognition of the potential adverse effects of noise on residents, indoors and outdoors, and on other species.

This means noise during transportation, construction including blasting, then noise throughout the operating life of the site, and then during decommissioning.

This site is one of the closest yet proposed in Scotland to a significant local population – namely Newton Stewart, Minigaff and Glentworth. There are numerous homes and sites of historical and natural significance which are even closer to the site. The noise created is therefore likely to be excessive, adverse and significantly disturbing. The risks to local residents health due to unacceptable noise, particularly amplitude modulation (AM) has not been adequately assessed or addressed.

11.2 Regulatory framework inadequacies

Unfortunately, the wind turbine industry is still only bound to be using noise guidance requirements known as ETSU-R-7. This guidance is unfit for purpose, being 28 years old. It does not even cover AM low frequency noise. It is of a lower standard than other guidelines relating to noise for other industrial settings. A review by WSP in 2023 discredits ETSU-R-97 as it was developed when wind turbines were much smaller than the ones now proposed. The noise limits are based on outdated and insubstantial evidence, and it does not address the adverse effects of amplitude modulation AM, the most intrusive feature of turbine noise.

In reviewing guidelines, the INWG (Independent Noise Working Group) made a recommendation to government in 2015 to replace ETSU-R-7 with the code of practice based on BS4142:2014 but this has never been implemented.

Additional recommendations were that independent research is required into the health effects of wind turbine noise including AM and low frequency noise. Also, that effective AM planning conditions should be required for every wind turbine planning approval.

It was recommended that there should be continuous noise monitoring for every medium and large wind turbine planning approval and that an effective remedy should be required for retrospectively dealing with noise nuisance.

An indication of the inadequacy of ETSU-R-7 are the large number of nuisance complaints since its inception: 600 noise related complaints were made between 2010 and 2015 from wind operations (Hansard Vol 598. 21 July 2015)

11.3 EIA deficiencies

In reviewing the RES chapter on acoustic assessment there are numerous points where RES do not even try to comply with the inadequate requirements of ETSU-R-7. There are vague unqualified or unquantified statements about eg. “what may happen...” and points where the company evades responsibility for assessing impacts using spurious justifications. For example:

- 12.5.4 “it is considered that specific and targeted assessment on the low frequency content of noise emission from the proposed development is unjustified.” RES state that they do not have to assess low frequency by citing a study from 2006 (ie. 18 years ago) conducted on 3 sites. There is no statement about the size of the turbines in this study, which will inevitably be smaller than the ones currently proposed. RES’s statement indicates that they have decided that they can scope out low frequency noise from the operational assessment. They also choose to scope out infrasound, sleep

disturbance, vibration, and amplitude modulation (AM). The World Health Organization Environmental Guidelines for the European Region 2018 state that “further research into the health impacts from wind turbine noise is needed” and “exposure to noise at a wide range of levels and frequencies (including frequency noise) with information on noise levels measured outdoors and indoors (particularly relevant for effects on sleep) at the residence, is needed.

- In 12.5.8 RES state that noise and vibration associated with the movement of additional vehicles, including HGV’s along public roads and access routes “may well be noticeable to residents adjacent to these”. Of course, people will hear this noise.
- In 12.5.9 RES state that in relation to blasting “noise vibration and air overpressure from blasting cannot be reliably predicted” but “these may well be perceptible to neighbouring residents”. Of course, people will hear blasting. RES then state “the vibration generated by each blast would be well below levels ... expected to cause damage to the nearest housing and/or structures nearby”. As a result, RES conclude that “the impacts resulting from blasting are not considered in any detail.” So, any health effects or other impacts are dismissed in the application, only being scheduled for “discussion”, because blasting is not expected to damage buildings. Is the threshold for their concern only significant if it physically damages buildings?
- In 12.9.18 RES state “the exact methodology and timing of construction activities have not yet been defined and a reliable assessment of expected construction noise levels is not possible as a result”. This is apparently a comprehensive proposal by a company that is in the business of constructing industrial wind turbine sites. They state here that they have no outline plans for construction, and this means that they do not have to make any statement about expected noise relating to construction. This is an abnegation of their obligations to consider noise impact in relation to their proposals. How can they seek approval without any indication about noise during construction? Is RES a competent company, or are they seeking to avoid legitimate consideration of noise issues?
- In 12.12 Assessment of cumulative effects RES state that they have insufficient information in relation to the proposed Glenvernoch Wind Farm. They then state in 12.12.4 “no cumulative operational or construction noise impacts have been identified.” This is disingenuous. If the other application is consented, then there will be cumulative impacts. The other application specifies turbine numbers and heights at the scoping stage, and RES could therefore assess cumulative impacts on that basis.

11.4 Conclusion

The ETSU-R-7 guidelines for noise assessment are inadequate to protect nearby residences, visitors to historical and natural sites, and the adjacent local communities which number into the thousands of individuals. RES has sought to avoid many obligations in respect of noise assessment and hides behind outdated guidelines. The company shows no concern for individuals or their health in relation to noise, which is increasingly being acknowledged as a neglected and concerning aspect of these developments, as they come closer to communities.

Further assessments into noise impacts are required before consent should be given, and audiologist, physicians and representatives of communities negatively impacted by wind turbine noise should be included in such assessments. Until such time as this is done, in relation to noise impact, the development should be rejected.

Chapter 12: Climate Change Assessment

Objection to Blair Hill Wind Farm - ECU00004878

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Chapter 12: Climate Change Assessment

The Blair Hill Wind Farm (ECU00004878) fails to provide a credible climate change benefit. The developer's Environmental Impact Assessment Report (EIAR) miscalculates carbon savings, ignores emissions from peatland destruction, and does not account for grid constraints leading to curtailment. Most importantly, it does not justify the regional, national or UK requirement for further development of onshore wind farms on virgin sites.

Several key areas have no data relating to the site, with no reasons offered why surveys were not done. The areas are drainage and drainage features, average water table depth, dry soil bulk density, carbon content of dry peat and regeneration of bog plants. The generalised statements relying on averages taken from online information and online calculators render statements purporting to offer statistics about the development meaningless.

12.1 Key Concerns: Overstated Carbon Savings and Peatland Destruction

12.1.1 Peatland Disturbance and Carbon Release

- The site contains extensive peatlands, which act as vital carbon sinks.
- Excavation for turbine bases, roads, and infrastructure will disturb deep peat, releasing significant stored carbon into the atmosphere.
- The developer's carbon payback calculations fail to account for peatland loss properly.
- The proposed peatland restoration is vague, unenforceable, and insufficient to offset the damage. Leaving the peatland undisturbed would contribute much more to combatting climate change than this development.

12.1.2 Grid Constraints and Curtailment of Wind Energy

- The Scottish grid is already inadequate to deal with the plethora of wind farms which are working, in construction or approved. Wind farms are frequently forced to shut down due to oversupply leading to constraint payments and consequently inflating electricity prices for the consumer.
- Electricity generated at Blair Hill is likely to be curtailed, leading to waste and unnecessary constraint payments. This is assuming that a connection is made to the National Grid. This application does not include convincing details of how the proposed wind farm would connect and therefore is incomplete. UK Government policy is moving towards encouraging renewable energy schemes to be sited closer to where the energy is required. As Scotland already produces considerably more wind energy than it uses (current onshore capacity is 9.4GW while indigenous demand averages at 3.5GW) and the National Grid cannot cope with all the surplus wind energy that Scotland could export, it makes no sense to increase production in an area that cannot use it.
- The EIAR does not model how much of the generated power will be used and it is difficult to see how it could, given that it would only add to the overproduction in the region. By adding to the excess wind power in Galloway and Scotland this proposed wind farm would actually be counterproductive in Scotland's net zero ambition. There is no point in creating the massive carbon footprint involved in constructing a wind farm, on unspoilt and ecologically rare habitat, when it is not required regionally or nationally.
- Scotland is already on target for both the Scottish and UK Governments' ambitions for onshore production by 2030 and 2035. The target for onshore wind capacity for Scotland is 20.5GW by 2030 and 21.2GW by 2035. By conservative estimates Scottish onshore capacity should reach 25.7GW by 2030, considering the wind farms currently operating or under construction (10.7GW), approved (6.9GW), applied for and repowering (8.1GW). Meanwhile in England & Wales, where there is much more energy consumption, the target for capacity by 2030 is 8.6GW but the achievable estimate is 5.4GW (a shortfall of 2.9GW). A coordinated national energy policy should recognise this imbalance and encourage more capacity in regions closer to the areas of greater consumption.

12.1.3 Unrealistic Assumptions in Carbon Payback Calculations

- The developer's carbon payback model assumes full operation at high efficiency, which does not reflect real-world conditions. The 50 year life cycle is complete nonsense. Many turbines start to cause problems within a few years and most wind farms are facing repowering before they reach 30 years. During the life of the wind farm it is likely that the technology will have become obsolete anyway.
- The assumption that wind power fully displaces fossil fuels is inaccurate, as much of Scotland's grid is already decarbonised. Oil will remain essential for the operation of wind turbines; either as a fuel for machinery or as a lubricant.
- Lifecycle emissions from turbine manufacturing, transportation, and decommissioning are not fully accounted for. Much of the turbine manufacturing is likely to take place in China where energy production is still based largely on fossil fuels and employment and human rights can be an issue. The ambition of reaching net zero cannot be achieved by exporting a nation's manufacturing capacity to another country. Furthermore, the calculations do not include the carbon cost of creating the infrastructure to connect the site to the grid.

12.2 Failures in the Developer's Assessment

Issue	Failure in Developer's assessment
Peatland Carbon Loss Ignored	The EIAR underestimates emissions from peatland disturbance.
Curtailment Not Considered	The EIAR fails to assess how much energy will actually be used due to grid constraints.
Unrealistic Carbon Payback Assumptions	The EIAR assumes maximum efficiency and zero fossil fuel backup, which is inaccurate.
Lifecycle Emissions Incomplete	The EIAR fails to account for full manufacturing, transport, and decommissioning emissions.

12.3 Conflict with Planning Policy

Planning Policy	Issue
NPF4 Policy 1 identifies and stresses the dual issues of climate change and the nature crisis	There is no specific reference to how the proposal will impact this site in relation to the nature crisis. We assert that the proposed development would have a significant detrimental on biodiversity.
NPF4 Policy 2 – Climate Mitigation and Adaptation	The development fails to demonstrate a net carbon benefit due to peatland loss, woodland loss and curtailment.
NPF4 Policy 3 requires that “development proposals will contribute to the enhancement of biodiversity” and that an EIA will only be supported where the proposal will conserve, restore and enhance biodiversity	There is nothing in Chapter 13 to indicate any understanding or attempt to survey the biodiversity at this site, and no statements about any commitment to conserve, restore or enhance it.

Planning Policy	Issue
LDP2 IN2 – Renewable Energy	The EIAR does not provide a realistic carbon payback calculation.
Scottish Government Peatland Action Plan	The proposal contradicts national peatland restoration targets by permanently damaging deep peat.?

12.4 Conclusion: The Climate Benefits are Overstated and Unproven

- The Blair Hill Wind Farm will destroy carbon-rich peatlands, negating any potential emissions savings.
- The developer's carbon payback calculations are flawed and misleading. The calculations are based on a 50 year lifetime, but this is unrealistic. Current turbines are failing and being replaced much sooner than this. If RES cannot provide data about the site now, or clear proposals about aspects of the work to be undertaken to create this site, what credibility do their 'recommendations' have for 50 years hence?
- Grid constraints mean much of the generated power will be wasted, undermining the project's climate case.
- No enforceable mitigation is proposed to offset the loss of peatland or address curtailment.

Given the lack of credible carbon savings and the significant environmental damage caused, we strongly urge the Scottish Government's Energy Consents Unit (ECU) and Dumfries and Galloway Council to reject this application.

Chapter 13: Forestry

Objection to Blair Hill Wind Farm - ECU00004878

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Chapter 13: Forestry

The proposed development area is rural and agricultural, characterised by commercial forestry plantations, typical of this part of Scotland. The Site, which comprises an area of approximately 681.5 ha lies sandwiched between areas of Galloway Forest Park, Galloway Forest International **'Gold Tier'** Dark Sky Park (**Buffer Zone and the Core Zone**) and UNESCO's Galloway & Southern Ayrshire Biosphere (**Buffer Zone and the Core Zone**). The UNESCO biosphere designation means that this area has been recognised internationally as a world class environment for people and nature.

Galloway Forest Park is valued very highly for its naturalness, wildness, wildlife and scenery. It is one of Scotland's most productive forest parks. This area is important and has been mentioned in National Planning Framework 4 (NPF4) – ***"This is a place with a rich cultural heritage and exceptional environmental assets and natural resources, such as the Galloway and Southern Ayrshire UNESCO Biosphere and Galloway Forest Dark Sky Park."*** (Pg 33) No wind farm developments have been consented within Galloway Forest Park.

13.1 Areas for Forest Felling

The Study Area for the proposed development includes Drannadow Forest which will host the turbines, tracks and other related infrastructure; and the adjacent Lamachan and Queensway forests through which the access track runs. The main areas of forestry felling will occur in Drannadow Forest.

Tree removal will also occur along the access track which connects to the entrance to the Site at the A712 including at various watercourse crossing points including Penkiln Burn where a new single span bridge is planned.

It is also proposed to clear a significant area of trees and other vegetation at the Site entrance on the A712 and at a long list of Pinch Points along the A712 from Newton Stewart.

13.1.1 Felling for infrastructure - Drannadow Forest

The main area of plantation forestry removal will occur in Drannadow Forest to accommodate the wind turbines, tracks and other related infrastructure. The infrastructure footprint will occupy 98.96 ha of which 42.24 ha of plantation forestry will need to be felled. **(14.7.4)**

The loss of 42.24 ha of forest amounts to around 84,480 trees at a commercial planting rate of 2,000 per ha. Of this, 1.30 ha will comprise native woodland. **(14.7.5)** The results of removing such a vast number of trees in such a sensitive area will materially change this forest block. Compensatory planting cannot mitigate this change from natural rural to semi-industrial. In addition, the loss of Ancient Semi Natural Woodland (**ASNW**) for the new section of track and crossing over Penkiln Burn cannot be easily mitigated, if at all.

