

**Objection to
the Proposed Wind Power Station**

at

Corsbie Moor, Lauderdale,

from

Lauderdale Preservation Group (LPG)

August 2011

(Planning Reference No: 11/00888/FUL)

Executive Summary

We submit that the proposed Corsbie Moor wind power station should not be recommended for consent. It is too close to too many dwellings, too close to busy roads and too visible from too many places.

Our conclusion is based on the following main points which are summarised in this Executive Summary and, where appropriate, elaborated upon in the relevant sections of our submission below.

Damage to Residential Amenity (Section 2.)

- There would be 57 residential properties within 2km of a turbine. These have been undercounted by the applicant.
- There would be significant and adverse visual impact on up to 36 of these
- There would be potential for unacceptable noise impact at up to 22 properties
- Other properties within 3km, significantly undercounted by the applicant, would suffer significant visual impact
- A larger number of residential properties would be impacted than are affected by any previously consented wind energy proposal in the Borders

Landscape and Visual Impact (Section 3.)

- The development is not in a preferred upland landscape classification area.
- There is no surrounding enclosing or screening landform to reduce visible impact
- This would be one of the most visible wind power developments in the Scottish Borders.
- There would be visual impact and/or cumulative impact on important heritage, tourist and recreational locations
- Should it be decided to support the 'Cluster and Space' concept, the development would not adjoin any existing cluster

Costs and Benefits (Sections 4. and 5.)

- The applicant has confirmed that there will be negligible local economic benefit from the development
- The applicant has failed to demonstrate any significant contribution to energy security or climate change amelioration and has not justified the choice of a site likely to lead to a poor load factor
- The applicant has failed to identify the potential damage to tourism, recreation and the local economy

Community Engagement and Public Attitudes (Section 6.)

- The applicant has failed to engage with the affected local community
- The applicant has sought by questionable means to influence public opinion and planners

Other Significant Issues

Under each of the following headings, we comment below on additional aspects of the applicant's proposal which we regard as questionable, flawed or unsatisfactory:

- Roads and traffic (Section 7)
- Ecology and ornithology (Section 8)
- Hydrology (Section 9)
- Telecommunications (Section 10)

1. Introduction

Lauderdale Preservation Group (LPG) was asked on 30/6/11 for Observations on a proposal from E.On Climate and Renewables for erection of a 12 turbine wind power station at Corsbie Moor on Legerwood, Boon and Corsbie farms.

A response was requested by 21/7/11, subsequently extended to 18/8/11 corresponding to dates of statutory advertisements.

This submission represents LPG's preliminary observations within this time frame. We may wish to add to these in the light of further investigation, in particular into the issue of noise, before the Planning Committee meets to determine the application.

The group has been advised by Ian Kelly, MRTPL, Head of Planning at Graham and Sibbald, and Mark Steele Consultants. Noise issues have been discussed with Dick Bowdler, CEng, FIoA. Various technical issues within their sphere of professional competence have been addressed by LPG members David McDougall, MInstCES and Jack Ponton, FREng.

2. Damage to Residential Amenity

The SPG states a presumption against wind farms within 2km of habitation.

We have identified 57 residential properties within 2km of a turbine. See attached map and list below. The majority of these lie within the settlements of:

- Legerwood and Kirkhill of Legerwood (21 properties and Legerwood Kirk)
- Boon (11)
- Whiteburn (9)
- Corsbie (7).

The applicant has failed to carry out a comprehensive and accurate residential survey. Only 29 properties are listed within 2km in their survey. We note that the applicant has assigned a single identifying number to multiple residences, e.g. the four Legerwood farm cottages (our numbers 9-12) are listed as a single property number 4. Within 3km, the applicant lists a total of only 60 properties. SBC data lists 143.

To exemplify the omissions and inaccuracies, the survey lists only 3 properties at Kirkhill: The Glebe, Kirkhill Cottage (incorrectly described as a single storey building) and Kirkhill farmhouse. There are, in fact, 8 with a total of 31 windows overlooking the site.

