Our Case Number: ABP-316212-23

An Bord Pleanála

Eco Advocacy
Trammon
Rathmolyon
Enfield
Co. Meath
A83 PW32

Date: 15 February 2024

Re: Proposed development of 26 no. wind turbines and associated works.
at the Ballivor Bog Group, Co. Meath and Co. Westmeath.

Dear Sir / Madam,

An Bord Pleanála has received your recent letter in relation to the above mentioned case. The contents of your letter have been noted.

If you have any queries in the meantime, please contact the undersigned officer of the Board or email sids@pleanala.ie quoting the above mentioned An Bord Pleanála reference number in any correspondence with the Board.

Yours faithfully,

PP HCM

Ashling Doherty
Executive Officer
Direct Line: 01-8737160

PA36

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Ashling Doherty

From:	Eco Advocacy <info@ecoadvocacy.ie>
Sent:	Monday 12 February 2024 13:28
To:	SIDS
Cc:	Bord
Subject:	OBSERVATION on FURTHER INFORMATION - PA25M.316212
Attachments:	2024-02-08-EA to ABP-BnaM-PA25M.316212-FI.pdf

Dear Sirs
Please find attached submission in respect of the current planning application.
You might kindly acknowledge receipt of same please.
With kind regards,
Kieran

Eco Advocacy
Truth | Justice | Sustainability

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Email: bord@pleanala.ie and sids@pleanala.ie

The Secretary,
An Bord Pleanala,
64 Marlborough Street,
Dublin 1

8th February 2024

OBSERVATION on FURTHER INFORMATION

Planning Ref.:	**PA25M.316212** (An Bord Pleanála)
Received Date:	05/04/2023
Submissions By:	12/02/2024
Applicant:	Bord na Móna Powergen LTD.
Dev. Address:	at the Ballivor Bog Group, County Meath and County Westmeath
Brief Description:	'Proposed development of 26 wind turbines and associated works'
URL:	https://www.pleanala.ie/en-ie/case/316212
Submission Fee:	N/A (Fees already paid at earlier stage)

Dear Sir/ Madam

Further to recent further information submitted by the applicants regarding the above referenced proposed development, please find our observations and comments set out hereunder.

At the outset, we reiterate our belief that this application is **premature** pending long awaited **guidelines** for utility scale WIND instillations. It is further considered that this premature pending a full **national led SEA assessment** of utility scale wind instillations together with the loss of finite agricultural land together with natural habitat. We further assert that this application is premature until the **substitute consent** issues on the applicant site have been resolved.

Note that there are **25 pages** in total to this submission inclusive of the cover page.

We are aware that numerous other submissions and reports are also being submitted by or on behalf of other groups including *DRB Community CLG*, *Jesmond Harding*, and others. We hereby adopt all of these other submissions as part of our submission.

Yours sincerely,

Kieran Cummins

Kieran Cummins,

SUBMISSION re Planning File ref. no. **PA25M.316212**
Bord na Móna Powergen LTD

1. We are not satisfied that with the responses outlined by the applicants in 2.1.1 Landscape & Visual. Many of the receptors are hugely important sites of national and international importance. It is worth noting the Distances to Ballivor bog (the site of the proposed windfarm) in km: -

• **Tara**	**25.5**
• **Hill of ward**	**8.8**
• **Loughcrew/ Slieve na callaigh**	**18.5**
• **Uisneach**	**32**
• **Trim castle**	**14**
• **Royal canal**	**3.4**
• Ballivor (center)	2.5
• Ballivor school	2.1
• Raharney	3.3
• Newgrange	37
• Knowth	36
• Dun Ailinne	46
• Molerick bog (natural heritage area)	3.8
• Mount hevey bog (SAC)	3.7

   We are most concerned about the impact on heritage sites as highlighted above and submit that this application would have an adverse impact on these sites.

2. MARSH FRATILLARY: the applicants state: -

   "The proposed development has been designed to avoid areas identified as potential significant habitat for marsh fritillary, which were recorded during surveys in 2020. No areas identified as providing suitable habitat for this species are located within the proposed development footprint."