Whatever the considered opinion in this assessment, there remains issues with removing plantation forestry in Drannadow at this juncture. Initially planted in the 1980s, harvesting and replanting began in 2016 (**when a long-term forest plan was approved**) which means a stand of Sitka spruce trees of just under 10 years of age exists here. It is wholly unsatisfactory to be felling young stands of this age which have not reached their full economic potential. At this stage, the stands will also be a magnet for wildlife in the area. In addition, while plantation forestry goes through regular commercial cycles of planting and clear felling, native woodland generally does not, certainly not with new forestry protection policies in place.

The loss of forestry was a 'key issue' raised in objections to the nearby **Clauchrie Wind Farm (ECU00002001)** which was refused consent in 2023. The application itself resonates with the proposed development although it was within the boundary of Galloway Forest Park rather than adjacent to it. The number of trees to be felled for Clauchrie was much larger but there was a huge

concern about the loss of forest in this environmentally sensitive area.

13.1.2 Felling for access tracks

Lamachan and Queensway forest blocks

The 11.5 km long access track from the A712 to the main area of development where the turbines will be situated runs through Lamachan and Queensway forest blocks. Both blocks are owned by Forestry & Land Scotland (**F&LS**). Both of these plan areas are also part of the larger designated Western Southern Uplands Environmentally Sensitive Area (**ESA**). These are sensitive character types and there are potential issues with both forest blocks.

Most of this long access track runs through woodland. Species to be felled here to widen the access route include mixed broadleaf, mixed conifer, Norway spruce, Scots pine and Sitka spruce. (**Fig 14.5 and Fig 14.6 and Fig 14.8.**) The track also goes through an area of ASNW. (**Figure 14.4**) While the proposal is to compensate with a higher density of broadleaf tree planting, this will not be carried out in another area of ASNW (**14.9.2**) and simply cannot be considered like-for-like compensation.

The Lamachan Land Management Plan (**LMP**) area has already been heavily impacted by clearfell and now comprises **“significant areas of recently restocked and young pole stage crop.”** No woodland removal is planned here. No new road construction is planned. Further tree removal and additional new wind farm track construction is, therefore, not supportable.

Queensway is an integral part of the Galloway Forest Park the block. It actively links the Kirroughtree and Round Fell blocks, the LMP area and is a readily identified self-contained LMP unit for both the Palnure Burn catchment and the scenic value of the A712 thoroughfare. The block is highly visible in the near and mid-distance view from the A712 public road or Queensway that runs through the plan area centre from Newton Stewart to New Galloway, hence the forest block name.

One of the main issues arising over the Lamachan and Queensway character types, given the landscape sensitivity, is wind power development which has the potential to adversely impact these forest blocks. (**The Lamachan LMP 2020-2030; Queensway LMP 2018-2028**) These concerns, written into both LMPs, have not been discussed in the EIA. Given the vicinity of the turbines to these blocks and the requirement for new access tracks and a large new Site entrance on the A712, this is a significant oversight.

Other nearby forest blocks e.g. Brighton and Hill of the Bush, are also sensitive to wind power development. Indeed, Back Hill of Bush is an area sensitive to any human activity and development that would intrude on its distinctive character. Part of the overall land management strategy for the plan area is to conserve this landscape character. (**Brighton LMP, 2017-2027; Back Hill of Bush LMP 2016-2026**) Changes to forestry in Dannadow, Lamachan and Queensway forestry are likely to have adverse impacts on surrounding forest blocks which have failed to be assessed.

Felling of Ancient Semi Natural Woodland

“Compartment 3190 south of the existing forest road is designated as ASNW although much of the compartment was cleared 5 years ago and the woodland management database records the planting year of the current, sporadically spaced, crop as 2020 and the older areas as 2004 so, although the crops may now include native broadleaf species, the extent of the ASNW designation mapping differs from what is currently present within this area.” (14.7.6)

The comments on compartment 3190 appear to be a blatant case of downplaying the importance of environmental designations to leverage development. This type of disinformation regarding an area of ASNW puts into question the robustness of the Forestry chapter as a whole.

Felling woodland does not negate an ASNW designation nor do these actions in any way imply that the woodland is inferior. In

most ancient woods, the trees and shrubs have been felled periodically as part of the management cycle. Providing that the area has remained as woodland, the stand is still considered ancient. Indeed, ancient woodland is defined as land that has been continually wooded since at least 1750 **(and listed on the Roy maps of that time)**. Its age means that it is especially important for biodiversity and our cultural identity. **(NatureScot, 2023)** One of the specific aims of the Lamachan LMP 2020-2030 for this block is “... **the expansion of native broadleaf woodland focussed around existing Ancient Woodland relict and water quality within the Penkiln Burn subcatchment.**”

The Native Woodland Survey of Scotland **(NWSS)** data on semi-naturalness relates to current stand structure and composition. A wood scores highly for ‘semi-naturalness’ if it has a diverse structure and composition and an absence of indicators of planting such as cultivation, straight lines of trees or geometric shaped stand boundaries, as in the case of the ASNW on the Lamachan block. The underlying impression given in this assessment is that because crops are ‘sporadically spaced’, there is something remiss with the ASNW designation, which is not the case at all.

Much of Scotland used to be covered in forest. Today, native woodland covers just 4 per cent of the total land area. The last decade has seen the proportion of native species being established rise rapidly. Even so, many native woods remain small and isolated. This limits their ability to support woodland biodiversity or produce other benefits such as timber. While wind farm development can be placed elsewhere, the same cannot be said of native woodland. Areas of native woodland on the proposed development Site should remain intact and untouched.

New Penkiln Burn crossing

The 11.5 km long access track from the main Site to the entrance on the A712 crosses Penkiln Burn through an area designated as ASNW. **(Fig 14.4)** In addition, a new section of track and a watercourse crossing is proposed to cross Penkiln Burn since the existing Auchenleck Bridge **(further upstream)** was assessed as unsuitable for abnormal indivisible load vehicles **(Figure 2.9)**. Because this section of road is subject to the National Speed Limit, it requires a Visibility Splay area of 215 m. While a very slightly reduced area of 110 m on one side of the road has been suggested **(2.3.22)**, the extensive removal of further tree, shrub and vegetation will be required.

Under the Lamachan LMP no woodland removal or new road construction has been approved for this block. The expansion of native broadleaf woodland focussed around existing Ancient Woodland relict and water quality within the Penkiln Burn subcatchment is important here. Factors deemed ‘critical for the successful implementation of the Land Management Plan’ include to enhance existing and expand native broadleaf areas, improve water quality throughout the River Cree catchment through enhancement of the riparian zones **(centred on Penkiln and Pulnee Burns)** and to increase the species diversity of the forest. **(The Lamachan LMP 2020-2030)**

A key management issue for this plan is the management of the River Cree and its tributaries catchment to maintain water quality. Many of the watercourses, primarily the Penkiln Burn **(as well as Glenshalloch Burn and Pulnee Burn)** are considered to be particularly important for water quality and it will benefit from proposed increases to the width of riparian zone. The intrusion on this riparian area with new tracks and a new water crossing, with further extensive removal of trees, shrubs and vegetation, is wholly unacceptable.

The proposed development requires 42 watercourse crossings, of which 37 are existing crossings, and five are new crossings. **(3.1.1.1)** There is no indication which of the existing 37 crossing are required to be upgraded or replaced. However, it is clear from the images **(TA10.1)** that trees, shrubs and vegetation will need to be removed at the other new water course crossings resulting in yet another unnatural step change for the environment. All of which results in the displacement of wildlife, the fragmentation of habitats and disruption of hydrology.

The proposed new track at this point is also routed through areas of deep peat **(0.5 m – 1 m)** **(Fig 10.5)** which doesn't appear to

have been accounted for in the peat assessment. I notice for the proposed application deep peat is defined as greater than 100 cm. However, NatureScot and the UK Forestry Standard defines deep peat as greater than 50 cm deep. Indeed, the threshold for deep peat for the Scotland Carbon & Peatland **(2016)** map is fixed at 50 cm. The map is referred to in TA10.4 and Figure 10.4. None of the peat for the new track appears to have been accounted for in the Peat Management Plan **(TA.4)**.

13.1.3 Management felling - over 40,000 trees for management felling

The areas proposed for management felling for windblow mitigation extends to 20.23 ha. **(14.7.7.)** This will comprise a total of 40,460 trees at a commercial planting rate of 2000 per ha. Firstly, it is highly questionable whether this amount of 'management' is actually required. Secondly, this is felling outwith the planning application because it is not directly required to enable the construction of the wind farm ie. for infrastructure or access tracks.

With reference to **Mid-Moile Wind Farm (ECU00003405)** near Stranraer, Scottish Forestry advised that only felling required for building the infrastructure of the windfarm was consented. Conditions were applied to the planning consent to minimise and manage the effects of forestry felling required to accommodate the development. No felling was to take place until a Forestry Felling Plan (FFP) has been submitted to and approved in writing by Scottish Ministers in consultation with Scottish Forestry and the Planning Authority. **(Mid-Moile Determination letter, 30 January 2025)**.

It is worth noting that windblow trees can be left in situ to provide areas for either natural regeneration or targeted restock of small seeded native tree and shrub species. This not only improves the site for wildlife but also contributes towards greater spatial diversity. In the adjacent Back Hill of Bush forestry block to the north, there is little in the way of established deadwood and no veteran trees. In blocks where this is the case, dedicated areas for deadwood creation will rely on identifying around 1% of conifer plantation as Natural Reserve from which no timber will be removed. The targeted retention of areas of windthrow can potentially provide additional sources of deadwood as well as alternative stand structure. **(Back Hill of Bush LMP, 2017)**

13.1.4 Felling for other reasons

There is no assessment of the visual or ecological impact on the loss of trees, shrubs and vegetation from the site entrance, the Visibility Splay area or the 14 Pinch Points along the A712 in the Forestry chapter.

Site entrance

The new Site entrance is situated on the A712, also known as The Queen's Way, given that name in 1977 in commemoration of the Silver Jubilee of Elizabeth II. It is a 27 km scenic road that runs from Newton Stewart to New Galloway. It has a number of visitor attractions including the Red Deer Range, Clatteringshaws Loch, Raider's Road Forest Drive, Wild Goat Park and Talnotry walking trail. This road is well loved by locals and tourists alike. It is a great drive with lots of places to stop and take in the amazing scenery that this area is well known for.

The new Site entrance is an extensive area **(TA11.1)** quite different from the current forestry **(logging)** access opening. Large areas of trees and vegetation will need to be cleared for the opening itself as well as the Visibility Splay area of 215 m either side of the entrance **(430 m in total)**.

This extensive entrance will adversely impact this rural road with its distinctive overhanging tree line and leafy rural aspect. The proposed industrial-scale entrance is not in-keeping with the condition and usage of the road. In addition to the adverse impact on the visual aspect of the new entrance, there is potential for adverse impacts on wildlife with the removal of trees and other vegetation which provide essential habitat for birds and mammals.

A712 Abnormal loads route/Pinch Points

From the A75 turn off at Newton Stewart to the Site entrance there are 14 Pinch Points (**nos 19 -32 inclusive**) relating to the movement of blade and tower sections. **(TA11.1)** Of these, there are 14 red 'high risk' ratings (**Action required – Third party land required, modification required, the component can't make it past the obstacle without significant mitigation**) and 11 amber 'medium risk' ratings (Minor works required – street furniture removal, vegetation trimming, over run on highway boundary etc). This includes surface strengthening/carriageway widening, removing road signs and utility poles, removing wall/gate, third party land use, removing extensive sections of vegetation and existing trees. A minimum clearance of 5.03 m over every part of the carriageway is required.

Large sections of trees will need to be cut back or felled on the A712 for the 14 Pinch Points. A total of 4,322 m² of third party land oversail/overrun will be required. The removal of trees and roadside vegetation will have an adverse impact on the quality and character of this rural A road. While images have been presented for the Pinch Points, the adverse impact of tree removal does not appear to have been properly assessed.

Grid connection

“The Proposed Development would most likely be connected to a new proposed substation adjacent to Glenlee Substation, approximately 20 km north east of the site.”(1.5.7) This means more overhead power lines, more destruction of forest cover and other habitat, and potential adverse impacts on the character of the area which is key to bringing in tourism and, as in the case of Clatteringshaws, the home of the new Dark Sky observatory. As is typical with these types of applications, the grid connection is not included in the proposed development's planning application. However, it should be considered a material consideration since a wind farm cannot exist without a grid connection.

13.2 Assessment

13.2.1 Sensitivity, magnitude of change & significance

(14.7.10)“The felling of 62.48 ha of commercial forestry across the three forest properties represents a moderate magnitude of change for each. For Drannadow the change within the property is less than 30 % of the total crop area and for the others the area change is minimal given the size of the management units but it involves the removal of small areas of native woodland in each property. According to the significance criteria set out in Table 14.4, an overall effect of Moderate significance is predicted for the forestry resource within the Site during construction, and is therefore considered to be Significant in terms of the EIA Regulations in the absence of any mitigation measures.”

National Planning Framework 4 (**NPF4**) considers ancient woodland as 'high quality' environments (**pg 31**) and development proposals that result in any loss of ancient woodland will not be supported (**Policy 6(b)i**). Thus the degree of sensitivity to change to the felling of this type of woodland has been undervalued and should be Highly Sensitive not Moderately Sensitive. The Magnitude of change should read Major not Moderate. As a result, the Significance of effect should read Major Significance.

13.2.2 Residual effects

Overall, a residual effect of negligible significance has been predicted for the forestry area. **(14.9)** However, while the gross area of forestry will be maintained after compensatory planting, there remains significant changes in and around important riparian areas with so many water crossings, the removal of important ASNW areas and changes in the forest block structure as a whole which means the loss of large sections of commercial crops. Regardless of the support for renewable energy development in Scotland, there still remains a presumption that forest land should not be converted into other land uses (**UK Forestry Standard, 2023**).