These omissions and errors are significant and result in a gross understatement of the probability of effects.

Visual Amenity (Environmental Statement 5.)

We note that the threshold of significance has been set by the applicant at Moderate/Substantial based on the 'opinion' of the assessor. However work by Dr Guy Wimble for the Greenings, Steadings and Ray windfarms PI, the Fallago Rig PI, and the Montreathmont and Mountboy PI

concluded that the use of this threshold would be out of line with criteria used for other types of development, and that the threshold of significance should more appropriately be set at Moderate. We agree; we can see no reason why wind power station developments, so very obvious in appearance, should be treated any differently than other development. We understand that the "Moderate" approach is consistent with the recommended approach in the Guidelines for Landscape and Visual Impact Assessment (*The Landscape Institute, 2nd edn*)

On this basis, we contend that there will be a significant effect on visual amenity on the following numbers of residences within 2km:

- Kirkhill, all 8
- Legerwood, 7 (including property omitted by the applicant)
- Corsbie, all 7
- Hyndsidehill etc 3
- Whiteburn, all 4 identified by the applicant plus most of a further 5 not on their list.

The survey also understates the potential visual impact on three Legerwood properties: Old Cottage Gardens, the Schoolhouse and the Smithy. It states that these would be screened by 'landform' (in which case they could not have appeared in wireframes as reported) and vegetation. However, the vegetation is almost entirely deciduous and so will be absent for much of the year.

There is, therefore, a potential loss of visual amenity at up to 36 properties within 2km, compared with 9 listed by the applicant. Re-evaluation of the 3km data in which the applicant has omitted more than 80 properties would undoubtedly increase this number proportionately.

Noise (Environmental Statement 6.)

As stated in our introduction, we will discuss in a separate submission our contention that ETSU-R-97 is flawed and that more rigorous criteria should be applied, particularly in view of the number of nearby properties. While we recognise that ETSU-R-97 is preferred by Scottish Government advice, its noise limits have no scientific basis and it assesses wind energy developments in a manner more permissive than that for any other industrial development.

However, even within ETSU's guidelines alternative interpretations may be used. The actual wording of ETSU-R-97 paragraph 22 is as follows.

In low noise environments the daytime level of LA90,10min of the wind farm noise should be limited to an absolute level within the range of 35-40dB(A). The actual value chosen within this range should depend upon a number of factors:

- *the number of dwellings in the neighbourhood of the wind farm*
- *the effect of noise limits on the number of kWh generated*
- *the duration and level of exposure.*

We contend that there is here a clear case for the lower limit to be applied on the first and third criteria. It is not clear what the intention of the second criterion is, since there is no straightforward relationship between noise and energy generation. However, the probable poor load factor of Corsbie Moor, discussed elsewhere, suggests that this in no way should not be a consideration in favour of the higher noise limit.

In the opinion of Mr Dick Bowdler, acoustics consultant, in his submission to the public Inquiry on Middlewick wind farm in February 2011, a daytime limit above 35dB would nowadays be

considered unusually high. Bowdler lists the following wind farms where the stricter 35dB limit has been applied:

- Lochelbank
- Baillie Hill
- Causey moor
- Barmoor
- Carland Cross
- Eisgen, Isle of Lewis

Two developments in the Borders have been consented with predicted noise levels above 35dB at residential properties. At both Long Park (38dB at Wooplaw) and Toddleburn (39.2dB at Threeburnford), there have been complaints to the developers and SBC which have still not been resolved after more than a year.

The following properties (excl. those with a vested interest) would experience noise levels above 35db:

- Kirkhill, 6 properties, 36-37dB (Note that the applicant's graphs indicate an incorrect turbine noise level)
- Legerwood, 7 properties, 36dB
- Corsbie, 6 properties, 36-40dB
- Browshall and Langriggs, 39dB (We estimate this higher figure c.f. applicant's 37.4dB)
- Hyndsidehill, 36dB

We submit that noise levels at 22 properties could exceed those which a reasonable interpretation of ETSU-R-97 would permit.