   We are alarmed at this statement. The marsh Fritillary was evidenced in very large numbers along the light rail track in the bog. Is it not proposed to lay caballing along this area? It is submitted that much further analysis should be undertaken in the coming season to identify all areas of where the *Marsh Fritillary* is present with a view to protecting these areas and sterilizing them from future development.

3. We are also concerned about SPA's and SAC's such as Lough Owel spa Garriskil Bog spa which it is submitted have not been adequately addressed.

4. We are also disappointed at the lack of information on rewetting.

5. We are further disappointed that the issue of fire hazard has not been adequately addressed.

6. The R156 is already severely congested with 2 very large quarries and concrete products operating from Trammon which is c.15km away. We were unable to find an assessment of this.

7. The number of Red Listed Birds which have been identified on or near the site needs much further evaluation. These include Woodcock, Snipe, Lapwing, Kestrel, Golden Plover, etc

8. **Property Devaluation**: this issue is dealt with at '2.1.7 Property Value'. Applicants assert that this won't be an issue. This doesn't stand up to scrutiny and we disagree with the applicants. Given the limited time available, we are unable to more fully address this issue and would ask the board to do so.

9. **Substitute Consent**: It is noted that the application for substitute consent is listed on the Bord Pleanála website as having been withdrawn in January 2024. We reiterate that this application is premature pending the determination of the issues relating to past planning for the site. Until this is either regularized or dealt with how can future planning be considered?

10. The applicants response to ***'Irelands "Overreliance" on Wind Energy Developments'*** is woefully inadequate. The Applicants state as follows: -
"Concerns were raised in some submissions regarding Irelands perceived "overreliance" on wind energy developments. These submissions also raised concerns on whether alternative forms of renewable energy projects have been considered in place of the proposed development. Chapter 3 of the EIAR sets out the consideration of reasonable alternatives to the proposed development. Aside from wind energy developments, given the scale of the development, the only reasonable alternative form of energy generation would be a solar farm"
We strongly disagree with this as it fails to account for the intermittent nature of wind energy and ignores the very promising prospects of Deep-Bore Geothermal energy.

11. There is some discussion on *CO2 emissions* in the applicant's response. This refers back to the EIAR. This is most inadequate. We were unable to find an analysis of CO2 issues including sourcing of all the materials together with the construction of the project.

12. We again recommend that a **full cost/ benefit analysis** be conducted to establish value for money given the resources required taking into account the intermittent nature of solar energy. This should include comparisons with other forms of sustainable energy with particular reference to Deep-bore geothermal energy, which is fully dispatchable and not intermittent. Such an analysis should ignore completely any artificial grant incentives and focus purely on the real cost of the development together with an assessment of what can realistically be expected in terms of deliverable energy generation at these northerly latitudes. This should also factor in worst-case scenario climatic conditions (light levels) with extensive periods of cloud cover.

13. There are 17 rare earth metals. These may be summarised as: Scandium [Sc], Yttrium [Y], Lanthanum [La], Cerium [Ce], Praseodymium [Pr], Neodymium [Nd], Promethium [Pm], Samarium [Sm], Europium [Eu], Gadolinium [Gd], Terbium [Tb], Dysprosium [Dy], Holmium [Ho], Erbium [Er], Thulium [Tm], Ytterbium [Yb], Lutetium [Lu]. The applicant should be required to identify each and every rare earth metal which will be used in the planning proposals together with the quantity required. They should also provide full details on how each of these elements are sourced and mined together with the implications for humans in the vicinity.

14. The applicants should also be required to provide a full inventory of all resources required to implement their proposals. This should include quantities of Concrete, Steel, roofing materials, aggregate, hardcore, fossil fuels (diesel, petrol, kerosene, etc), etc. This is not an exhaustive list.

15. Given the attitude of the applicant, we are now obliged to provide information on sustainability.

Cont/d.