Bearing in mind this is a sensitive environmental area, the onus should be on protecting it, not opening it up to industrial-scale development.

13.3 Carbon

There are many benefits to retaining the commercial forest crop adjacent to Galloway Forest Park, deemed by the Scottish Government as one of the most productive forest parks in Scotland (NPF4).

Forests are a store of natural carbon. Scotland's forests sequester 7.5 million tonnes of carbon dioxide, which is equivalent to around 14% of Scotland's greenhouse gas emissions in 2022. The recent Scottish Forestry commissioned Forest Research publication, 'Quantifying the sustainable forestry carbon cycle', shows that in broad carbon terms, faster-growing, generally coniferous tree species sequester carbon quickly in the medium to long term (**< 50 years**). Slower-growing broadleaf tree species can accumulate high carbon reserves, within the woodland itself, in the very long term (**100+ years**). (**A Route Map to Resilience for Scotland's Forests and Woodlands, March 2025**)

In addition to carbon sequestration, forests contribute to climate change mitigation by providing a source of renewable energy and sustainable wood products that continue to store carbon. Carbon comprises about 50% of the dry weight of wood. Timber and wood products can be used for a variety of purposes, and the longer they remain in use, the longer the carbon is stored. (**UK Forestry Standard, 2023**)

13.4 Policy & Legislation

There now exists a very strong presumption against the removal of forest on a global and national level. This is enshrined in a wide range of policies and Laws within Scotland and the UK as a whole.

13.4.1 National Planning Framework 4

- **Under National Planning Framework 4 (NPF4), Policy 6(b) states:** that development proposals will not be supported where they will result in i. Any loss of ancient woodlands, ancient and veteran trees, or adverse impact on their ecological condition; and have ii. Adverse impacts on native woodlands. ASNW is being removed and it has an adverse effect on the designation. Land here will be fragmented and destroyed for access tracks and water course crossings. This isn't temporary and cannot be restored at a later date.
- **NPF4 also states under Policy 6(c):** that development proposals involving woodland removal will only be supported where they will achieve significant and clearly defined additional public benefits in accordance with relevant Scottish Government policy on woodland removal. The loss of forest in a sensitive environmental area adjacent to one of Scotland's most productive forest parks should take precedence over the proposed development which could easily be built elsewhere in a much less sensitive location.
- **The proposed development is against NPF4 Policy 11(e) ix:** because it does not satisfactorily address, through design and mitigation, impacts on biodiversity e.g. broadleaved woodland compensatory planting being proposed near turbines and tracks which will encourage bats and birds to an area where they will be at risk from blade strike/barotrauma.
- **The proposed development is against NPF4 Policy 11(e) x:** because it does not satisfactorily address, through design and mitigation, impacts on trees, woods and forests e.g. the loss of productive forestry crops which are not being replaced like-for-like and the loss of ASNW cannot be satisfactorily mitigated against.
- **The proposed development is potentially against Policy 11(b):** because developments for wind farms in National Parks will not be supported. The proposed National Park for this area, centered largely on Galloway Forest Park, is at formal consultation stage. Currently there are no wind farm developments permitted in National Parks. If the National Park were to go ahead, it would not be in the best interests of the new Park to have an industrial-scale development sitting alongside many overlapping environmental designations.

13.4.2 The UK Forestry Standard

The Forestry assessment was carried out in accordance with the principles set out in the outdated UK Forestry Standard **(2017)** rather than the one published on 3 October 2023 which came into force on 1 October 2024. The latest version is endorsed by the Scottish Government and reflects improvements in scientific knowledge, developments in international approaches to forestry, new or amended legislation, and updated best forestry practices.

The UK Forestry Standard **(2023)** reinforces the forest protectionist stance stating that the UK is committed to maintaining or increasing its forest area, and to enhancing the social, environmental and economic values of forest resources. While the proposed development is a 'renewable' energy endeavour, forests produce wood which is already a sustainable source of energy and is a crop that produces a wide variety of products with many uses.

The UKFS is based on sustainable forest management criteria agreed internationally, implemented in a way that is appropriate to the UK. Sustainable forest management is the stewardship and use of forests and forest lands in a way and at a rate that maintains their biodiversity, productivity, regeneration capacity and vitality, and their potential to fulfill, now and in the future, relevant ecological, economic and social functions at local, national and global levels, and that does not cause damage to other ecosystems.

13.4.3 Control of Woodland Removal

The Scottish Government's policy on the Control of Woodland Removal **(2009)** has a protectionist stance regarding forests. There is a strong presumption against removing ancient semi-natural woodland, woodlands critical to water catchment management and woodland removal where it would lead to fragmentation or disconnection of important forest habitat networks.

The 'Control of Woodland Removal: Implementation Guidance' (Scot Govt, 2019) states:

- "There is a strong presumption in favour of protecting Scotland's woodland resources. In line with Scottish Government's wider objective to protect and expand Scotland's woodland cover, applicants are expected to develop their proposal with minimal woodland removal." **(pg 3)**
- "The removal of large areas of woodland will not be supported ..." **(pg 4)**
- "There must be strong evidence that the woodland is having, or is likely to have, a significant detrimental impact on greenhouse gas emissions." **(pg 13)**
- "Scottish Government policy is to deliver renewable energy without environmental harm and to deliver biodiversity objectives, including the conservation of designated wildlife sites and important habitats such as peatlands." **(pg 13)**

13.5 Forestry economics

Forestry in Scotland is worth £1.1 billion per year to the Scottish economy and supports more than 34,000 jobs from direct forest management, timber processing and supply chain activities to forest based recreation and tourism. These rural jobs support local communities and delivery of the Scottish Government Economic Strategy. (A Route Map to Resilience for Scotland's Forests and Woodlands, March 2025)

The UK, at 3 million ha, is one of the poorest countries in the UK and Europe for forest cover. The only countries that fares worse than the UK for forest cover include Ireland and Denmark at 1 million ha each. Within the UK, Scotland is home to the most forest (1.5 million ha). (Forestry Facts & Figures, 2024) While renewable energy is supported in NPF4 (Policy 11), Policy 6 also places considerable importance to the protection and expansion of forestry, woodland and trees.

Given the Scottish Government's vision for tackling the twin climate and nature crises, it is incumbent upon Ministers to protect the more vulnerable and important forest areas such as in and around Galloway Forest Park, those areas which have a successful history of supporting the Scottish economy and jobs.

13.6 Outline Biodiversity Enhancement Management Plan (OBEMP)

There are some concerns regarding the OBEMP proposals for the Site, in particular, the broadleaved woodland creation.

Unit D – riparian woodland creation

The proposed riparian woodland creation may potentially conflict with site restoration on Cordorcan Burn under the Brighton LMP carried out by Forest Enterprise. According to the LMP for Brighton, it is proposed to increase broad leaved tree cover, secure ancient woodland remnants and improve riparian zone habitats above the Wood of Cree SSSI here. **(Brighton LMP, 2017-2027)** Unit D runs along the border between the proposed development and the Brighton block.

Unit E – broadleaved woodland creation

Creating broadleaved woodland in and around T5, T8, T9 and T10 would attract wildlife, particularly birds and bats, to an area where they would be at great risk of turbine strike and/or barotrauma. The southern part of Unit E contains the headwaters of Glenshalloch Burn and a mature pond. This pond contains fish and the combination of woodland edges with the pond is already an area of high bat foraging activity.

The OBEMP also suggests that the planting proposals in Unit E may benefit black grouse which are present on the Site and locally, through enhanced shelter and increased foraging resources. **(TA8.6)** The proposed broadleaved woodland completely surrounds T9 and covers the tracks between T8 and T10. Bearing in mind buffer zones to protect black grouse from forestry operations in the UK range from 300 to 1,000 m during the breeding season **(NatureScot Research Report 1283)**, encouraging black grouse to this unit is utterly irresponsible.

13.7 Conflict of Interest

Much of the assessment in the Forestry chapter relies on the 'professional judgement' of a company whose services are paid for by the energy company proposing the development. This, of course, is routine for wind farm development planning applications. Indeed, there are a handful of companies who regularly work in this field and their assessments are seen repeatedly in applications of this nature. While the credentials of these companies are probably without question, the Forestry chapter cannot truly be considered a fully independent assessment since there is a clear conflict of interest.

There is no formal way of assessing the removal of woodland. The Forestry chapter says as much: "There is no particular industry standard to be applied in respect of the impact of woodland removal so the sensitivity and magnitude criteria derived in Tables 14.2 and 14.3 above are based on professional judgement." **(14.5.7)** We are required to rely on professional judgement but that doesn't mean that judgement will be on point. Certainly, professionals who are in the pay of a company proposing a large-scale development, from which it will render huge profits, must by the very nature of the role be conflicted.

A further conflict of interest concerns Lamachan and Queensway forestry blocks, both of which are owned by Forestry & Land Scotland **(F&LS)**. Since the Scottish Government are also making a decision on whether the proposed development goes ahead or not, this is another clear conflict of interest. The Scottish Government having a vested interest by reason of F&LS's ownership of the site was another 'key issue' raised in objections to the nearby **Clauchrie Wind Farm (ECU00002001)** which was refused consent in 2023.

13.8 Conclusion

Forests are one of nature's self-regenerative resources. They are recognised as one of the ecosystems fundamental for biodiversity. The removal of forest will mean the loss of natural capital for Scotland. Even if tree-planting is carried out under The Control of Woodland Removal Policy to replace the loss, this land situated alongside the important Galloway Forest Park, will be fragmented and materially changed. This highly valued area should not be used for intrusive industrial-scale development, it should be left to develop crucial sustainable industries, such as successful timber-based businesses and tourism for which it is renowned.

Chapter 14: Aviation, Radar and Defence

Objection to Blair Hill Wind Farm - ECU00004878

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Chapter 14: Aviation, Radar and Defence

The Blair Hill Wind Farm poses unacceptable risks to aviation safety and radar operations. The developer's Environmental Impact Assessment Report (EIAR) lacks a confirmed, effective mitigation strategy for significant aviation issues. Key stakeholders, including NATS, Glasgow Prestwick Airport, and the Ministry of Defence, have raised serious concerns, with NATS rejecting the application.

14.1 Key Concerns: Radar Interference, Aviation Safety, and Unresolved Objections

14.1.1 Radar Interference and Air Traffic Control Disruption

- The turbines (up to 250m tall) will be one of the tallest structures in Scotland, significantly impacting aviation radar.
- Glasgow Prestwick Airport (GPA) and National Air Traffic Services (NATS) have identified the potential for serious radar interference.
- The developer has not secured a viable radar mitigation plan, meaning the wind farm will cause radar clutter, false signals, and compromised airspace safety.
- The EIAR acknowledges that mitigation is “under discussion” but fails to confirm any enforceable solution.

14.1.2 Military and Defence Concerns

- The Ministry of Defence (MoD) has raised concerns over potential impacts on radar and low-flying training operations.
- Dumfries and Galloway is used for tactical low-level flying exercises, and wind turbines of this height pose a collision risk to military aircraft.
- The developer has failed to provide a confirmed mitigation plan that satisfies the MoD.
- The developer fails to recognise that military aircraft fly almost 100 meters below the height of their largest turbines.

14.1.3 Aviation Lighting and Impact on Galloway Dark Sky Park



The Galloway Hills are Renowned for their Dark Skies, and Bringing Tourism into the Area

- Six of the turbines (**T1, T4, T5, T10, T11, and T14**) will require red aviation warning lights, visible for miles. However, it should be noted that the Civil Aviation Authority (CAA) mandates that **all** structures exceeding 150 metres in height must be fitted with such lighting, not merely six out of the fourteen turbines proposed.
- This compromises the Galloway Dark Sky Park, which is internationally recognised for its pristine night skies.
- The EIAR does not propose effective shielding or minimisation of aviation lighting impact.

14.2 Unresolved Objections from Key Aviation Stakeholders

Stakeholder	Concern	Mitigation Status
NATS (National Air Traffic Services)	Radar interference affecting air traffic control.	No confirmed mitigation.
Glasgow Prestwick Airport	Safety risks due to radar clutter.	No confirmed mitigation.
Ministry of Defence (MoD)	Interference with military low-flying training.	No confirmed mitigation.

Accordingly, NATS (En Route) plc **objects to the proposal**. The reasons for NATS’s objection are outlined in the attached report TOPA SG35971.

14.2.1 Extract From NAT's Objection To The Proposed Blair Hill Wind Farm

14.3 Failures in the Developer’s Aviation Assessment

Issue	Failure in Developer's Assessment
Radar Interference Not Resolved	The EIAR fails to confirm a viable radar mitigation strategy.
MoD Concerns Not Addressed	The EIAR acknowledges military aviation concerns but does not provide a solution.
Impact on Dark Skies Ignored	The EIAR does not propose shielding or alternatives for aviation lighting.

The proposed development falls within the assessment area of the following systems:

En-route Surv	Lat	Long	nm	km	Az (deg)	Type
Clee Hill Radar	52.3983	-2.5975	170.1	314.9	337.7	CMB
GDF Radar	54.6841	-2.4509	72.6	134.4	286.8	CMB
Lowther Hill Radar	55.3778	-3.7530	31.9	59.2	229.0	CMB
Perwinnes Radar	57.2123	-2.1309	152.5	282.4	211.8	CMB
Tiree Radar	56.4556	-6.9230	119.2	220.7	135.1	CMB
En-route Nav	Lat	Long	nm	km	Az (deg)	Type
None						
En-route AGA	Lat	Long	nm	km	Az (deg)	Type
None						

Table 2 – Impacted Infrastructure

14.3.1 Extract From NAT's Objection Demonstrating Impacted Infrastructure

14.4 NATS Safeguarding Objection

NATS (En Route) plc has formally objected to the proposed Blair Hill Wind Farm development following technical and operational safeguarding assessments. **Their evaluations identified significant issues with radar interference, specifically:**

- **Lowther Hill Radar:** Turbines T1 to T6 are expected to generate false primary radar plots, significantly impacting radar performance and reducing its probability of detecting actual aircraft.
- **Great Dun Fell Radar:** Turbines T1, T2, and T3 similarly pose a risk of generating false radar plots, compromising radar functionality and operational integrity.