Amplitude or Aerodynamic Modulation

Although this known phenomenon, which has been found to cause distress to residents up to 2km from large turbines, does not occur at all wind farms, **the applicant has failed to show that it could not occur here, nor to indicate what steps would be taken to detect and ameliorate its occurrence.** The applicant's duty is to rule out the probability of such an occurrence.

Properties within 2km with Grid References

Legerwood and Kirkhill

1. Old Cottage Gardens	358325,643035
2. Schoolhouse	358396,643175
3. The Smithy	358421,643214
4. Ladywell	358475,643214
5. Thunderdean	358465,643129
6. The Granary	358699,643273
7. Shepherd's Cottage	358752,643252
8. Shooter's Cottage	358811,643330
9-12. Farm Cottages 1-4	358769,643335
13. Legerwood Farm	358564,643308
14. The Glebe	359355,643464
15. Kirkhill Steading	359413,643488
16. Twisted Wheel Barn	359428,643491
17. Kirkhill Farm house	359467,643415

18. Howlaw	359470,643516
19. Three Springs Cott	359490,643537
20. Kirkhill Cott	359398,643491
21. Park House	359585,643583

Boon

22. Farm Cottages	357264,645533
23. Farm Cottages	357229,645513
24 Farm Cottages	357206,645503
25. Hurcheon Cott	357132,645455
26. Boon Cott no 3	357125,645489
27. Boon Cott no 4	357116,645486
28. Boon House	357175,645643
29. semi det cott	356742,645470
30. semi det cott	356742,645470
31. Under Boon	356615,645420
32. Boon Brae	356547,645410

Corsbie

33-36. Farm cotts	360603,644212
37. Shepherd's cott	360609,644208
38. Corsbie Farmhouse	360694,644165
39. Tower View	360878,644281

Brownshall, Hyndsidehill etc

40. Browshall	361027,646373
41. Langriggs	361063,646367
42. Hyndsidehill farm	360445,647245
43-4. Farm cotts	360516,647609
45. Hillside View	360107,647674
46. Fingerpost	360409,647840
47. West Clock Lodge	361099,647537
48. East Clock Lodge	361121,647539

Whiteburn

49. Boon Rae	359268,647524
50. Woodville	359235,647522
51. Whiteburn farmhouse	359125,647528
52. Leaside Cottage	359197,647533
53. Coach House	359126,647573
54. The Roost	359089,647575
55. Merrick cott	359190,647538
56. Old Steading	359091,647562
57. Old Whiteburn	359526,647536

3. Landscape and Visual Impact

- The proposed development does not lie within the preferred upland landscape classification.
- There is no surrounding enclosing landform to provide any screening.
- This development would thus be visible over a wider area than any existing, consented or proposed wind farm in Lauderdale.
- The ES confirms that there would be significant cumulative impact on the Southern Upland Way from both north east and west.
- There would be a very substantial negative visual impact on the Scott's View panorama and also from Smailholm Tower. This would bring a view of turbines to these iconic locations effectively for the first time.
- There would be cumulative visual impact on other important sites, including: the Eildons, Hume Castle, Knock Hill Fort and the Four Abbeys Cycle Route.
- There would be significant visual impact on the communities of Blainslie, Houndslow and Westruther as well as on smaller settlements within 2km which we discuss elsewhere. In addition, the development would be visible from the south side of Lauder.
- There would be significant visual impact on the A697 and especially the A6089 both of which are important secondary tourist routes.

Although the proposed turbines lie within an 'area of search with minor constraints' (but the east end of the site appears to enter an area of maximum constraint), every application must be assessed to determine its specific significant effects. We submit that points listed above bring into question the validity of this classification. It is not clear to us that the parameters used in this classification, in particular the buffer zones around the Southern Upland Way and Scott's View, have been updated to take account of the dramatic increase in typical turbine size since the classification was undertaken.

