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Altercannoch Wind Farm

The John Muir Trust wishes to object to the Application by Brookfield Renewable UK Ltd to construct a wind farm at Altercannoch in South Ayrshire, approximately 20km south of Girvan, 20km east of Ballantrae and 1km to the south of the village of Barrhill. The proposal would feature 8 turbines with tip heights of 131 metres and a total installed capacity of 27.2MW.

The John Muir Trust is the leading wild land conservation charity in the United Kingdom. Working with people and communities to conserve, campaign and inspire, the Trust is a membership organisation that seeks to ensure that wild land is protected and enhanced and that wild places are valued by and for everyone.

Scotland's wild land is an asset of national and international significance but it is a finite resource. Wild land plays a vital role for carbon storage in trees and peatland, gives us clean air, water and food and is home to valuable wildlife. Wild land also plays a vital role in supporting tourism and a wide range of other economic and leisure activities.

The Trust is committed to policy principles which support the current targets of the UK Government and devolved governments for greenhouse gas emissions reduction as these are the primary public policy tools directed at climate change mitigation. However, the Trust does not support the construction of industrial-scale wind energy developments on wild land or developments that would impact adversely on wild land.

The Trust has considered the application against its' :

- Wild Land Policy 2010
- Built Development Policy 2013
- Energy and Wild Land Policy 2013 and
- National Planning Framework (3) 2014
- Scottish Planning Policy (2) 2014
- Scottish Natural Heritage Wild Land Areas Map 2014

1. **Cumulative impact.** We are seriously concerned about the additional cumulative impact the proposed development would have if consented. Scottish Natural Heritage's own guidance on cumulative impact (March 2012) states that two wind farms '**need not be intervisible**' to have an impact. The John Muir Trust believes that the Altercannoch Wind Farm would have a detrimental effect in terms of '**Combined Visibility**' and '**sequential impact**'. If approved this wind farm would add to an existing mosaic of consented and operational wind farms. As visitors and local people traverse the area they will be exposed to very significant visual intrusion by industrial scale windfarms around the Merrick Wild Land Area (as defined by SNH in their Wild Land Areas Map, June 2014). A drive through this increasingly industrialised landscape will not enhance the area's scenic attraction.

2. Mitigation may reduce to a limited extent the impact of these massive structures. However given that they will be 131m high to blade tip, 'mitigation' will in reality only have very limited impact.. For a scale comparison the Statue of Liberty is 93m high. Careful siting cannot hide or screen structures which are so high and mention of existing plantations in screening does not take into consideration the potential for clear felling.

3. **Implications of the Carn Gorm Wind Farm PLI:** In the 'Appeal Decision Notice' for Carn Gorm the Reporter stated in section 29. "I do not accept any suggestion that lack of combined visibility necessarily means there is little or no cumulative effect. A cumulative effect can occur from seeing wind farms in sequence". This judgement supports the SNH Guidance and must be taken into account when considering the potential contribution of the proposal to cumulative impact.

4. **The developers ES Volume 2 Table 6.12 identifies the Wind Farms for Cumulative Assessment that lie within 35km as:**

Arecleoch Wind Farm	60 Operational
Artfield Fell Wind Farm	15 Operational
Balmurrie Fell Wind Farm	7 Operational
Barlockhart Moor Wind Farm	4 Operational
Carscreugh Wind Farm	18 Consented / Under Construction
Downiebrae Wind Turbine	1 Operational
Hadyard Hill WindFarm	52 Operational
Knocknain Wind Turbine	1 Operational
Mark Hill Wind Farm	28 Operational
North Rhins Wind Farm	11 Operational
Airies Wind Farm	14 Consented