Operational assessment conducted by NATS concluded these technical impacts were unacceptable to the Prestwick Centre Air Traffic Control operations.

NATS has emphasised the legal obligation of planning authorities to consult NATS before any planning permissions are granted. Any divergence from NATS' recommendations requires notification to both NATS and the Civil Aviation Authority (CAA) for further review under Scottish Planning legislation and Planning Circulars.

Failure to adhere to these procedures or adequately consider NATS' objections could introduce significant safety risks to air traffic operations.

14.5 Conflict with Planning Policy

Policy	Conflict
NPF4 Policy 22 – Aviation Safety	The development fails to resolve aviation and radar safety concerns.
LDP2 NE11 – Dark Skies	The proposal compromises the Galloway Dark Sky Park.
UK Civil Aviation Authority (CAA) Regulations	The developer has not ensured compliance for radar interference mitigation or aviation lighting requirements.

14.6 Conclusion: The Aviation and Radar Risks Are Unacceptable

- The Blair Hill Wind Farm poses unresolved risks to aviation safety, radar systems, and military operations.
- The developer has not secured an agreed mitigation plan with NATS, Glasgow Prestwick Airport, or the MoD.
- Aviation lighting will significantly harm the Galloway Dark Sky Park, with no effective mitigation proposed.
- The wind farm is incompatible with aviation safety regulations and national planning policies.

Recommendation: This Proposal Must Be Rejected

Given these significant unresolved aviation, radar, and environmental impacts, we strongly urge the Scottish Government's Energy Consents Unit (ECU) and Dumfries and Galloway Council to reject this application.

Chapter 15: Schedule of Mitigation

Objection to Blair Hill Wind Farm - ECU00004878

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Chapter 15: Schedule of Mitigation

The Blair Hill Wind Farm (ECU00004878) fails to provide a legally enforceable or effective mitigation strategy. The developer's Environmental Impact Assessment Report (EIAR) proposes mitigation measures that are vague, unenforceable, and insufficient to offset the significant harm caused by the development.

15.1 Key Concerns: Lack of Enforceability, Inadequate Mitigation, and Unproven Measures

15.1.1 Lack of Legally Binding Commitments

- Many of the mitigation measures rely on “best practice” rather than legally enforceable conditions.
- The developer does not provide clear funding or timelines for mitigation implementation.
- Previous wind farm developments have shown that “promised” mitigation often fails to be delivered or enforced.
- Incomplete Grid connection scope.

15.1.2 Inadequate Peatland Restoration

- The site contains deep peat, which will be permanently damaged by construction.
- The developer's proposed “peatland restoration” lacks specific targets, monitoring plans, or guarantees of success.
- There is no independent oversight to ensure compliance with peatland mitigation commitments.

15.1.3 Weak Biodiversity and Ecological Mitigation

- The developer proposes habitat “enhancements” but provides no guarantee that they will compensate for habitat loss.
- No clear strategy is in place for monitoring the long-term impacts on legally protected species, such as otters, red squirrels, and raptors.
- No enforceable compensation is proposed for lost breeding and foraging habitats.

15.1.4 No Effective Mitigation for Landscape and Visual Impacts

- The developer admits that the landscape impact will be severe, yet proposes no meaningful mitigation.
- Screening measures (e.g., tree planting) are ineffective against turbines up to 250m tall.
- The developer has not proposed any modification to turbine height or layout to reduce visual impact.

15.1.5 Failure to Mitigate Road and Traffic Disruptions

- The developer has not secured agreements with Dumfries and Galloway Council for road maintenance.
- There is no confirmed funding for repairing road damage caused by heavy construction traffic.
- Emergency services and public transport routes will be disrupted, with no mitigation strategy in place.

15.1.6 Unresolved Aviation and Radar Mitigation

- The developer admits that aviation and radar concerns are “still under discussion” with key agencies, including NATS and Glasgow Prestwick Airport.
- Without a finalised radar mitigation strategy, the wind farm poses an unresolved risk to air traffic control.
- The aviation lighting will have a significant impact on the Galloway Dark Sky Park, with no effective mitigation plan proposed.

15.1.7 Inadequate Cumulative Impact Assessment

- Very limited information is considered in relation to other nearby (proposed) projects.
- Lack of thorough assessment of combined environmental effects.
- A detailed cumulative assessment (visual, ecological, transport) should be included per EIA Regulation Schedule 4.

15.1.8 Construction Environmental Management Planning (CEMP)

- The CEMP is only a very brief outline document.
- A significantly more detailed CEMP should have been provided to give assurance to the planners and the community that RES are serious about this development and have given full and proper consideration of the environmental implications.

15.1.9 Forestry Felling and Replanting

- A Forestry Management Plan should be included with quantification of loss and mitigation/replanting.
- This may contravene Scottish Government Policy on felling.

15.1.10 Omission of Radioactive Risk from Historic Cs-137 Contamination in Peat

- Failure to assess or even acknowledge the radiological history of the site represents a significant omission in the baseline environmental risk evaluation and may undermine public confidence in the safety of the development.
- A radiological risk assessment should be conducted, including peat sampling for Cs-137. Results should inform mitigation strategies within the Peat Management and Pollution Prevention Plans.

15.2 Failures in the Developer's Mitigation Plan

Issue	Failure in Developer's Assessment
Peatland Restoration Unclear	The EIAR does not provide a detailed plan for restoring damaged peatlands.
Wildlife Protection Measures Vague	The EIAR fails to provide enforceable monitoring or compensation for habitat loss.
Landscape Impact Remains Unmitigated	The EIAR admits significant visual harm but does not propose meaningful mitigation.
No Confirmed Road Repair Funding	The EIAR does not include binding agreements for road maintenance.
Aviation and Radar Risks Unresolved	The EIAR has not secured mitigation agreements with aviation authorities.
Lack of proper Cumulative Impact Assessment	The EIAR fails to fully consider the implications of other proposed projects nearby and the overall impact on the area

Issue	Failure in Developer's Assessment
Lack of detailed CEMP	At this level of application, the CEMP should have significantly more detail than just a few lines to state all these issues will be considered once planning has been granted. These are significant areas of concern which should be given the due time and effort to assure the community that this will be a safe project and not endanger the area. This outline plan lacks implementation strategies that are required for Section 36 application.
Forestry Plan	For the significant amount of forest to be removed for this development, there should be a considered management plan at this stage to cover mitigation and full details of replanting. The EIAR fails to provide details which demonstrates a disjointed approach to the forestry element and should leave planners concerned.
Radioactive Risk	The EIAR does not assess the potential for disturbance of peat to remobilise legacy radioactive contaminants, particularly Cesium-137 (Cs-137), from Chernobyl fallout known to have significantly affected upland areas of southwest Scotland.

15.3 Conflict with Planning Policy

Policy	Conflict
NPF4 Policy 3 – Biodiversity	The development fails to provide a net gain for biodiversity.
NPF4 Policy 5 – Soils	The wind farm damages carbon-rich peatland, with no adequate restoration plan.
NPF4 Policy 22 – Transport	The EIAR does not propose enforceable road maintenance agreements.
LDP2 NE1 – National Scenic Areas	The proposal admits severe visual harm with no meaningful mitigation.

15.4 Conclusion: The Mitigation Measures Are Insufficient and Unenforceable

- The Blair Hill Wind Farm will cause serious environmental, landscape, transport, and aviation impacts, which the developer has failed to mitigate properly.
- The mitigation measures proposed are vague, lacking legal enforceability, and insufficient to offset the scale of harm caused.
- Previous wind farm projects have shown that weak mitigation commitments often fail to be delivered in practice.
- Without legally binding and independently monitored mitigation measures, this wind farm will create significant long-term damage.

Recommendation: This Proposal Must Be Rejected. Given the inadequacy and lack of enforceability of the proposed mitigation measures, we strongly urge the Scottish Government's Energy Consents Unit (ECU) and Dumfries and Galloway Council to reject this application.

Other items not included - Health and Wellbeing

Objection to Blair Hill Wind Farm - ECU00004878

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Other items not included - Health and Wellbeing

OT-H.1 Potential Contamination from Peat Disturbance

Issue: The hills of Galloway, including the proposed wind farm site, were heavily affected by the Chernobyl fallout in 1986. Caesium-137 (Cs-137), a radioactive isotope, was absorbed into the area's deep peat layers.

Risk: Disturbance of peat during excavation, track building, turbine foundation installation, or borrow pit development could remobilise radioactive particles, especially Cs-137, into watercourses, the food chain, or as airborne dust.

Health Concern: Long-term exposure to Cs-137 can lead to internal radiation exposure through ingestion or inhalation, increasing cancer risk and posing dangers to livestock and local water supplies.

There is a complete failure to even give consideration to this in the EIAR .

OT-H.2 Inhalation Hazards from Blasting and Silicate Minerals

Issue: The proposal includes use of borrow pits and on-site blasting, with extensive excavation across a wide, upland terrain.

Risk: Blasting may release 'crystalline silica' and 'particulate minerals' into the air, which, when inhaled, can cause serious respiratory illnesses such as 'silicosis', chronic obstructive pulmonary disease (COPD), and lung cancer.

Health Concern: Dust from silica and rock particulates may travel offsite, especially in windy conditions, affecting nearby residents and site workers. No comprehensive airborne particulate risk assessment is evident in the EIAR.

OT-H.3 Toxic Pollution from Blade Erosion (Bisphenol A & Microplastics)

Issue: Turbine blades are known to shed 'microplastics' and 'epoxy-based resin dust', including Bisphenol A (BPA), through surface erosion.

Risk: BPA is a known endocrine disruptor, with links to hormone imbalance, developmental issues, and reproductive toxicity. Microplastics may contaminate soil, water, and ecosystems.

Health Concern: The EIAR fails to address or quantify BPA or polymer pollution risks. Prolonged exposure or environmental accumulation may pose both direct human exposure risks and wider ecological effects.

OT-H.4 Noise and Infrasound

Issue: The development includes 14 turbines, most up to 250 m in height, in proximity to rural homes.

Risk: Noise emissions include audible noise and low-frequency infrasound, which can travel long distances and penetrate buildings.

Health Concern: Chronic exposure to wind turbine noise has been associated with:

- Sleep disturbance
- Stress and anxiety
- Headaches and nausea
- Cognitive and cardiovascular effects
- The report includes decibel modelling but does not adequately address infrasound impacts or worst-case scenarios in complex terrain.

Relying on outdated sound levels which were created when turbines were significantly smaller, knowing there are far more recent guidelines that give more robust measures. Accepting this is a Scottish Government failing for not introducing more up to date guidance, however, it is clear to every sector this is old data and not fit for purpose.

OT-H.5 Shadow Flicker and Visual Disturbance

Issue: Turbine blades rotating in direct sunlight may cause shadow flicker, a strobe-like visual effect.

Health Concern: Flicker can cause visual discomfort and in rare cases trigger migraines or photosensitive epilepsy. The mental strain from persistent flicker may contribute to sleep and concentration issues, especially in sensitive individuals. The EIAR suggests this will be mitigated by turning off affected turbines when necessary. This demonstrates that the turbines are too close to residential properties, **this is not the right location!**

OT-H.6 Aviation Lighting and Loss of Natural Darkness

Issue: Six turbines will be lit with aviation lights, potentially visible for many miles, including from homes and rural landscapes.

Health Concern: Exposure to artificial light at night has been linked to circadian rhythm disruption, reduced melatonin production, poorer sleep quality, and increased risk of mood disorders.

The site's proximity to the Galloway Dark Sky Park makes this an especially sensitive area for dark-sky conservation. Whilst RES have considered only specific car parks when night time observers may gather, they have completely neglected the locals who use their own properties to view the amazing dark skies. RES are robbing us of our dark skies but have completely scoped out any effect. This adds to the laughable Biggar report that states locals will be unaffected - of course we will be affected. Many of us moved to this area for this very reason. Astronomy and night time photography here for locals and tourists is significant. Having aviation lights flashing at us constantly will ruin our dark sky and affect the number of tourists travelling to the area for the same reason.

OT-H.7 Loss of Green Space and Mental Health

Issue: The proposed development would industrialise a large area of open moorland and mixed-use forest which borders onto significant walking, cycling and climbing routes.

Health Concern: Access to green space is consistently linked to improved mental and physical health. According to the World Health Organization (WHO), green spaces promote stress relief, physical activity, cognitive restoration, and social cohesion. The Scottish Government's Mental Health Strategy and NatureScot guidance also highlight the essential role of nature in preventing and treating mental illness.

A 2021 systematic review in Environmental Research found strong evidence that proximity to green and natural environments is associated with lower levels of depression and anxiety, as well as improved mood and self-esteem. The UK Government's 25 Year Environment Plan supports expanding access to green spaces as a public health strategy.

Developing an industrial site on some of the most beautiful parts of Dumfries & Galloway is in direct contravention to these very strategies trying to protect and enhance our mental health.

Industrialisation of these spaces threatens to degrade their therapeutic and restorative function*, with implications for:

- Stress regulation
- Immune system function
- Attention and cognitive recovery
- Community identity and place-based wellbeing

Recommendation: The psychological and social value of the undeveloped landscape should be assessed as part of a Health Impact Assessment (HIA), and preservation of these green spaces should be a guiding principle in planning decisions.

OT-H.8 Community Stress and Psychological Burden

Issue: Many residents report significant psychological stress linked to opposing the proposal, uncertainty over the outcome, and fears about long-term disruption.