The applicant has not demonstrated that they have sought to both position and design the wind farm to minimise operational impacts. Specifically, the placement of turbines 1-3 does not follow guidelines in SNH 2009 *Siting and Designing Wind Farms in the Landscape*. This results in severe visual impact on residences in Legerwood and Kirkhill, and greatly exacerbates wind farm extent and visual impact in the more distant views from viewpoints 4, 5, 8, 10, 11 and 16.

Photomontage figures 5.14, 5.15, 5.23, 5.24, 5.28, 5.51 and supplementary views from Hume Castle, Raecleugh and Brownshall do not appear to comply with *Visual Representation of Wind Farms – Good Practice Guidance*, either through lack of clarity or foreground screening.

We submit that this development would have unacceptable visual impacts throughout the Borders both on local residents, iconic viewpoints and important visitor and recreational features. The applicant has not demonstrated that steps have been taken to minimise any of these.

Wind Farm Clusters

The SPG suggests that clusters of wind farms may be less unacceptable in some cases than a proliferation of isolated sites. There are already two such clusters in the Borders, an eastern cluster around Crystal Rigg and a western cluster consisting of Dun Law and Toddleburn.

Long Park is currently isolated, but the proposed developments of Shaw Park, Girthgate and Cathpair, if any were to be consented, would form a second western cluster - or indeed one super-cluster stretching, if Rowantree were consented, all the way from Dun Law to Long Park.

Corsbie Moor could form no part of either existing cluster. It would either become an isolated development or, worse, become the start of a central cluster which, we submit, the area could not sustain without severe negative impacts on local communities, roads and the landscape.

4. Contribution to Energy Security and Climate Change Amelioration (Planning Statement 3.3)

In their latest publicity material distributed in Lauderdale, the developer claims that Corsbie Moor wind farm would 'generate enough electricity to power around 15,000 homes... also offset around 31,000 tonnes of carbon dioxide emissions every year'.

We note that the developer has not used their measured wind speed data to assess the likely load factor of this wind farm, but has simply taken a range of load factors from 25% to 35%.

We also note that Corsbie Moor is at an altitude (230-250m) which is more than 100m lower than existing wind farms such as Dun Law (350-390m), Long Park (around 350m) or Toddleburn (330-370m). Recent load factors from these sites are all less than 25% which suggests that even 25%, let alone 35%, is excessively optimistic for this site.

The applicant has not explained what other possible sites have been considered, nor why this one was chosen.

We would point out that, at the 2010 UK average load factor of 21%, twelve 2.3MW turbines would produce 50.77GWh, or the *average electricity requirements* of 10,800 UK households. This is, in fact, equivalent to the *energy consumption* of only 2,600 UK households, as only 24% of the energy consumed in homes is in the form of electricity. Even on the basis of electricity requirements, we believe this figure to be optimistic for the Borders where a significant number of properties without access to piped gas use electricity for some of their heating.

Corsbie Moor would provide only about 0.001% of the UK's energy requirements.

Using a 21% load factor, we estimate its carbon dioxide amelioration potential to be 21,000 tonne per year. This is a trivial fraction of the UK's approximately 540 million tonnes of emissions. Mores significantly, in a global context this would represent less than 1.6 *minutes* of China's emissions.

The applicant has overstated the likely contribution of Corsbie Moor to UK energy security and global carbon dioxide remission. Such a trivial contribution does not justify the likely damage to local and regional amenity or tourism and the economy.

5. Socio-Economics

Claimed Positive Impacts

The applicant's claim (Non-technical Summary 4.12) that the development would "generate positive impacts on the local economy and the wider area" is given no justification and is, indeed, contradicted by the statement in the ES (13.6.21) that benefit would be negligible. It is not obvious how any wind farm can bring local economic benefits beyond short term construction employment. We understand that a wind farm of this size would require no full time local supervision and thus would provide no local employment whatsoever once operational. We note that none of the turbines being considered for Corsbie Moor is of UK origin and believe that, at most, relatively low value-added components could be sourced from the UK. There is, of course, no proposal for cheaper electricity for local people.