Assel Valley Wind Farm	11 Consented
Dersalloch Wind Farm	23 Consented
Glenchamber Wind Farm	11 Consented
Kilgallioch Wind Farm	99 Consented
Torrs Hill Wind Farm	2 Consented
Tralorg Wind Farm	8 Consented
Annabaglish Wind Farm	14 Application
Auchleand Wind Farm	7 Application
Barlockhart Moor Wind Farm	4 Application
Challochmunn Wind Turbine	1 Application
Glen App Wind Farm	14 Application
Glenmount Wind Farm	18 Application
Grangestone Ind Est Wind Turbine	1 Application
Keirs Hill Wind Farm	17 Application
Kirk Hill Wind Farm	8 Application
Gass Wind Farm	9 Application
Knockskae Wind Farm	11 Application
Labrax Wind Farm	8 Application
Linfairn Wind Farm	17 Application
Millenderdale Wind Farm	7 Application
Shennanton Wind Farm	12 Application
Straid Farm Wind Farm	14 Application
Stranoch Wind Farm	28 Application
Total	539 Turbines

This list is not exhaustive and excludes proposals at scoping stage. The developers figures are based on an evaluation of wind farms, at operational, consented or application stage as of 27th February 2015 and therefore is one year out of date. However it is indicative of the pressure this landscape in general and the Merrick WLA in particular is under. The WLA is suffering from a progressive 'ringing effect' of wind farms round the wild land area and their visual intrusion will without a doubt devalue its qualities and the Trust is of the view that this must be a material consideration.

Whether considering the 'ringing effect' around the Wild Land Area or the 35km zone identified by the developer the Trust believes that to add Altercannoch would lead to excessive, cumulative, overload.

- 5. Visual Impact:** Evidence from the Scottish Government's natural heritage advisor Scottish Natural Heritage shows the rapidly increasing extent to which the Scottish landscape is affected visually by built developments. In 2008 SNH Scientific Advisory Committee Report SAC/2008/10/13 stated that *"between 2002 and 2008; The extent of Scotland unaffected by any form of visual influence declined from 41% to 31%; during that time, a dominant change was wind farm development (from 18 operational in 2002 to 47 in 2008).* In their Natural Heritage Indicator (<http://www.snh.gov.uk/docs/A1064015.pdf>) published November 2014 SNH highlight that *"The area of Scotland from which one or more types of built development can be seen increased to 73% in 2013, an 11.6% increase from 2008. Examined individually, most of the different types of development showed no change (Table 1). The largest change in visual influence comes from wind turbines; increasing from 41.7% (2012) to 45.9% in 2013; this is more than double the 2008 baseline of 19.9%. Minor roads showed a further 0.2 percentage point increase, mainly in areas of forestry or associated with wind turbine construction. Overhead lines showed a 0.6 percentage point*

increase, which appears to be mostly related to more complete mapping of networks on Skye and Shetland.

Table 1. The visual influence of the individual indicator features from 2008 to 2013 (excluding 2011) based on the percentage of the area of Scotland they can potentially be seen from.

Note 1: Building density is split into low and high – the data are from the same dataset.

Note 2: As a result of overlapping indicator features the individual values do not add up to the total value in each year.

	2008	2009	2010	2012	2013
Airfields	7.1	7.1	7.1	6.9	6.9
Major bridges	0.7	0.9	0.9	0.9	0.9
Extraction industries	7.6	7.6	7.6	7.6	7.6
Offshore surface structures	0.1	0.1	0.1	0.1	0.1
Wind turbines (operational)	19.9	31.6	35.6	41.7	45.9
Tall structures without wind turbines	46.3	46.2	46.3	46.1	46.1
Building density (low)	34.2	34.4	34.4	34.5	34.5
Building density (high)	2.7	2.7	2.8	2.8	2.8
Motorways	0.5	0.5	0.5	0.5	0.5
runk roads	2.6	2.7	2.7	2.7	2.7
Non trunk A roads	5.4	5.3	5.3	5.3	5.3
B roads	4.5	4.5	4.5	4.5	4.5
Minor roads	12.7	12.9	13.1	13.3	13.5
Railways	1.7	1.7	1.7	1.7	1.7
Overhead lines	7.1	7.1	7.1	7.1	7.7
Overall visual influence	65.4	68.6	70.6	71.4	73

Taking into account the 2002 figure in SAC/2008/10/13 of 41% of Scotland unaffected by any form of visual influence or conversely 59% affected, we can give a comparison from 2002 to 2013.

2002 59% visual influence of built development

2013 73% visual influence of built development

This equates to a 23% increase on the 2002 figure with the dominant factor being operational wind turbines. The Altercannoch wind farm could further reduce the percentage of Scotland's landscape unaffected visually by any form of built development.