Health Concern: Chronic stress and lack of agency in planning outcomes can lead to:

- Sleep disorders
- Elevated blood pressure
- Depression and anxiety
- Long-term health deterioration

Since August 2023 when these and the plans for Glenvernoch first came to light, the community has pulled together to fight these monstrosities. As a group of unpaid, volunteers whose lives have been dominated by this for the past 18 months, learning about the issues on the job, we are attempting to make the case on behalf of our community against well paid, full-time experts working for a corporation who have never even set foot on these hills. It seems most unbalanced and is a threat to local democracy.

OT-H.9 Conclusion

The Blair Hill Wind Farm application raises numerous health and safety concerns that are inadequately addressed in the EIAR. These span from direct risks (e.g., radioactive and silica exposure) to cumulative psychological burdens (e.g., stress and sleep disturbance), and most critically, the loss of access to green space that supports public mental health.

A full Health Impact Assessment (HIA) should be commissioned, with special attention paid to radiological risk, particulate inhalation, endocrine disruption, acoustic modelling, and the psychological importance of preserving natural environments.

Other items not included - Waste and Environmental Contamination

Objection to Blair Hill Wind Farm - ECU00004878

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Other items not included - Waste and Environmental Contamination

The Blair Hill Wind Farm proposal (ECU00004878) fails to provide adequate detail or commitments regarding the management of construction and operational waste, turbine oil, and composite blade degradation. The applicant's Environmental Impact Assessment Report (EIAR) relies heavily on future plans, such as the Construction Environmental Management Plan (CEMP), Operational Environmental Management Plan (OEMP), and Decommissioning and Restoration Plan (DRP), rather than presenting site-specific and enforceable waste mitigation measures.

OT-W.1 Inadequate Waste Management Commitments

- There is no estimate of expected volumes of waste (e.g. concrete, packaging, surplus materials), nor any commitment to monitor or report waste generation during the construction or operational phases.
- This approach fails to comply with the Waste Management Licensing (Scotland) Regulations 2011 and Waste (Scotland) Regulations 2012, both of which require developers to apply the waste hierarchy (prevention, reuse, recycling, recovery, disposal) and maintain clear audit trails.
- RES provides no detail on the use of local or regional licensed waste facilities, nor an assessment of whether local infrastructure has capacity to handle the project's waste.

OT-W.2 Risks from Turbine Oils and Fluids

- Wind turbines rely on significant quantities of lubricants, hydraulic fluid, and transformer oils, all of which are hazardous to the environment if spilled.
- Although the EIAR acknowledges the potential for fuel or oil leaks during construction and operation, it fails to quantify how much oil will be stored on site, or what secondary containment measures (e.g. bunds) will be used.
- There is no clear Spill Prevention and Response Plan in the EIAR, only a generic commitment that "spill kits will be available" and that a Pollution Prevention Plan (PPP) will be developed at a later stage.
- This is inconsistent with the Pollution Prevention and Control (Scotland) Regulations 2012, which require clearly defined risk assessments, containment measures, and protocols for pollution incidents.

OT-W.3 Blade Erosion and Microplastic Pollution

- The EIAR includes no assessment of long-term blade wear and erosion, despite acknowledging that turbine blades will be up to 250m tall and exposed to significant wind shear and environmental degradation over a 50-year lifespan.
- As turbine blades erode, they release microplastic and fibreglass particles into the air, soil, and water. These particles are environmentally persistent and can contaminate local ecosystems, especially near watercourses like the Penkiln Burn and Black Burn.
- The lack of a Blade Maintenance, Inspection, or Erosion Monitoring Strategy is a serious omission and may lead to cumulative pollution over time, especially given the proximity of the site to peatland habitats and private water supplies.

OT-W.4 Decommissioning Waste and Unacceptable Legacy Impacts

- The Decommissioning and Restoration Plan (DRP) will only be prepared at the end of the wind farm's 50-year life. However, the EIAR admits that components such as turbine foundations may be left in situ, citing "reduced hydrological disruption" as justification.

- This approach could conflict with SEPA guidance and the expectations of Scottish Planning Policy, which generally favour full removal of infrastructure unless compelling evidence is presented.
- By not committing to full site restoration and recycling of all materials, the applicant risks leaving future generations with the burden of turbine carcasses, buried concrete, and stranded infrastructure.

OT-W.5 Incomplete Grid Connection Scope

Chapter 2, Sections 2.3.52–2.3.54.

- The grid connection is excluded from the application.
- This omission raises concerns about "project splitting," which may undermine the legal adequacy of the EIA under the 2017 Regulations.
- The full grid connection, including route and environmental effects, should be assessed within this application or robustly scoped in with cumulative impacts.

OT-W.6 Visual and Lighting Impact Near Dark Sky Park

Chapter 2, Sections 2.3.12 and 2.2.3

- Turbines (up to 250 m tall) are adjacent to the Galloway Dark Sky Park core and buffer zones. Six turbines will be lit.
- Implications: Potential for unmitigated night-time visual intrusion in a sensitive landscape.
- Recommendation: A more detailed visual impact assessment, particularly concerning aviation lighting effects at night, should be provided.

OT-W.7 Inadequate Cumulative Impact Assessment

- References to nearby developments are made but with limited detail.
- Lack of thorough assessment of combined environmental effects.
- A detailed cumulative assessment (visual, ecological, transport) should be included per EIA Regulation Schedule 4.

OT-W.8 Gaps in Public Consultation Transparency

Chapter 1, Section 1.4.4.

- The application lacks a clear summary of public responses and how they shaped the development.
- Reduced transparency may fail to meet the spirit of participatory planning.
- A consultation report or chapter summarising community feedback and responses should be submitted.

OT-W.9 Construction Environmental Management Planning

Chapter 2, Section 2.6; Technical Appendix 17.1.

- The Construction Environmental Management Plan (CEMP) is only an outline.
- Key environmental safeguards are deferred, weakening enforceability.
- A detailed draft CEMP should be required at application stage.

OT-W.10 Forestry Felling and Replanting Uncertainty

- While felling is proposed, a comprehensive forestry strategy is absent from the main volume.

- May contravene Scottish Government policy on woodland removal.
- A Forestry Management Plan should be included with quantification of loss and mitigation/replanting.

OT-W.11 Biological Enhancement Management Plan

Chapter 8 Annex A Table 8.11

Details loss of 0.41 hectares of woodland or scrub (1.43 ha if you include already felled conifer). This statement seems to exclude the access track which is 8.5km passing through forestry with some mature broadleaved trees. The track needs straightening in areas, strengthening, widening and felling, to accommodate the sweep of long blades. If 2m either side of the track where to be cut/felled that would result in the loss of 34ha as an example, so the stated 0.41 ha seems totally inadequate. It will almost certainly require felling of mature broadleaves. In addition it is recognised that parts of the A712 need to be altered to accommodate the exceptional loads this will also lead to inevitable felling, trimming of mature trees which has not at all be addressed by mitigation/planting works under the Biological Enhancement Plan.

OT-W.12 Conclusion: Waste and Environmental Contamination Risks Are Unacceptable

The developer has failed to provide sufficient detail or assurance regarding the handling of construction and operational waste, the management of turbine oils, or the long-term impacts of blade erosion. The absence of enforceable and site-specific mitigation strategies for these issues is inconsistent with Scottish environmental regulations and planning policy.

While the application demonstrates significant effort to align with EIA and planning standards, it contains several critical gaps. These should be addressed before consent is granted under Section 36 to ensure compliance with environmental legislation and public interest standards.

We therefore urge the Scottish Government's Energy Consents Unit (ECU) and Dumfries and Galloway Council to reject this application until these critical deficiencies are addressed in full, with clear legal obligations imposed for waste management, pollution control, and turbine material lifecycle responsibility.

Biographies

Objection to Blair Hill Wind Farm - ECU00004878

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Biographies

Richard Cass B. Arch(hons), MA (Landscape Architecture)

Richard Cass is a highly experienced chartered architect and landscape architect, with a long career as a consultant, the majority as founding partner of the planning, landscape and architectural consultancy firm Cass Associates. He has provided extensive advice to national, regional and local governments on the landscape and environmental implications of major developments. He currently serves on the Design Council panel of experts providing advice to the UK government and statutory organisations on large scale infrastructure developments. He is also chairman of the Cass Foundation, a charity focussed on promoting the importance of the environment on people's health. His work has received many awards for planning, design and conservation. He has extensive experience of direct relevance to the proposed wind farm, including:

- the planning, design and development of major infrastructure projects;
- environmental impact assessments of large-scale development in environmentally sensitive locations;
- landscape, recreation and tourism studies in areas of high landscape and conservation value, including national and regional parks.

In 1996 his family purchased the Buchan, a Grade B historic farmhouse in a remote location in Glentworth, from the Forestry Commission. It was in a semi-derelict condition and had been empty for some years. They carried out a three-year restoration programme, including installing a small-scale hydro generator, and converting the building into a zero-carbon, energy efficient modern dwelling. Since 1999 the house has been operated as a holiday rental property, offering guests a remote, off-grid experience set within the wild, beautiful landscape of the Galloway Hills. It currently attracts around 3000 people a year to the area, contributing around £60,000 to the local economy, including the employment of local people. Feedback from guests is overwhelmingly positive, with guests recognising the benefits that the very special character of the area's natural, unspoilt landscape bring – to physical and mental health, and to personal relationships. The Buchan is around 6km from the proposed wind farm at Blair Hill. Whilst not visible from the house itself, it would dominate views from many of the surrounding hills, from local footpaths and cycle routes, and from all roads into Newton Stewart and Glentworth. It would seriously damage the unspoilt, natural character of the area.

As a keen walker and conservationist Richard Cass has a detailed and intimate knowledge of the Galloway Hills and the surrounding area. He has visited and studied national and regional parks and other areas of natural beauty in many parts of the world. He has a good understanding of how the Galloway Hills compare to other areas of important landscape in Scotland and other parts of the UK. As a planner and designer, he has widespread experience in finding solutions that successfully combine economic and social development with the protection and conservation of the natural environment.

Paul Collin

I have lived and worked in the Cree Valley for the past 40 years. I was on the Committee that established Wigtown Bay LNR, instrumental in establishing the Cree Valley Community Woodland Trust, was on the steering group for Loch Ken and Loch Ryan, was part of the local Forestry Environmental Group. I was the first site manager for Wood of Cree and managed Ken-Dee Marshes, Mull of Galloway & Ailsa Craig. I have carried out wetland bird surveys for BTO on both Wigtown Bay and Loch Ryan and was D&G Bird Recorder for 32 years. I am a member of the D&G Raptor Study Group and the D&G Bat Group. Before arriving in D&G I worked on several of the best Nature Reserves in the UK. I have been lucky enough to have travelled the world and seen many of the most iconic landscapes their wildlife and participated in several international surveys.

Chris Ford BA, MBA, MSc, PhD, MRTPI

Dr Ford is an experienced Chartered Town Planner. He has specialised in energy developments for over a decade. His academic research focuses on the 'Spatial aspects of energy systems engineering and energy policy'. He has specialised expertise in the UK power network, energy market regulation, energy policy and renewables engineering. This experience takes account of the requirements to minimise local environmental effects (of both generation and power networks) and the cost to consumers in delivering a net zero energy system. He is therefore well placed to apply the planning maxim: "The right development in the right place" to the need to locate renewable energy generation and supporting infrastructure in the most suitable locations across the country.

Gillian Forster BSc (Hons), MSc

As a resident of Minnigaff I have lived in the area for nearly seven years and have been a regular visitor to Dumfries and Galloway for over 25 years. I have a BSc(Hons) degree in Physiology and Zoology and a Masters in Biomedical Science. Throughout my career in scientific research I have worked on numerous cancer and neuroscience based projects, principally at Liverpool, Glasgow and Sheffield Universities. I have a broad interest in the natural environment and some understanding of landscape character and the EIA process.

Patrick McCulloch MA, Dip LA

Patrick is a gardener, landscape architect and ecologist with a wide range of experience in the restoration of historic designed landscapes and habitat restoration. He was brought up on a small farm in Ayrshire and later moved to Galloway in the 1960s. After studying History at Edinburgh University he worked at Drumlanrig Castle before moving south to become Head Gardener at Castle Ashby. He subsequently worked in London, mostly for English Heritage, as a Landscape Architect whilst studying Ecology & Conservation at Birkbeck. He and his partner set up their own company, based in Oxfordshire, designing, creating and maintaining gardens and country estates in England and Europe.

In 2021 he moved back to Galloway with his family, buying Brighton Farm with the intention of managing the land for wildlife and running two holiday cottages, in disused farm buildings, as a form of ecotourism. Their ethos is to serve nature and work with it rather than exploiting it as a resource. They have spent the last two years creating the holiday cottages and are now renovating the farmhouse. The aim is to achieve this sustainably and they have installed thirty solar panels to generate electricity and heat water. As people involved in landscape, wildlife and ecology they believe firmly in the use of appropriate renewable energy generation on a local scale and situated on sensible sites that do not involve the destruction of the very biodiversity that should be protected.

Sian McKinnon BSc, CQSW

Worked in social care in the UK and Zimbabwe and has been a social worker in Glasgow for over 30 years. She has an understanding of small-scale farming and permaculture. Her interests and motivations have been about various aspects of the natural world, and more recently about the social and political issues contributing to the escalating global crises: natural, social and financial.

She has been a member of Reforesting Scotland for 20 years and has lived between Dumfries and Galloway and Glasgow since 2010. Having finally found a plot of woodland near Newton Stewart in 2019, she and her husband now live in Galloway. They are committed to managing their woodland - one of the most southerly fragments of the ancient temperate rainforest in Scotland, to preserve maintain and maximise its biodiversity.

Joanne Miles

Joanne's interest in the Environment and Nature began in her early teens. Volunteering at her local nature reserve, whilst still at school, her passion then led to studying horticulture and arboriculture in York. Her career since has been focused on managing gardens and landscapes to favour the biodiversity of the area. She studied Ecology and Conservation at Birkbeck University on a part-time basis and has applied her knowledge and expertise to land management; working primarily within the private sector in Oxfordshire with her partner through their business.