The implication that greenhouse gas remission is a socio-economic benefit is indeed not readily quantified (ES 13.2.3). No case has been made in the planning application that it has any benefit at all. As we note elsewhere, the contribution of this wind farm to greenhouse gas remission would in any case be negligible.

The claim that wind farms can become tourist attractions is, in this case, misleading. The two examples cited have specially constructed on-site visitor centres, and one – Whitelee - is close to major centres of population such as Glasgow, East Kilbride and Kilmarnock. The quoted figure for visitors at Whitelee is from the period after the centre opened and when wind farms in Scotland were something of a novelty. Now that they are much more widespread, curiosity has greatly diminished and people wishing to view a wind farm can probably do so close to their own locality without travelling to the Borders. A wind farm in the middle of rural farmland will not draw tourists. We note no provision for tourist facilities in the application and conclude that the development, were it to proceed, would do nothing to enhance tourism in the Borders.

Negative Impacts

In claiming that this wind farm will have no negative impact on tourism, the applicant has either misunderstood or misrepresents the nature of the attraction of the Borders for visitors. As VisitScotland's *Framework for Change* report makes clear, landscape and scenery are a key factor for all visitors to Scotland. The Borders may lack the spectacular scenery of, for example, the Highlands but its rolling countryside, including the farmland around Corsbie Moor which is so typical of the Borders, is attractive to walkers, cyclists and even motorists who venture on to the many quiet back roads. While visitors to the Borders may make detours to historic sites such as Abbotsford House and other stately homes, the region lacks any 'blockbusters' such as Edinburgh Castle, and, as the VisitScotland report points out, it is the **landscape** itself that is the attraction. The specific attractions in the local area are often viewpoints such as Scott's View, Hume Castle and Smailholm Tower. The visibility of the proposed turbines from many of these is noted elsewhere.

While the Corsbie Moor site is not adjacent to any of the main cycleways, turbines would be visible from several well known cycle ways. The minor road through Legerwood is extensively used by both local and visiting cyclists and is featured in Nick Cotton's *Cycle Tours* (ISBN 0-540-08208-2).

The Scottish Government analysis of the economic impact of wind farms on tourism calculates a negative, although relatively small, effect. However the survey was undertaken before 2008 in a quite different economic climate to that now prevailing. We note that the applicant understates the importance of tourism to the Borders by quoting (ES 13.4.20) only the 50,000 (in 2008) overseas visitors and their £29 million spend. The latest figures from Visit Scotland demonstrate that, in 2009, UK tourists made 0.37 million trips to the Scottish Borders, staying for 1.2 million nights and spending £80 million. Over and above that, overseas visitors to the region made 0.04 million trips, staying for 0.29 million nights and spending £31 million. That gives a total tourist spend of £111 million, very significantly above the figure quoted in the applicant's material. In a region with a population of around 100,000, the economy would be extremely sensitive to any reduction in this revenue. We believe the long term risk posed by the Corsbie Moor wind farm to tourism in the Borders is significant.

While destruction of the value of a private individual's property is (in our view unjustly) not a planning issue, we submit that the collective effect on many properties may have a negative impact on Council revenues and is thus a public interest matter which should be considered. Wind farm nuisance is now established as a reason for council tax band reassessment (Appeal 2525475651/032C, Lincolnshire, 17/7/08).

That wind farms have a negative impact on the property market is now beyond reasonable doubt (see, for example, Mr James Denne of Knight Frank in the *Southern Reporter* 28/7/11). Statistics

are not easy to obtain due to the relatively small number of transactions. This in itself is significant: it suggests that people do not buy properties near existing or proposed wind farms. The Oxford Brookes survey, cited by the applicant, is flawed in that it covers a very limited number of properties and the authors themselves suggest that the results should be treated with caution. The number of actual transactions involving properties within 2 miles (3.2km) is not stated clearly, but must be small as not all property types are covered. In any case, the wind farms involved are much smaller than that proposed at Corsbie Moor; the turbines are a maximum of 57m in height compared with 126.5m at Corsbie Moor (less than half the height) and the maximum installed capacity was 9.6MW compared with up to 36MW in the present application. The view of 60% of estate agents in a 2004 RICS survey was that house prices were, indeed, negatively impacted.