THE PROPOSAL / SUSTAINABILITY

16. **Developer Led**: the proposal is a developer led proposal. The effect of this proposal has already been to divide the local community between landowners benefiting from the revenue from turbine sites on the one hand and others on the other. This is inappropriate developer led rather that national and strategic based planning. Any future Irish wind energy proposal needs to be plan led and not developer led. This proposal is inappropriately developer led acting without any proper national and location selection strategy.

17. **The TURBINES**: The manufacture of steel and other components to assemble a turbine (particularly on the scale proposed) must also be assessed as regards its impact on the environment *vis à vis* carbon footprint and environmental sustainability of natural and finite resources.

18. **Carbon footprint of wind energy**: The manufacture of cement requires significant temperatures. The carbon footprint / ton is therefore very significant. It is submitted that the use of such a vast quantity of concrete would give rise to an unacceptably high carbon footprint. The reality is that construction and erection of wind turbines will give rise to significant and unsustainable resource consumption.

19. We were unable to easily find exact grade of aggregate, steel or nm of concrete in any of the works be it bases, culverts, manholes, etc. It would be essential that the applicants provide a table of figures for the amounts of aggregate required to construct the network of access roads.

Cont/d.

MATERIALS USED

20. It is considered helpful to provide a short analysis of some of the components of wind turbines, which we will now outline.

21. **STEEL**: To create 1,000 Kg of pig iron, you start with 1,800 Kg of iron ore, 900 Kg of coking coal 450 Kg of limestone. The blast furnace consumes 4,500 Kg of air. The temperature at the core of the blast furnace reaches nearly 1,600 degrees C. The pig iron is then transferred to the basic oxygen furnace to make steel. 1,350 Kg of CO2 is emitted per 1,000 Kg pig iron produced. A further 1,460 Kg CO2 is emitted per 1,000 Kg of Steel produced so all up 2,810 Kg CO2 is emitted. 45 tons of rebar (steel) are required so that equals 126.45 tons of CO2 are emitted.

22. **CONCRETE**: To create a 1,000 Kg of Portland cement, calcium carbonate (60%), silicon (20%), aluminum (10%), iron (10%) and very small amounts of other ingredients are heated in a large kiln to over 1,500 degrees C to convert the raw materials into clinker. The clinker is then interground with other ingredients to produce the final cement product. When cement is mixed with water, sand and gravel forms the rock-like mass know as concrete. For the turbines currently being proposed, upwards of 200 lorry loads of readymix calculate are required to anchor each turbine (in addition to lots of reinforcing steel).

23. **ROADS**: Infill for access roads: sourced from crushed rock derived from quarrying are also required.

24. **RARE EARTH METALS**: Each and every wind turbine has a magnet made of a metal called neodymium. The mining and refining of ***neodymium*** extraordinarily dirty and toxic – involving repeated boiling in acid, with radioactive thorium as a waste product – 90% of it comes from – Baotou, China. Neodymium is a rare earth metal, which is generally sourced in China and which is causing. There are c. 4 tons of neodymium magnets in each turbine for example. China's Ministry of Industry and Information Technology estimated that the cleanup bill for southern Jiangxi Province could amount to 38 billion yuan, or around $5.5 billion. Only a fraction of that amount has so far been spent.
25. **The MAGNETS**: The turbines themselves come from a process, which cannot be considered sustainable. In fact the trail of destruction and environmental pollution, which is left behind, is shameful.

    a. To quote from the enclosed article on the issue '*Neodymium is commonly used as part of a Neodymium-Iron-Boron alloy (Nd2Fe14B) which, thanks to its tetragonal crystal structure, is used to make the most powerful magnets in the world...There's not one step of the rare earth mining process that is not disastrous for the environment. Ores are being extracted by pumping acid into the ground, and then they are processed using more acid and chemicals. The fact that the wind-turbine industry relies on neodymium, which even in legal factories has a catastrophic environmental impact...Finally they are dumped into tailing lakes that are often very poorly constructed and maintained. And throughout this process, large amounts of highly toxic acids, heavy metals and other chemicals are emitted into the air that people breathe, and leak into surface and ground water. Villagers rely on this for irrigation of their crops and for drinking water. 'Whenever we purchase products that contain rare earth metals, we are unknowingly taking part in massive environmental degradation and the destruction of communities."*

    b. Curiously RTE's weekly 'World Report programe also alluded to the issues presented in Baoding, China on 31st May 2015; http://www.rte.ie/radio1/world-report/ It was referred to as Chinas most polluted city.