She moved to Dumfries and Galloway in 2021, due to family links to the area, and now owns a smallholding with her partner. Their ethos is to manage the land in a way that enables it to only to give what it can. One late cut of silage for cattle at the neighbouring farm and vegetable production for local consumption ensures a small carbon footprint. Using regenerative methods, coupled with eco-tourism, they work with small, like-minded businesses to make farming viable on a small scale.

J. Rennie

J. Rennie brings a strong background in administration, customer service, and educational support to the Blair Hill wind farm objection campaign. Her career began in 1998 when she worked alongside Police Scotland, gaining her SVQ2 qualification in Business Administration with a focus on handling sensitive Non-Disclosure material.

In 2003, J. married and settled in her hometown of Creetown, where she raised her family while continuing to expand her professional skills. She pursued further studies in Early Years Education (ages 0–6), successfully passing her exams and securing a position as a Part-Time School Assistant at Penninghame Primary School.

In 2013, J. relocated with her husband to South Ayrshire. There, she provided essential support in business administration and taxation processes, once again operating under strict Non-Disclosure Agreements. During this period, she also gained valuable experience in customer service, working for BP as a Customer Services Assistant and later for Vodafone, supporting residential clients.

Following her return to Dumfries and Galloway, J. has dedicated herself to full-time caregiving for her husband while actively continuing her professional contributions. She has recently become a grandparent, further strengthening her lifelong connection to Dumfries and Galloway.

J's. lifelong passion for the environment, wildlife, and natural heritage underpins her involvement with Hands Off Our Hills. She plays a vital role within the campaign group by proofreading and writing newsletters and articles for the campaign's website, ensuring clear and professional communications. Her attention to detail, administrative expertise, and commitment to safeguarding rural communities make her an invaluable asset in opposing the Blair Hill wind farm proposal. In addition, she supports the next generation by helping her husband train their son in IT and Business Management.

M. Rennie

M. Rennie is an accomplished IT specialist, ethical hacker, and web development expert with a career spanning more than 25 years across technology, telecommunications, firmware development, cybersecurity, and systems integration.

Raised in Old Minnigaff, Newton Stewart, M spent his formative years in the very hills surrounding the proposed Blair Hill Wind Farm site, developing a deep connection to the landscape through his experiences as a **Cub Scout, Scout, and Army Cadet**. Many of his early outdoor activities were carried out across the peaceful hills of Galloway, instilling a lasting respect for the environment that continues to this day.

After successfully completing a Retail Management course between 1997 and 1998 in the early 2000s he trained international students in web development and coding in Sweden, as part of a programme delivered through The Prince's Trust (now The

King's Trust). In 2011 he contributed to the development of MIUI, a custom Android firmware created by Chinese manufacturer Xiaomi, under the alias Galnet MIUI. He was instrumental in adapting and localising the firmware for English-speaking users, leading to widespread adoption. His version became one of the most downloaded custom ROMs for the Samsung Galaxy S (GT-I9000), with over 4 million installs globally, and 10 million across multiple mobile devices. He was also the first developer worldwide to successfully port Android Ice Cream Sandwich (4.0) to the Galaxy S, marking a significant achievement in the Android development community.

In 2013 he became an Apple Registered Developer and also played a central role in establishing an international warehouse and distribution centre, providing full-spectrum IT support remotely from his home in Tarbolton. His work included deploying integrated CMS, DMS, and WMS platforms, aligned with global shipment providers and leading e-commerce systems (under NDA). Between 2008 and 2013, Mathew operated as an independent Internet Service Provider (ISP), configuring and supporting residential broadband connections through Openreach and BT. This included provisioning ADSL and ISDN services, managing customer access, and maintaining network infrastructure from a back-end and administrative perspective.

In 2014 he collaborated with the FBI in Jacksonville, Florida, applying his skills as an ethical hacker to support the tracking and tracing of those responsible for a major cryptovirus attack - an early large-scale ransomware incident. Since then, much of his work has been undertaken under strict Non-Disclosure Agreements, reflecting his involvement in sensitive and high-level technical operations. Earlier, in 2009, he also pursued a career in policing, having passed the Police Scotland standard entrance exam, including discrimination and scenario-based assessments.

Whilst M is largely self-taught, he has long been and continues to be **recognised as a specialist in the field of technology**. His professional background would have made him fully eligible for acceptance into both the **Institution of Engineering and Technology (IET)** and the **British Computer Society (BCS)**, where he would have achieved the professional statuses of **MIET** and **MBCS** respectively. His early retirement from full-time practice precluded formal membership, but his qualifications and experience remain widely acknowledged.

Now retired due to health and mobility challenges, he lives in Castle Douglas with his wife, having spent most of his life in Dumfries and Galloway. He is a proud father of two and a grandfather. His interests include law, nuclear safety, and lithium-ion battery risk analysis, where he holds a deep technical understanding. He is also a dedicated aviation enthusiast, with a strong interest in CAA and FAA regulations, and is a certified drone operator with both Operator ID and Flyer ID. In retirement, he continues to share his expertise by mentoring his younger son, providing instruction in 3D modelling, graphic design, web development, and database integration. He actively supports local grassroots campaign groups, offering professional guidance in areas such as digital infrastructure, content management systems, and IT strategy. Where health permits, he volunteers his time to assist with community-based technical initiatives and causes he believes in.

Tony Riden

Lived and worked mostly in north-west Lancashire and around Morecambe Bay. Has a B.Ed. teaching degree in Biology and Environmental Science from 1977 and B.Sc. from the Open University in Environmental Sciences, Earth sciences, Ecology and Oceanography from 2003.

Retired in 2018 after working as the Countryside Officer for Arnsdale & Silverdale Area of Outstanding Natural Beauty (AONB – now National Landscape) for 25 years, managing Sites of Special Scientific Interest (SSSI's), Local Nature Reserves (LNR's), species-rich habitats and native woodlands and raising awareness and education of the importance of natural ecological biodiversity. Previously worked for Lancashire Wildlife Trust doing roadside botanical surveys, historic pond surveys, and initiating the Trust's Peatland Charter in 1993. Prior to that, was a secondary school teacher of Environmental Science and Biology.

An active member of the British Trust for Ornithology (BTO), Scottish Ornithological Club (SOC) (Stewartry Branch), RSPB, Scottish Wildlife Trust, South West Scotland Environmental Information Centre (SWSEIC), D&G Moth Group for VC74, and member of the National Trust for Scotland, the Bat Conservation Trust, Wetland & Wildfowl Trust (WWT), the Soil Association,

D&G Woodlands, Galloway and South Ayrshire Biosphere and the Galloway National Park Association. When living in Cumbria, my wife and I were members of Friends of the Lake District, supporting campaigns to safeguard the area's natural beauty against inappropriate development within the Lake District National Park.

My wife and I moved to Dumfries & Galloway in February 2021 after spending several holidays and weekend visits discovering the extensive delights and special landscape qualities, and the exceptional wildlife and bird-life still present in south-west Scotland, inspired by the wonderful ornithological and landscape paintings and publications by the late Donald Watson, and depicted and described so wonderfully in '**Galloway and the Borders**' by Derek Ratcliffe in the New Naturalist series. The extensive D&G region still benefits from relative peace and tranquillity in the Galloway Hills, the Galloway Forest Park, the Cree Valley woodland walks, the Galloway Dark Skies Park, and the Galloway Wild Land Area and upland mountain walks of the Merrick range are exceptionally stunning and beautiful. I spend most days observing and recording bird-sightings in the area on the BTO BirdTrack recording portal. I enjoy cycling and have done 3 of Sustrans long-distance cycle routes. I enjoy photographing birds, wildlife, habitats and landscapes and have an extensive photo library.

Donna Stewart BA Ed

Donna is a former Business Development Manager for Citizens Advice, looking after projects and budgets circa £1million pa. She moved to Newton Stewart 11 years ago to create her forever home in an old manse, a long-term DIY project that appears to be never-ending. She is now a business owner of a sustainable sawmill and timber yard supplying both commercial and domestic markets.

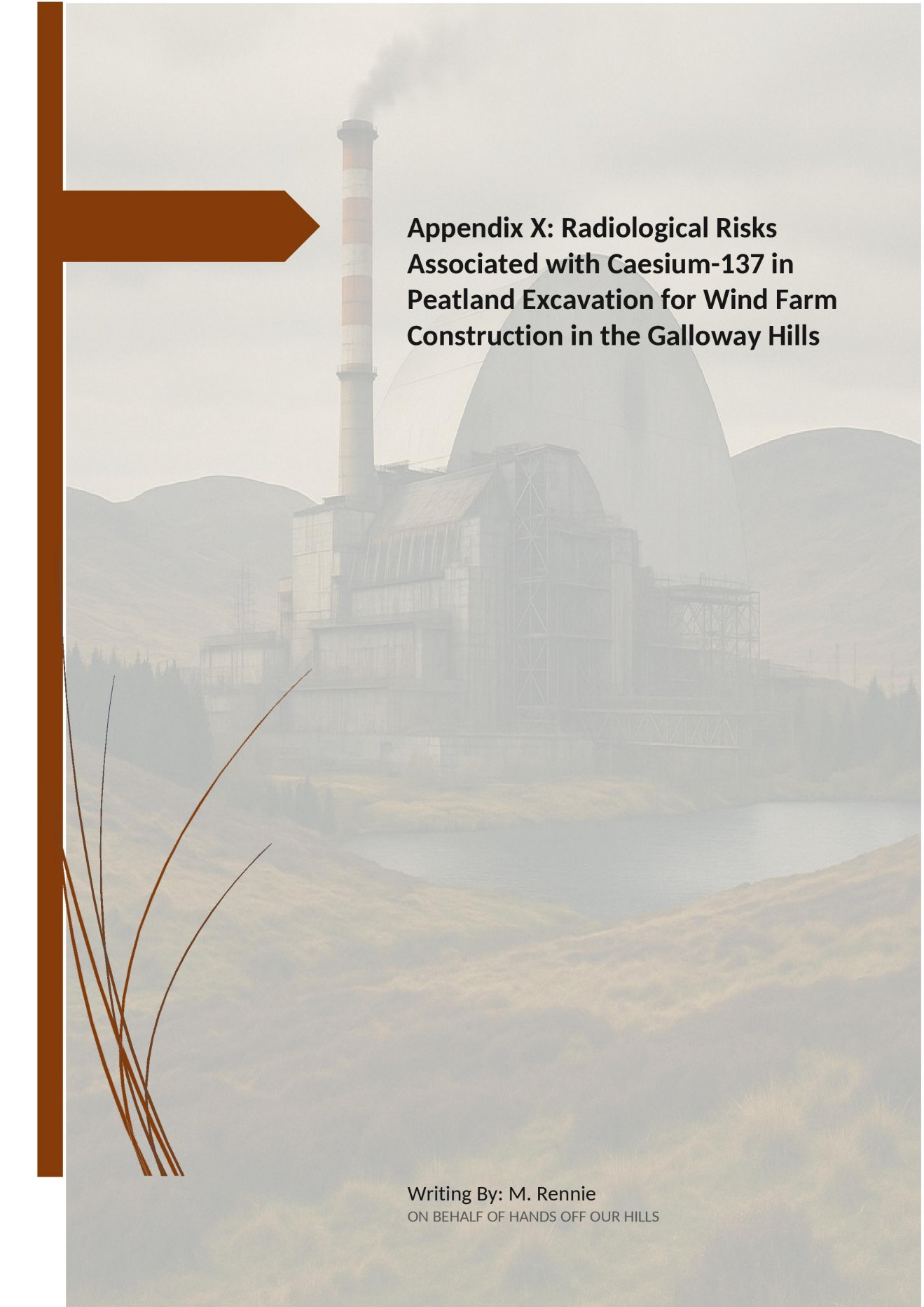
From her early days at Citizens Advice, Donna has developed a keen interest in justice and equality, always for the under-dog, and is 5/6th of her way through an Honours Law Degree which she hopes she will be able to use supporting other communities and individuals in their fight against big energy.

As a parent, she has a significant interest in the legacy we will leave to future generations and has great concerns about the over-industrialisation of landscapes which could result in the next generation never experiencing wide open green spaces, forests, woodlands and nature. Renewable energy is essential for moving from our reliance on fossil fuels. Destroying environments to install renewable energy does not make them green projects; whether it's our hillsides, or huge areas in countries like China and the Congo by digging up rare earth minerals. She is keen to hold the government to their 'right project, right place' ethos.

Appendix X

Radiological Caesium-137 Study

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Appendix X: Radiological Risks Associated with Caesium-137 in Peatland Excavation for Wind Farm Construction in the Galloway Hills

Writing By: M. Rennie
ON BEHALF OF HANDS OFF OUR HILLS

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Addendum: The Imperative for Responsible Energy Development in Radiologically Sensitive Landscapes

The findings presented in this technical report highlight a critical intersection between **legacy contamination** and **contemporary infrastructure development**. The presence of **persistent caesium-137 (Cs-137)** within the peat-rich uplands of the **Galloway Hills** is not speculative, it is a well-documented environmental reality, rooted in the historic fallout of the **Chernobyl nuclear disaster which occurred on the 26th April 1986**.

While the residual radiological load in these peatlands has remained largely sequestered due to the stable, waterlogged nature of the ecosystem, that containment is **entirely dependent on the integrity of the peat matrix**. Any **disturbance (whether accidental, negligent, or a consequence of commercial development)** risks **remobilising radioactive isotopes** into air, water, and biota. In this context, **wind farm construction**, which necessitates excavation, drainage, and heavy machinery operation across high ground, introduces an avoidable vulnerability.

The current global climate and energy emergency rightly calls for increased deployment of renewables. However, **climate solutions must not come at the cost of radiological compromise**, especially where:

- Residual isotopes such as Cs-137 are known to be present,
- The surrounding ecosystems are sensitive and biodiverse,
- Local communities rely on agriculture, livestock, water, and tourism.