As Mr Denne, cited above, has pointed out, one of the first things that prospective buyers thinking of moving to the Borders now ask is about likely wind farm developments in the area. It is thus clear that the proliferation of these developments risks making the region a less attractive place in which to live and work with consequent negative economic impacts.

At a time when the fragile local economy, property market and building trade is already in a downturn, we believe it would be a mistake to contemplate additional damage from the impact of a wind farm which would bring negligible local economic benefit.

6. Community Engagement and Public Attitudes

Environmental Statement 2.3.1 states that the applicant 'has a commitment to promoting an open and honest dialogue with statutory and non-statutory consultees **and the local community** (our emphasis) throughout the development process, and acknowledges that the development of wind turbines and other renewable energy technologies can be controversial.'

At **no time** and on no single occasion has any E.ON representative sought contact with any resident of Legerwood, Kirkhill or Boon other than associated landowners. A group of residents invited Ms Urie of E.ON to a meeting in 18th October 2010 which she attended. Whilst E.ON have responded to e-mails, there has, however, been no pro-active approach whatsoever from the developers to those residents most closely affected. This casts doubt on the company's suitability as a long term 'neighbour' to so many properties and villages.

Public exhibitions were held, but these were poorly advertised. Extremely small advertisements were placed in two local papers. Flyers advertising the events were sent to some but not all local households. In Legerwood and Kirkhill, less than half the households appear to have received them. By a show of hands at a meeting which LPG held at Blainslie, one third of attendees had not seen or received the flyers.

LPG arranged exit polls from the exhibitions at Lauder, Earlston and Westruther on 30th and 31st October 2010 and 1st November. Many attendees stated that they knew about these exhibitions only from leaflets which LPG ourselves had distributed, having not seen or received any notification from E.ON. The results of the poll which asked respondents whether they were *for*, *against* or *didn't know* were clear and are summarised below.

Overall	207	respondents
For	24	11.6%
D/k	25	12%
Against	158	76.4%

Respondents were asked if they wished to give their postcode. It was noted that several wind farm supporters lived in Edinburgh. Discounting non-local residents and the landowners concerned, approval was 9%, while 78% were opposed.

Community Benefit

While acknowledging that so-called community benefit is not a planning issue, the applicant has nonetheless included details of this in Appendix 2c. This is questionable; the only purpose can be to implant in the mind of the decision-maker the subliminal idea that money may pass into the hands of the community. Moreover, to coincide with the submission of the applicant's planning application, an E.ON flyer detailing proposed community benefit levels was widely distributed locally in the towns of Lauder and Earlston.

This should be construed as an attempt to influence both public and community council opinion and to manufacture support for the development.

We note the many 'support' observations made on this proposal on anonymous, pre-addressed cards. We are confident that the Planning Officer will give these no more weight than they deserve and suggest that the comments on most of them confirm our point below that most supporters are uninformed of the Corsbie Moor wind farm application or any of the specific considerations relating to Corsbie Moor. The addresses indicate that most would also be unaffected. These cards have been solicited by agencies for the developers, employed for the purpose. Indeed, E.ON personnel themselves have been observed stopping local people in the streets of local towns and asking people, uninformed of the specific Corsbie Moor wind farm proposal, to fill in the card on-the-spot and hand back to the E.ON staff for posting to SBC.

We expect the applicant to claim that there is general public support for wind farms. This is naïve, as there is no single public attitude to wind farms. There is a spectrum of opinion with two main views:

1. *The unaffected and uninformed*

Most people in Britain do not live near a wind farm and do not expect to do so. This includes most of the population of Scotland's central belt, but also many people in Borders towns. For example, few of the residents of Earlston live where they might expect to see a wind farm and none would live near enough to hear one, certainly not Corsbie Moor.

With no threat to their own quality of life and being aware only of the widely propagated view that wind energy is green, friendly and will somehow 'save the planet' these people constitute the majority who have a favourable view.