    c. Aside from the manufacture of the magnets alluded to above and in the appended enclosure, World Report alluded to the manufacture of Blades for wind turbines together with solar panels. Some statistics about Baoding were that the skies are constantly full of smog from pollution and thus far this year, they had only got 16 days smog free as of [31st May 2015]. The listener was informed that Blue skies are seldom seen. Fine particles (PM 2.5) are double that of recommended levels and the population have respiratory problems/ breathing difficulties and facemasks are frequently worn in an attempt to protect oneself. It is estimated that air pollution is responsible for 100,000 deaths each year. Because of Chinas Censorship, it is difficult to obtain detailed data. To make maters worse, at decommissioning stage, the blades are being chopped

up and being land filled. See: https://www.bloomberg.com/news/features/2020-02-05/wind-turbine-blades-can-t-be-recycled-so-they-re-piling-up-in-landfills

26. We invite you to assess the following links to substantiate what we have outlined above: -

Rare-earth mining in China comes at a heavy cost for local villages
Pollution is poisoning the farms and villages of the region that processes the precious minerals
Cécile Bontron
Tue 7 Aug 2012 13.59 BST
https://www.theguardian.com/environment/2012/aug/07/china-rare-earth-village-pollution

Rare earth mining in China: the bleak social and environmental costs
China produces 85% of global supply of the 17 chemically similar elements crucial to smartphone, camera lens and magnet manufacture – and half that output is from the city of Baotou
Jonathan Kaiman in Baotou
Thu 20 Mar 2014 14.30 GMT
https://www.theguardian.com/sustainable-business/rare-earth-mining-china-social-environmental-costs

The dystopian lake filled by the world's tech lust
By Tim Maughan
2nd April 2015
https://www.bbc.com/future/article/20150402-the-worst-place-on-earth

China Wrestles with the Toxic Aftermath of Rare Earth Mining
China has been a major source of rare earth metals used in high-tech products, from smartphones to wind turbines. As cleanup of these mining sites begins, experts argue that global companies that have benefited from access to these metals should help foot the bill.
BY MICHAEL STANDAERT
JULY 2, 2019
https://e360.yale.edu/features/china-wrestles-with-the-toxic-aftermath-of-rare-earth-mining

27. Neodymium is but one example of a rare earth metal. The applicants should be able to provide a full assessment of ALL rare earth metals used and provide a full and frank discourse. This is essential information if we are to properly assess this application.

28. **Human Rights**: In addition to the issue of sustainability raised above, there are clearly significant Human Rights issues to consider here. It is therefore unconscionable that the practices alluded to in the referenced articles should be supported in any way.

29. **The FUEL**: The sheer volumes of concrete required together with access roads and hard standing areas, which in turn would require massive quantities of infilling to facilitate the construction of the proposed turbines is vast. It follows that the amount of diesel fuel necessary to fuel the truck to haul all this material on site would be enormous. This too must be factored into the carbon footprint equation together with the sustainability of consuming so much fossil fuel in the construction of the proposed wind turbines.

30. **Where does the aggregate come from?**
    a. Further to the above, sourcing such an enormous quantity of aggregate would pose enormous challenges. Aggregate is a major constituent of concrete. Aggregate will also be required to construct all the hard standing areas and access roads. It is submitted that this is squandering of national resources.

    b. The sighting of turbines should be in a situation where naturally occurring bedrock can be utilized, obviating the need for the requirement of such vast amounts of concrete and aggregate. Furthermore, in addition to aggregate, sand and gravel are also component constituents of concrete. Through our experience and understanding of the quarry industry, we know that supplies of sand and gravel are rapidly dwindling. It is therefore essential that such schemes be situate on naturally occurring bedrock!