A **deliberate or accidental release** of Cs-137 through soil disturbance, poor containment, or inadequate planning (even on a localised scale) could **irreparably damage the ecological resilience and food safety of the Galloway Hills**, reintroducing radioactive contaminants into watercourses, grazing land, and public spaces. This would reverse decades of progress in decontamination, undermine public trust in regulatory frameworks, and place further burden on health and environmental monitoring systems.

It is therefore imperative that **large-scale energy developers** and statutory decision-makers embed **radiological risk assessment and mitigation** into the core of environmental planning processes. Renewable energy infrastructure must be pursued **strategically and responsibly**, ensuring that the mistakes of the nuclear past do not resurface beneath the foundation stones of future green technologies.

The Galloway Hills are not only a strategic upland landscape, they are a living archive of environmental legacy, ecological fragility, and regional heritage. To disturb them without full knowledge and foresight is to gamble with both **public health and environmental security**.

Appendix X: Radiological Risks Associated with Caesium-137 in Peatland Excavation for Wind Farm Construction in the Galloway Hills

Section 1: Introduction – Peatlands, Radiocaesium, and Anthropogenic Disturbance

1.1 Background and Context

The Galloway Hills in Dumfries and Galloway, Scotland, comprise extensive upland areas underlain by **deep blanket peat**, a highly organic, water-saturated soil system that has accumulated over thousands of years. These peatlands serve not only as critical **carbon sinks** and ecological habitats, but also as geochemical repositories of **contaminants**, including radionuclides deposited during nuclear events such as the 1986 **Chernobyl nuclear disaster**.

Among the most persistent isotopes released from Chernobyl was **caesium-137 (Cs-137)**, which has a **half-life of 30.17 years** and emits beta and gamma radiation. Due to atmospheric transport and rainfall patterns, Cs-137 fallout reached many areas of the UK, disproportionately impacting **upland, high-rainfall regions**, such as the Galloway Hills.

Peatlands are particularly effective at **retaining Cs-137** because the isotope binds strongly to organic matter, especially **humic acids** within saturated, acidic environments. As a result, these upland soils became long-term reservoirs for radioactive fallout, with some areas in the UK recording deposition densities exceeding **10,000 Bq/m²** shortly after the incident.

Source:

- [Chernobyl - Catastrophe and Consequences \(Smith, J.T. & Beresford, N.A.\), Springer, 2005.](#)

1.2 Wind Farm Construction and Peat Disturbance

The construction of wind farms in upland terrain requires the **removal or reworking of peat** to install turbine foundations, cable trenches, access tracks, crane pads, and substation platforms. Such activity inevitably **alters the hydrology, oxidises formerly anaerobic layers**, and disrupts the chemical stability of the peat profile.

If Cs-137 is present in these layers (as is likely given the 1986 fallout) excavation can lead to:

- **Physical dispersion** (e.g. windblown dust, runoff),
- **Increased leaching into watercourses** due to changes in pH and drainage,
- **Bioavailability to flora and fauna**, reintroducing Cs-137 into the food chain,
- **Human exposure**, particularly if material migrates toward grazing land or water sources.

These risks are relevant in Galloway where **peat-based hillslopes feed tributaries of the River Cree** and where **livestock grazing** remains economically and culturally significant.

Source:

- [Environmental Consequences of the Chernobyl Accident and their Remediation: Twenty Years of Experience – International Atomic Energy Agency \(IAEA\), 2006.](#)

1.3 Objective and Scope of Report

This report aims to:

- Present a **scientific and site-relevant review** of Cs-137 risks from peat disturbance during wind farm construction in the Galloway Hills.
- Detail **known deposition data**, expected **residual activity**, and **plausible mobilisation pathways**.
- Quantify potential Cs-137 release using **standardised estimates of activity per unit volume of peat**.
- Provide **regulatory, health, and environmental context** applicable to infrastructure development in formerly contaminated upland landscapes.
- Serve as a **formal technical appendix** for use in objection documentation and Environmental Impact Assessments (EIAs).

It draws upon published studies, international monitoring data, government surveys, and soil/radiation models to ensure accuracy and relevance.

Additional Sources:

- **Radiological Habits Survey: Dumfries and Galloway Coast 2017 – Scottish Environment Protection Agency (SEPA).**

Full PDF: <https://www.sepa.org.uk/media/594434/dumfries-and-galloway.pdf>

- **Sources and Effects of Ionizing Radiation: UNSCEAR 2000 Report, Volume I – United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR).**

Full PDF: https://www.unscear.org/docs/publications/2000/UNSCEAR_2000_Report_Vol.I.pdf

Section 2: Historical Cs-137 Deposition and Residual Contamination in the Galloway Hills and Cree Valley

2.1 Overview of Cs-137 Fallout in the United Kingdom

Following the **Chernobyl nuclear accident** on 26 April 1986, a radioactive plume containing multiple fission products, including caesium-137 (Cs-137), iodine-131, and strontium-90, spread across much of Europe. **Cs-137** is of particular concern due to its long half-life (30.17 years), gamma emission (662 keV), and ability to bind to organic and clay-rich soils.

The deposition of Cs-137 in the UK was highly variable and largely influenced by **rainfall during plume transit**. Regions with high precipitation during late April and early May 1986 experienced the greatest deposition.

According to the UK Department of the Environment (DoE), peak Cs-137 deposition exceeded:

- **>40,000 Bq/m²** in parts of Cumbria
- **10,000–20,000 Bq/m²** in upland Wales and SW Scotland

Source:

- **Department of the Environment, 1989.** The Radiological Impact of the Chernobyl Accident in the UK.

2.2 Fallout Characteristics in Dumfries and Galloway

While the Galloway Hills were not the most intensely affected in the UK, their **elevated terrain, acidic peat soils, and high annual rainfall** made them susceptible to significant fallout retention. SEPA's regional monitoring and subsequent peer-reviewed studies indicate that upland areas across Dumfries and Galloway received **deposition ranging from 2,000 to 10,000 Bq/m²**, with local hotspots.

Peat samples taken from similar Scottish upland areas in the 1990s showed **Cs-137 concentrations of 2,000–5,000 Bq/kg** in the upper 20–30 cm of peat. These values decreased slowly over time, but **due to limited vertical migration**, much of the Cs-137 remains in situ.

Source:

- [E.P. Kruse, et al., 1995. Radiocaesium in Scottish Upland Soils, Journal of Environmental Radioactivity, Vol. 27, Issues 1–2, pp. 33–49.](#)

2.3 The Galloway Hills and the Cree Valley Catchment

The **Cree Valley**, which flows south from the Galloway Hills through Newton Stewart to Wigtown Bay, represents a hydrologically sensitive area. It is fed by **upland burns and peat-fed catchments**, including areas now proposed for wind farm development.

Although there is **no centralised post-Chernobyl Cs-137 mapping** for the Cree Valley specifically, government data shows that **farms in surrounding upland Dumfries and Galloway were included in the UK's sheep movement restrictions** programme due to elevated Cs-137 in meat. These restrictions, implemented in 1986 under the **"Mark and Release"** scheme, persisted for some farms until the early 2000s.

Source:

- [UK Food Standards Agency: Review of Post-Chernobyl Sheep Controls, 2008.](#)

2.4 Residual Cs-137 in Peat Soils (as of 2024)

Due to the **30-year half-life** of Cs-137 and the accident occurring in 1986, the original Cs-137 activity has undergone one half-life of decay, meaning roughly **50% of the initial inventory remains** as of 2024. However, this does not imply reduced risk:

- **Strong organic binding in peat** prevents natural leaching, preserving bioavailable Cs-137 near the surface.
- **Anaerobic peat conditions** prevent vertical migration.
- **Land disturbance** such as peat excavation reactivates this inventory by:
 - Increasing aeration
 - Breaking bonds with organic matter
 - Mobilising isotopes into drainage water and sediment

Estimated residual activities today for upper peat layers (top 30 cm) in the Galloway Hills may range from:

- **500–3,000 Bq/kg**, depending on site history and peat accumulation rate
- **2,000–10,000 Bq/m²** in surface area terms, based on SEPA and DEFRA figures

Supporting Reference:

- [SEPA, Radiological Habits Survey: Dumfries and Galloway Coast 2017](#)
Full PDF: <https://www.sepa.org.uk/media/594434/dumfries-and-galloway.pdf>

2.5 Implications for Wind Farm Excavation

Wind farm construction in such terrain can disrupt **decades of stable Cs-137 sequestration**, releasing the isotope via:

- Surface water transport (to Cree River system)
- Airborne particulate transport (during dry excavation)
- Biological uptake by plants and grazing animals
- Human exposure (via dust inhalation or contaminated water)

Unless site-specific soil radiochemistry surveys are conducted **before construction**, the level of environmental risk cannot be adequately assessed or mitigated.

Section 3: Quantifying Potential Cs-137 Mobilisation from Peat Excavation in Wind Farm Projects

3.1 Parameters for Estimating Cs-137 Activity in Peat

To estimate the total **potential release of Cs-137** from peatland disturbance during wind farm construction, several variables must be considered:

Parameter	Typical Value (Galloway Uplands)
Peat bulk density	0.1 – 0.15 g/cm ³ (100–150 kg/m ³)
Depth of peat typically excavated	0.3 – 1.0 metres
Cs-137 concentration (2024)	500 – 3,000 Bq/kg (based on decay-adjusted estimates)
Volume of peat excavated	10,000 – 50,000 m ³ (per project, depending on layout)
Cs-137 half-life	30.17 years

These values are based on published studies of Scottish upland peatlands and post-Chernobyl monitoring data.

Key Sources:

- [Beresford, N.A. & Barnett, C.L. \(2007\). Radiocaesium transfer and retention in upland pastures.](#)
- [IAEA TECDOC-1728: Remediation of Radioactive Contamination in Agriculture \(2013\).](#)

3.2 Example Scenario: Farm Site (Hypothetical)

Let us consider a hypothetical but representative case for a **mid-sized wind farm site** in the Galloway Hills, involving:

- 15 turbines
- 2 substation platforms
- 1 access road network
- Approx. 30,000 m³ of peat excavated (from access track corridors and foundations)

If the **average Cs-137 concentration** in the disturbed peat is conservatively assumed to be **1,500 Bq/kg**:

Step 1 – Convert peat volume to mass:

Assume average peat bulk density = 0.12 g/cm³ = 120 kg/m³
→ 30,000 m³ x 120 kg/m³ = **3.6 million kg (3,600 tonnes)** of peat

Step 2 – Estimate Cs-137 activity:

Activity = 3.6 million kg × 1,500 Bq/kg = **5.4 × 10⁹ Bq (5.4 GBq)**

This activity level is significant.

For reference, UK regulatory intervention levels for food contamination post-Chernobyl were:

- **1,000 Bq/kg** for meat, milk, and vegetables
[\[UK Food Standards Agency\]](#)

3.3 Pathways for Environmental Release

Once disturbed, Cs-137 may enter environmental pathways via:

1. Surface Runoff

- o Cs-137 in fine peat particles or dissolved organic matter may enter **surface drainage** into **burns or lochs** that feed into the Cree Valley.
- o Cs-137 has been shown to **adsorb to fine organic colloids**, allowing it to move with suspended sediments (IAEA TECDOC-1728).

2. Dust Suspension and Wind Transport

- o Dry excavation of peat can produce **windborne Cs-137-containing dust**, potentially travelling hundreds of metres.
- o Cs-137 in airborne dust can pose **inhalation risks** to workers or nearby residents and can **resettle onto grazing land**.

3. Biological Uptake

- o Cs-137 released into soil or water can be absorbed by **grasses, mosses, fungi, and shrubs**, especially **heather and bilberry** found on disturbed moorland.
- o Grazing animals, such as sheep and red deer, can accumulate Cs-137 in muscle tissue.

Supporting Reference:

- [Howard, B.J. et al. \(2001\). *Transfer of radioactivity to animals and plants*. IAEA-TECDOC-1288.](#)

3.4 Regulatory Context and Intervention Levels

While Cs-137 in soil is not directly regulated unless there is known health risk, regulatory frameworks consider:

- **Environmental Protection Act 1990** – duties to avoid radioactive contamination
- **Radioactive Substances Act 1993** – any mobilisation of radioactive material may trigger licensing or clean-up requirements
- **RIFE** (Radioactivity in Food and the Environment) monitoring thresholds for foodstuffs
- Potential application of **basic safety standards for protection against ionising radiation** (UK IRR17 regulations)

Depending on the scale and proximity to sensitive receptors (e.g. livestock, water supply), **remediation or monitoring** may become a **statutory requirement**.

Section 4: Pathways of Exposure and Environmental Recontamination in Upland Catchments

4.1 Introduction to Exposure Pathways

When caesium-137 (Cs-137) is mobilised from previously stable peat environments, it can enter **several interconnected environmental compartments**, each with the potential to extend contamination and exposure far beyond the original excavation site. Given the hydrological and ecological characteristics of the **Galloway Hills and Cree Valley**, these pathways must be assessed with particular urgency for any wind farm proposal involving peat disturbance.

The primary exposure pathways include:

1. **Surface water and sediment transport**
2. **Airborne particulate dispersion**
3. **Soil-to-plant uptake and trophic transfer**
4. **Direct human exposure (inhalation, ingestion)**

4.2 Hydrological Transport into Catchments

The **Galloway Hills** feed numerous upland burns, which converge into rivers and lochs — notably the **Water of Minnoch**, **Penkiln Burn**, and ultimately the **River Cree**, draining into **Wigtown Bay**. Peatland runoff in disturbed areas can carry Cs-137 via:

- **Dissolved organic complexes** (e.g. humic acids),
- **Colloidal particles**,
- **Suspended sediment**, particularly during rainfall events.

Studies show that **Cs-137 is strongly associated with fine particulate matter**, meaning soil disturbance can significantly increase runoff-bound transport.

Example:

The UK's MAFF study post-Chernobyl found that a single hectare of upland soil containing 5,000 Bq/m² could release >100,000 Bq into nearby watercourses during extreme rainfall events.