2. *The affected and informed.*

These are often people, like ourselves, who find themselves threatened by a wind farm development and who will usually take the trouble to inform themselves fully of its likely impacts and negative aspects. These include:

- industrialisation of the countryside leading to damaging impacts on local environment and landscapes and quality of life for residents
- destruction of the local property market
- limited and unreliable contribution to energy security
- high cost to consumers, governments and society
- negligible impact on global climate change.

These people have an unfavourable view.

Any national poll - or one covering town dwellers - will inevitably reflect the majority view of group 1.

An indication of the views of group 2 could be seen at the Hustings Meeting on wind farms organised by Lauderdale Community Council prior to the May 2011 Holyrood elections. The

meeting was held on 31st March 2011 in Lauder public hall and was attended by over 100 people. At the end of the meeting, a Scottish Borders Councillor asked for a show of hands by those **in favour** of further wind farm development in the Borders. Only five hands were raised; it was noted that these were all representatives of wind farm developers.

Most members of the public expressing a view in favour of wind farms are unaware of their full implications for themselves and others.

7. Roads and Traffic

The A697 and A6089 are important secondary routes for local and tourist traffic, being particularly busy at peak times. Both have poor accident records. The proposed turbines would be clearly visible from both, with those nearest the A6089 being amongst the closest turbines to any road in the Borders.

Both roads would be significantly affected by construction traffic. Of particular concern is the A6089 where vehicles from the north (the majority of the site traffic) would have to turn right on to the site across the oncoming lane.

In addition, drivers using the A697 and A6089 would be subject to significant sequential cumulative impact, especially heading west and north-west towards the A68. For example, between Greenlaw on the A697 and Carfraemill where it joins the A68 the following wind farms (constructed, in planning or in scoping) would be clearly visible in the following order: Black Hill, Brunta Hill, Corsbie Moor, Long Park, Allanshaws, Cathpair, Girthgate, Rowantree, Toddleburn, Dun Law 1 and Dun Law 2. This does not include a number of recent applications on, or visible from, these roads (Bassendean and Hexpath, for example) for large single turbines. Wind farms would sequentially and cumulatively dominate these routes for a stretch of approximately 15 miles.

We note that the applicants have not assessed the economic impact of congestion and delays caused by construction traffic.

Both roads carry significant traffic from Edinburgh, from other parts of Scotland and from the north of England bringing people to visit notable tourist destinations in the Borders such as Kelso, Coldstream, Floors Castle, Mellerstain House, Thirlestane Castle and Manderston House. Or just to visit and enjoy the Borders countryside itself.

The only major road in the Borders which has so far been affected by closely adjacent wind turbines is the A68 over Soutra. This is a wide and, at the affected section, a relatively safe road. The turbines there are smaller and set back further from the road than is proposed for Corsbie Moor adjacent to the A6089. From both north and south approaches, drivers are warned of the existence of the Soutra/DunLaw turbines by a distant view of them. This would not be the case on either the A697 and A6089 where, due to the topography and bends in the roads, turbines would appear more suddenly in drivers' line of vision.

On the A6089, turbine No. 12 lies within the radius and direction of shadow flicker which would constitute a severe driver hazard.

Also of concern is the view of the development (see Fig 5.20, viewpoint 7) which includes a 'stack' of four turbines in line, a particularly distracting feature on a fast stretch of the A697.

We are concerned by the proximity of turbine No. 1 to the Legerwood-Dodds public road which would be just over 50m from the turbine tips, with risk of ice throw. The road is used by cyclists and horse riders and there is thus a potential danger from wake turbulence (SP04/07 para 22-23).

We submit that there are significant concerns over road safety with both construction traffic and the long term operation of the proposed wind farm representing significant dangers and distractions to drivers. We do not believe the applicant has properly addressed these issues.

8. Ornithology and Ecology

Ornithology

A particularly notable feature of Corsbie Moor is the wide variety of birds either breeding on, or migrating through, the site.