A study by the Wildland Research Institute of Leeds University in November 2015 (using SNH data) on Zones of Theoretical Visibility points out that currently operational and consented wind turbines (over 20m high) will visually impact on 17% of all Wild Land Areas. The Altercannoch proposal should be considered within the context of all the above figures. For the reasons stated above and as an additional contributor to 'cumulative impact' as described in SNH Guidance the John Muir Trust believes that the Altercannoch Wind Farm would be significantly detrimental to the area.

6. **National Planning Framework 3:** The Scottish Governments National Planning Framework 3 June 2014 states : *"We will respect, enhance and make responsible use of our natural and cultural assets.*

"4.4 Scotland's landscapes are spectacular, contributing to our quality of life, our national

identity and the visitor economy. Landscape quality is found across Scotland and all landscapes support place-making. National Scenic Areas and National Parks attract many visitors and reinforce our international image. We also want to continue our strong protection for our wildest landscapes – wild land is a nationally important asset. Closer to settlements landscapes have an important role to play in sustaining local distinctiveness and cultural identity, and in supporting health and well-being”.

With regard to the Merrick Wild Land Area the developer states: *“6.6.22 The Merrick area of wild land lies approximately 14.6km to the north-east and covers the SA 21- Rugged Uplands, Lochs & Forest; DG 21 - Rugged Granite Uplands; and DG 21A - Rugged Granite Uplands with Forest. **Overall sensitivity to change has been considered as High.** (our emphasis)*

They then go on to state:

*“6.6.24 Potential effects upon the wild land area would be distant, and would not affect the key wild characteristics which are found within the central area away from commercial forestry. Magnitude of change is therefore considered to be **Very Low resulting in a Negligible Effect and not significant.** (our emphasis)*

We do not agree with this statement. The Trust believes that the proposed development being visible from Wild Land Area 1 will have a negative impact on its unique qualities which allowed SNH to identify it as a Wild Land Area in 2014. The edge of the WLA is integral to the qualities of the whole WLA. The addition of this wind farm would add to cumulative impact which impacts on the WLA as a whole.

7. **Scottish Planning Policy (2):** SPP2 page 47 section 200 states that :

“Wild land character is displayed in some of Scotland’s remoter upland, mountain and coastal areas, which are very sensitive to any form of intrusive human activity and have little or no capacity to accept new development. Plans should identify and safeguard the character of areas of wild land as identified on the 2014 SNH map of wild land areas”.

Whilst this application lies outwith the Merrick Wild Land Area it is within view and will without doubt have a significant and negative visual impact for the reasons stated above.

8. **Glenmorrie:** Wholly relevant to this application is the Scottish Government Minister’s refusal of consent for the construction and operation of Glenmorrie Wind Farm in August 2014. In section 7.134 of his decision letter he states *“Having taken all of the above into consideration, I conclude that the benefits of the proposed development in making a significant contribution to national renewable energy targets, a modest contribution to the local economy during operation with a more substantial contribution during construction and possible improvements to recreational access, would not outweigh the significantly detrimental landscape and visual impacts on the local environment and community. The overall scale of the proposed wind farm and its associated infrastructure would accentuate the adverse impacts on the environment and community to a degree which would be unacceptable. Although the applicant has fulfilled the duties required by Schedule 9 of the Electricity Act by having due regard to those relevant matters and mitigation in the Environmental Statement, Addendum and Supplementary Environmental Information, the environmental impacts of the proposed development would not be acceptable. In a balance of benefits against disbenefits, the proposed development would be contrary to both national planning policy and the local development plan”.*

The Minister’s views as stated above must be recognised and taken into account when considering this application. The fact that a number of consented and operational wind

farms are within sight of this land is not a reason for approval but rather is a reason to refuse permission based on cumulative impact.

9. **Technical Appendix 8.10 Draft Peat Management Plan:** whilst understanding that this is a Draft Peat Management Plan we have a number of concerns regarding some of the statements it contains and the inaccuracies in some of the figures presented.