Sources:

- [MAFF/DoE \(1989\). *The Radiological Impact of the Chernobyl Accident in the UK*.](#)
- [IAEA TECDOC-1728 \(2013\). *Remediation of Radioactive Contamination in Agriculture*.](#)

4.3 Airborne Dispersion of Contaminated Dust

Excavation of dry peat, particularly during summer months, may result in the **suspension of fine, Cs-137-containing particulates**. Research on disturbed fallout soils has shown that:

- Cs-137 binds readily to **organic and clay-rich particles <63 microns**,
- Such particles can become **airborne during excavation or transport**,
- Dust can travel **hundreds of metres to kilometres**, depending on wind and terrain,
- Cs-137-bearing dust has been linked to **increased inhalation exposure** near contaminated sites.

Estimated Risk: UKHSA (formerly PHE) guidance considers **airborne exposure to Cs-137** at >10⁵ Bq/m³/hour as requiring occupational controls if sustained. Peat dust events during excavation may exceed this threshold if activity concentrations are high and suppression is inadequate.

Source:

- [UKHSA/PHE \(2019\). *Review of the inhalation dose coefficients for radionuclides*.](#)

4.4 Food Chain Uptake: Plant, Fungus, and Livestock Exposure

Once Cs-137 is redistributed into the **topsoil or vegetation layer**, it may be absorbed by:

- **Heather, bilberry, grasses** – especially on disturbed moorland,
- **Fungi**, notably mycorrhizal and saprotrophic species which concentrate Cs-137,
- **Herbivores**, such as sheep, red deer, and hares, which ingest contaminated forage.

A study by the IAEA and UK Centre for Ecology & Hydrology found that **fungi can contain up to 10,000 Bq/kg dry mass** in contaminated uplands, and livestock grazing on such land can show muscle concentrations in excess of **1,000 Bq/kg** — triggering restrictions under EU and UK food legislation.

This pathway is of particular concern in the Galloway region, where:

- Hill sheep grazing is widespread,
- Wild deer are commonly stalked and consumed,

- Local mushrooms are foraged by the public.

Sources:

- Howard, B.J. et al. (2001). *Transfer of Radionuclides to Wild Species – IAEA-TECDOC-1288*.
- UK Food Standards Agency (2008). *Post-Chernobyl Sheep Controls Review*.

4.5 Human Exposure Pathways

Humans may be exposed to Cs-137 via:

- **Inhalation** of resuspended soil or peat dust,
- **Ingestion** of contaminated food (wild mushrooms, game meat, milk),
- **Consumption of untreated water** from upland burns,
- **Recreational exposure** during outdoor activity in contaminated terrain.

In the context of wind farm construction in the Galloway Hills, local populations and site workers may be at elevated risk unless:

- Dust suppression and PPE protocols are in place,
- No livestock or public access is permitted in disturbed zones,
- Long-term monitoring of water and food products is conducted.

While the absolute radiological doses may remain below formal intervention thresholds in most cases, **chronic low-dose exposure**, ecological accumulation, and **failure to disclose or monitor contaminated release** could lead to regulatory breaches and legal liabilities under the Environmental Protection Act 1990 and Ionising Radiations Regulations 2017 (IRR17).

Section 5: Legislative Responsibilities and Environmental Risk Mitigation Measures

5.1 Overview of Legislative Framework

When dealing with potentially radioactive contaminated land in the United Kingdom, particularly involving anthropogenic disturbances such as wind farm construction, several key legislative frameworks must be considered:

Environmental Protection Act 1990 (EPA 1990)

Under Part IIA (Contaminated Land Regulations), local authorities and the Scottish Environment Protection Agency (SEPA) have duties to identify and manage contaminated land, including radioactively contaminated sites. Developers are legally required to prevent contamination spread and mitigate environmental harm.

- **Source:** [Environmental Protection Act 1990](#)

Radioactive Substances Act 1993 (RSA 1993)

The RSA regulates the keeping, use, and disposal of radioactive materials. Should disturbed peat be considered

'radioactive waste' due to significant Cs-137 content, strict disposal, storage, or remediation procedures apply, necessitating SEPA authorisation.

- **Source:** [Radioactive Substances Act 1993](#)

Ionising Radiations Regulations 2017 (IRR17)

IRR17 provides occupational health and safety regulations protecting workers and the public from ionising radiation. Site-specific radiation protection plans must be prepared if excavation releases Cs-137 above defined thresholds.

- **Source:** [Ionising Radiations Regulations 2017](#)

The Radioactivity in Food and the Environment (RIFE) monitoring programme

Led by SEPA, the Food Standards Agency, and the Environment Agency, the RIFE programme monitors Cs-137 levels in foodstuffs, water, and the environment, providing data crucial for assessing compliance with safety standards.

- **Source:** [SEPA RIFE Reports](#)

5.2 Responsibilities of Developers and Authorities

Wind farm developers must:

- Undertake detailed **Radiological Risk Assessments** before planning approval.
- Provide evidence-based assurances that their activities will not exacerbate existing contamination.
- Apply for appropriate permits and authorisations if contamination is identified above statutory thresholds.
- Implement mitigation strategies consistent with IRR17 and RSA93.

Planning and regulatory authorities (local councils and SEPA) are responsible for:

- Ensuring compliance with national radiological protection standards.
- Verifying the adequacy of Environmental Impact Assessments (EIAs).
- Enforcing legislation and intervening when breaches or contamination occur.

5.3 Recommended Risk Mitigation Measures

To manage Cs-137-related risks effectively, the following best-practice measures are strongly recommended for wind farm developments within the Galloway Hills:

Pre-construction Assessments:

- Detailed soil sampling and radiological characterisation of peat layers.
- Mapping and modelling of Cs-137 distribution in soils.

Operational Controls:

- Use of dust suppression methods during excavation (water mist, covers, or shields).
- Construction of sediment traps and containment ponds to minimise runoff.
- Limiting peat disturbance to essential works only, reducing volumes excavated.

Radiation Protection Protocols:

- Provision of personal protective equipment (PPE) and radiation safety training for construction personnel.
- Continuous air quality and radiation monitoring during excavation activities.

Environmental Monitoring Programmes:

- Regular monitoring of surface waters and sediments downstream.
- Vegetation, livestock, and wildlife sampling programmes to detect Cs-137 uptake.
- Ongoing reporting to SEPA and local authority public health teams.

Post-construction Remediation and Management:

- Proper containment, storage, or authorised disposal of contaminated peat.
- Restoration or stabilisation of excavated areas to minimise future radiological dispersion.
- Long-term ecological monitoring to ensure environmental recovery and compliance.

5.4 Examples of Previous Regulatory Practice

Historical examples, including the UK's post-Chernobyl sheep farming controls, demonstrate precedent for prolonged radiological risk management:

- Farms in upland areas, including parts of Dumfries and Galloway, were subject to restrictions lasting until 2010 due to Cs-137 persistence.
- Monitoring and intervention practices from these controls can inform modern regulatory approaches to managing disturbed Cs-137.

Source: UK Food Standards Agency (2008). *Review of Post-Chernobyl Sheep Controls*.

5.5 Conclusion of Legislative and Mitigation Section

The excavation of potentially Cs-137-contaminated peatlands in the Galloway Hills for wind farm development is not just an ecological issue; it involves legal, public health, and regulatory responsibilities. Developers must adopt rigorous scientific, environmental, and radiological safeguards, supported by detailed assessments and mitigation protocols, to ensure compliance with UK legislation and public safety.

Failure to properly assess or manage this radiological risk could result in substantial environmental and legal liabilities.

Section 6: Conclusion and Summary of Recommendations

6.1 Conclusion

The disturbance of upland peatlands in the **Galloway Hills**, a region known to have received measurable **Chernobyl-derived caesium-137 (Cs-137) fallout**, presents a **credible and scientifically supported radiological risk** that has been inadequately addressed in many wind farm proposals to date.

Based on evidence presented in peer-reviewed literature, government environmental reports, and the historical legacy of radioactive deposition in Dumfries and Galloway:

- **Cs-137 remains in significant quantities** in upper peat layers, due to strong organic binding, acidic conditions, and low vertical migration.

- Peat disturbance during wind farm construction can **mobilise Cs-137** via hydrological, airborne, and biological pathways — potentially contaminating **surface watercourses**, **wildlife**, and **livestock**, and increasing **human exposure**.
- Without **baseline radiological assessments**, the risk of inadvertent contamination, breach of food safety thresholds, and violation of environmental legislation is unacceptably high.

This risk is **particularly relevant** in hydrologically active, agriculturally sensitive catchments such as the **Cree Valley**, which drains the southern slopes of the Galloway Hills and supports both wildlife and local farming economies.

6.2 Summary of Scientific Findings

- **Estimated Cs-137 Residuals:** 500–3,000 Bq/kg in top 30 cm of peat; 2,000–10,000 Bq/m² surface inventory depending on site conditions.
- **Potential Release:** Excavation of 30,000 m³ of peat could disturb **up to 5.4×10^9 Bq** of Cs-137 under conservative assumptions.
- **Exposure Pathways:** Surface runoff, airborne dust, vegetation uptake, livestock ingestion, and recreational exposure.
- **Environmental Persistence:** Cs-137 remains biologically active decades after fallout, especially in peatlands with slow decay and high sorption capacity.
- **Legal and Regulatory Requirements:** Environmental Protection Act 1990, Radioactive Substances Act 1993, Ionising Radiations Regulations 2017, and food safety legislation (FSA monitoring thresholds of 1,000 Bq/kg for meat and produce).

6.3 Recommendations

To ensure full compliance with public safety obligations and environmental best practices, the following measures should be adopted:

1. Pre-development Assessment

- Mandatory radiological baseline survey of all peatland excavation zones.
- Soil coring and lab-based Cs-137 assays with transparent reporting.

2. Environmental Impact Assessment (EIA) Inclusion

- Formal inclusion of Cs-137 risk modelling in site-specific EIAs.
- Integration of radiological pathways into hydrological and ecological impact models.

3. Regulatory Consultation

- Early engagement with SEPA and the UKHSA to assess potential licensing needs.
- Notification of potential mobilisation under the Radioactive Substances Act.

4. Site Controls

- Dust suppression, runoff control, and physical containment during peat handling.
- PPE and radiation safety plans for contractors and personnel.

5. Post-construction Monitoring

- Routine testing of water, soil, vegetation, and animal tissue in affected areas.
- Public access advisories if contamination thresholds are approached.

6. Planning Condition Enforcement

- Conditions attached to any consent requiring radiological verification and mitigation measures.
- Requirement for immediate cessation and notification if unexpected Cs-137 concentrations are encountered.

6.4 Final Statement – Radiological Risk from Wind Farm Development in Cs-137 Retention Landscapes

The development of wind farms in the **peat-rich uplands of the Galloway Hills** presents a **scientifically grounded risk** of **radiological recontamination**. The environmental conditions that led to long-term sequestration of **Chernobyl-derived caesium-137 (Cs-137)**, namely waterlogged, acidic, organic soils, are the same conditions most vulnerable to disruption during large-scale infrastructure projects.

Despite Cs-137 being inert and immobile under natural peatland conditions, **wind farm construction activities create multiple vectors for its reactivation and release:**

1. Ground Excavation and Peat Removal

Wind farm installation requires the excavation of peat for turbine foundations, cable trenches, and access roads. This:

- Exposes and disrupts surface and sub-surface peat layers known to contain Cs-137,
- Physically displaces contaminated soil and organic material,
- Breaks chemical bonds between Cs-137 and humic compounds,
- Potentially elevates concentrations in runoff, especially during rainfall events.

Risk: Mobilised Cs-137 may enter adjacent watercourses (e.g. Penkiln Burn or tributaries of the River Cree), leading to aquatic contamination downstream.

2. Hydrological Disruption

Drainage channels, site dewatering, and re-profiling of hillslopes alter the natural water retention of peatlands. These changes:

- Accelerate the transport of soluble and colloidal Cs-137,
- Facilitate sediment mobilisation during construction phases,
- Spread contamination beyond the immediate construction footprint.

Risk: Even small quantities of Cs-137 in organic-bound runoff may accumulate in lochs or grazing pastures, reintroducing radioactivity into the local food chain.

3. Dust Generation and Airborne Spread

When peat is excavated and dries, it can form fine particulate dust. Without adequate dust suppression measures:

- Wind can carry Cs-137-bearing dust across considerable distances,
- Cs-137 can resettle on open pasture, woodland, or water,

- Construction workers and nearby residents may be exposed via inhalation.

Risk: Airborne recontamination introduces Cs-137 to areas not originally affected, making containment and mitigation substantially more difficult.

4. Bioaccumulation and Trophic Transfer

Once reintroduced into topsoil or water systems, Cs-137 becomes available for uptake by:

- Grasses and heather,
- Wild mushrooms and fungi (notoriously high Cs-137 accumulators),
- Grazing animals such as sheep and deer.

Risk: Meat or game entering the local or commercial food chain could breach regulatory limits (1,000 Bq/kg), triggering food safety actions similar to those enacted post-Chernobyl.

5. Legal and Reputational Liability

A failure to identify or mitigate radiological risks may result in:

- Breach of the **Radioactive Substances Act 1993**,
- Enforcement actions under the **Environmental Protection Act 1990**,
- Suspension of operations under **IRR17**, if worker exposure thresholds are exceeded,
- Long-term reputational damage to the renewable energy sector, undermining public trust.

Risk: The project could face planning revocation, mandatory remediation costs, and negative public and investor perception.

In Summary:

The risk of recontamination through wind farm development is not theoretical, it is a **logical, evidenced consequence** of disturbing a landscape that **holds a radiological legacy**. The very peat that has preserved Cs-137 so effectively for nearly four decades will release it if improperly handled.

The precautionary principle must prevail. Until full site-specific radiological assessments have been undertaken, and robust mitigation strategies are proven, wind energy developments in Cs-137 retention zones like the Galloway Hills should not proceed.

Responsible climate action cannot afford to **exchange one environmental crisis for another**.



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