The applicant's surveys have confirmed significant presence of Schedule 1 species (see ES). However, these surveys were carried out during a period which included one of the most severe and prolonged winters (2009-10) for decades. This will have had a detrimental effect on bird numbers and activity leading to underestimates.

Frequent sightings of barn owl, including breeding sites, are reported in the Legerwood/Corsbie area. ES section 9.4.9 refers to breeding in the area around the development site being "likely" when, in fact, it is certain.

A flock of 150 golden plover were observed on-site during the breeding season. There is a golden plover breeding site c. 5km away on the initial site of the proposed Brunta Hill wind farm and we do not believe that the possibility of local breeding can be ruled out.

The SBC Ecology Officer notes that the applicants have not carried out a Collision Risk Mortality assessment for whooper swans. He recommends such a study be completed and submitted to SBC before the application is determined. We note he also requests that the applicant identify mitigation measures to be undertaken designed to protect curlews.

Raptors, including peregrine falcon, sparrowhawk, buzzard and merlin (not mentioned in the ES) are also common. The ES (9.2.1) refers to the particular risk of collision for these species with turbine rotors, power cables etc "which is of particular relevance for sites located in areas known to support raptors", eg. Legerwood/Corsbie.

We believe the birdlife of the area would be significantly and negatively impacted both by the construction and operation of the proposed wind farm.

Ecology

SBC's Ecology Officer notes that the applicant's bat survey does not meet the requirements of the Bat Conservation Trust guidelines.

He also requests that a suitably qualified person should carry out 'checking surveys' for protected species (otter, bats, badger, breeding birds) before the commencement of any work. FWAG (Farming Wildlife Advisory Group Borders) surveys in recent years have highlighted the presence of otters and badgers on-site. The most recent confirmed sighting of an otter was on 16th November 2009 in the Thunderdean Burn at Legerwood by a member of LPG. On 18th July 2011, another member of LPG observed three badgers, including young, entering Pickie Wood, adjacent to the development site.

In addition, the Ecology Officer points out that EIA (8.5.6) highlights the need for great crested newt surveys of identified waterbodies and surrounding habitats and requests that such an assessment be carried out before determination of the planning application.

Finally, the Ecology Officer recommends the production and implementation of (1) a Construction Method Statement, (2) an Environmental Management Plan and (3) Decommissioning Methods Statement which the applicant has failed to submit as part of its planning application.

We submit that the applicant's ornithology and ecology surveys are deficient and should be repeated by suitably qualified independent personnel.

9. Hydrology and Water Supplies

There are substantial errors and omissions in the applicant's survey and proposals. These are detailed in Appendix 1.

The applicant's survey is flawed. For example, the catchment area of PWS 1 has been underestimated by a factor of 24.

There is a significant probability of disruption to private water supplies for which the applicant has made no contingency plans.

Mitigation methods have not been discussed with supply users.

10. Telecommunications (Planning Statement 4.2.8)

We note that the applicant expects households closest to the site to experience interference with television reception as a direct result of the development, but claims that the switch to digital transmission would alleviate (but not eliminate) the problem. We note a lack of any guarantee from the applicant that satisfactory mitigating action will be taken, how quickly it may be taken or how effective it would be.

However, FM radio will continue to be transmitted in analog form for the foreseeable future.

No mention is made of mobile telephone interference. Reception is already marginal in the Legerwood area and is unlikely to be enhanced by this development.

The applicant has failed to state precisely what steps would be taken to minimise interference with:

- **television,**
- **analog radio and**
- **mobile telephony.**

11. Conclusion

In conclusion, we submit that the proposed development would:

- **Be damaging to the amenity of many households in its vicinity**
- **Add significantly to the cumulative impact of wind turbines in Lauderdale**
- **Have a negative visual impact over a wide area and at important heritage, tourist and recreational sites**
- **Be a distraction to drivers on local busy roads with already poor accident rates**
- **Bring negligible benefit to the region while risking damage to tourism**
- **Make no significant contribution to energy security or CO₂ emissions**

For these and the other reasons detailed in this submission we submit that there is no case for granting planning permission for the proposal.