10. **Length of Tracks and peat needed for reinstatement:** In the NTS and elsewhere it is stated that the total length of track to be built is 4.603km (3.033km cut and 1.57km floating). Figure 3.8 in the Environmental Statement Volume 2 Main Report clearly shows excavated peat 'reinstated' two metres on either side of the new tracks whether cut or floating. However in Technical Appendix 8.10 tables 4.2.1, 4.2.2, 4.2.3 and 4.2.4 some of the figures quoted appear to be wrong.

4.2.1 quotes 27,174 m³ as being the amount of excavated peat, we are not in a position to dispute this it may be correct. However in 4.2.2 the length of track verges identified for reinstatement of peat is 6066m ie 3033m of track with a verge at either side. There is no mention of the floating track or of the peat needed for its landscaping/reinstatement, a total length of 1570m/1.57km or total verge of 3140 metres.

Length of track: The full length of track to be constructed and then reinstated/landscaped on either side is 4603m long x 2 (sides) = 9206m long x 2m wide (peat reinstatement) = 18412m² (Table 4.2.2 of the PMP states "Assumes all road verges are available for reinstatement. 2 metre width assumed")

Depth of peat in reinstatement of track sides: Table 4.2.2 states the depth of Acrotelm on the verges as 0.5m and the depth of Catotelm or subsoil as 0.25m which equals a **total depth of 0.75m.**

Therefore the cubic meterage of peat needed for reinstatement is:

Length (of verges) 9206m x Breadth 2m x Depth 0.75m = **13809m³**

Table 4.2.2 says only 7583m³ is needed.

On Table 4.2.2 it would appear there are a number of errors in the top line about Track Verges:

- The total length is not 6066m as given in the Table – this is the length of the two sides of the cut track - **they seem to have missed out the floating track.** Their drawings of both floating and cut tracks show reinstatement to 2m on either side. Therefore it should have been the 4603m length of track or two sides with a total length of 9206m that the calculations were based on.
- **Using their figures** in 4.2.2 we agree that a Depth of Acrotelm 0.5m x 2m width x 6066m total length of sides would give 6066m³ of acrotelmic peat needed
- However the depth of catotelmic peat is to be 0.25m (their figs in 4.2.2) x 2m width x 6066m total length of sides would give a total requirement of **3033m³** of catotelmic peat. **Their stated requirement is 1517m³ ie half of what it should be using their own figures.**

- Their joint total should be 9099m³ not 7583m³ which indicates that their own arithmetic is wrong. **However as stated above the actual figure needed is 13809m³ of peat.**
- On Table 4.2.3 it repeats that there will be a total peat supply from excavations of 27174m³ and indicates a total demand of 27352m³ for reinstatement (this includes the 7583m³ needed for the trackside reinstatement).
- Assuming the rest of their calculations are correct regarding reinstatement needs then we actually have a significant shortfall of peat for reinstatement.
- My figure based on their information is 13809m³ - 7583m³ (their erroneous figure) = **6226m³ of peat shortfall.**
- Table 4.2.4 shows a total supply of acrotelm of 28767m³. How can this be bigger than the total figure of 27174m³ quoted in Tables 4.2.1 and 4.2.3?
- The figures in the last three columns of 4.2.4 do not make any arithmetical sense.
Demand for Catotelm (m³) 10468 Supply of Catotelm (m³) -1593 = Surplus (+) or deficit (-) of Catotelm (m³) -12061. This is arithmetically impossible.

In our view this level of error must throw all their quoted figures and calculations into question and as such can give no grounds for confidence that a decision can be based on the work submitted.

11. Technical Appendix 8.10 Draft PMP: Handling excavated peat (Objective 5)

- *‘Consider the timing of excavation activities to avoid very wet weather conditions in order to reduce the risk of peat becoming wet and unconsolidated, thereby reducing pollution or peatslide risk;*

We would question the viability/practicality of this statement given the Scottish climate and wonder what in practice this would look like. If the past years weather is to recur then can we assume any work related to excavation or movement of peat would be halted for significant periods of time?

12. Technical Appendix 8.10 Draft PMP: Temporary peat storage (Objective 6)

- *‘Acrotelm should not be stockpiled in order to avoid compression and for the material to maintain its structure;*
In the DPMP it is stated that Acrotelm turves should be excavated as a whole 0.5m deep and we agree with this statement that they should not be stockpiled.
- *‘Larger stockpiles are more preferable than numerous small stockpiles. This helps minimise exposure to sun and wind, which can lead to desiccation. Stockpiles should not exceed 2 m in height and be sited with due consideration for slope stability, proximity to watercourses etc.;*
Given the previous bullet point why plan to store the peat to a depth of four acrotelmic turves which would result in compression?
- *‘Stores of non-turf, i.e. catotelm, should be bladed off to reduce surface area and desiccation of the stored peat;*
Surely blading off will result in compression of the catotelm resulting in it losing structure which the earlier section of the DPMP claims is to be avoided?
- *‘Timing the construction work, as much as possible, to avoid periods when peat materials are likely to be wetter;*
How given point 11 above is it planned that this will operate in practice?

- *Temporary storage and replacement of peat excavated from borrow pits should occur within the 'source' pit; It is not possible to achieve this in the first instance as when the peat is stripped off so as to allow quarrying there is no quarry (borrow pit) in existence to store the peat in. What then happens to this peat?*

13. **Damage to peat:** The International Union for Conservation of Nature (IUCN) Peatland Programme Briefing Note states “ *In a damaged bog the acrotelm has often been lost because of drainage, burning, trampling, grazing, atmospheric pollution, afforestation or even agricultural inputs such as fertilizer and seeding. This exposes the unprotected catotelm peat to the effects of oxygen, sun, wind, frost and rain and so it begins to degrade, losing carbon back into the atmosphere and into watercourses as it does so, much as a defoliated tree may stand for a century or more, but with its trunk and bare branches slowly rotting away. A peat bog in this state is termed a haplotelmic bog (i.e. a single layered bog). It may still have a vegetation cover, often of a heathland character, but this vegetation is not adding fresh peat because it is not a wetland vegetation and is more likely to be causing further degradation of the peat through the aerating and drying action of its root systems. Neither is this vegetation capable of altering the natural pattern of microtopography and thus provide ecosystem resilience. Indeed any such pattern is likely to have been lost, degraded into a tussock - dominated micro - erosion complex, or developed into a full -blown erosion complex dominated by hags and gullies*”.

This assessment supports our view that anything which potentially exposes and damages peat in any significant quantity, in this case **27352m³**, should not be considered or permitted. For comparison the average dimensions of a 25m long recreational swimming pool is approximately 1.5m deep and is 10m wide; this equates to a volume of **375m³**. 27352 divided by 375 = 72.938 swimming pool equivalents to be excavated. The DPMP does not give confidence that damage would be minimised and does not show a great understanding of or under plays the complexity of the structure of peat.

The authors of the Scottish Government commissioned Carbon Calculator have stated, “*We contend that wind farms on peatlands will probably not reduce emissions, unlike those on mineral soils..... Unless the volume of peat excavated can be significantly reduced relative to energy output, we suggest that construction of wind farms on non-degraded peats should always be avoided.*” Letter in NATURE magazine, ‘Avoid constructing wind farms on peat’ 6th September 2012 - Jo Smith, Dali Rani Nayak, Pete Smith University of Aberdeen, UK.

14. **Socio-economic Impact:** If approved this industrial development would contribute to the further degradation of this landscape potentially resulting in a negative socio-economic impact. There is increasing evidence that as the number of wind farms and turbines increases so does the negative view of these developments by resident and visitor alike. We would cite a **YouGov** poll, commissioned by the John Muir Trust in September 2012, of 2269 people throughout the UK found that 43% of the respondents would be less likely to visit a scenic area which has a large concentration of wind turbines whilst only 2% would be more likely to visit such an area.

15. **A YouGov** poll of 1119 scots adults for the John Muir Trust in June 2013 found that 51 per cent of people in Scotland would be ‘less likely to visit a scenic area which contains large-

scale developments (e.g. commercial wind farms, quarries, pylons)'. The above figures must be very concerning to residents of the area involved in tourist related business.

For the reasons given above the John Muir Trust believes that this application should be refused.

Yours sincerely

John Low

Policy Officer

John Muir Trust