31. **Sporadic nature of wind power**: terrestrial based wind power is historically very sporadic and erratic. To state the obvious, in periods of static airflow, no wind is produced. This causes all sorts of challenges for management of the grid in that it must be replaced by alternative sources of energy. Alternative Energy Sources are discussed separately in this submission, as are issues pertaining to the management of the grid.

32. **Infrasound**: Moreover, there is significant evidence from outside of Ireland that Infrasound is an issue for people who live very close to wind turbines. *Dr Mariana Alves-Pereira* of Portugal has written and talked frequently on this issue. You may also find evidence from *Bruce Rapley*, *Huub Bakker* and *Rachel Summers*. Curiously we were unable to find any reference in the EIAR to 'Infrasound'.

33. There have been many newspaper reports about the safety of industrial wind turbines and indeed many can be seen on the internet. We invite the planning authority to see for itself just how unsafe industrial wind turbines can be. The information may be assessed at: http://www.caithnesswindfarms.co.uk/fullaccidents.pdf

34. **Spinning Reserve**:
    a. It follows that alternative sources of energy must be constantly available to provide power when wind isn't blowing. This can be referred to as cycling up and cycling down. During periods of static air mass and nil generation of wind energy, power must be generated from other sources.

    b. Currently the main energy source is at the Moneypoint station in County Clare. Is it not the case that this must be kept burning in order to take up the slack when there is no wind energy coming on stream? We understand that it and similar power plants cannot be turned off, as they take too long to power up (48 hours), which for obvious reasons would not be feasible when wind energy falls off. We further understand that this has been very problematic in Scotland where there are a large numbers of wind turbines. '

    c. The Limits of Wind Power [by William Korchinski] states: - '***The analysis reported in this study indicates that 20% would be the extreme upper limit for wind penetration... Very high wind penetrations are not achievable in practice due to the increased need for power storage, the decrease in grid reliability, and the increased operating costs. Given these constraints, this study concludes that a more practical upper limit for wind penetration is 10%. At 10% wind penetration, the CO2 emissions reduction due to wind is approximately 45g CO2 equivalent/kWh, or about 9% of total***.' [Source: The Limits of Wind Power [by William Korchinski]

    d. In 2012, Ireland was already at 15.3% from wind. This figure is almost certainly higher now with the advent of more energy streams (including wind) since then. '*The Department of Energy figures also show that in 2012 19.6 per cent of our gross electricity production was by renewables. 15.3 per cent of this was wind, followed by 2.7 per cent by hydroelectricity.*'

35. **Efficiency of Wind Turbines**:

    a. '*Not all the energy of blowing wind can be harvested, since conservation of mass requires that as much mass of air exits the turbine as enters it. Betz's law gives the maximal achievable extraction of wind power by a wind turbine as 59% of the total kinetic energy of the air flowing through the turbine*' [Harvesting the Wind: The Physics of Wind Turbines Kira Grogg – 2005]

    b. '*Further inefficiencies, such as rotor blade friction and drag, gearbox losses, generator and converter losses, reduce the power delivered by a wind turbine. Commercial utility-connected turbines deliver 75% to 80% of the Betz limit of power extractable from the wind, at rated operating speed.*' [Tony Burton et al., (ed), Wind Energy Handbook, John Wiley and Sons 2001], See also http://en.wikipedia.org/wiki/Wind_turbine#Efficiency

36. **Grants/ Subsidies**:
    a. We understand that significant grant incentives are available for the construction of wind based power units. We further understand that such grants are restricted to terrestrial based units and that these grants are no longer available for maritime-based units. This may well explain why the current proposal is a land-based proposal. This; notwithstanding the fact that there is a far more steady flow of wind at sea.

    b. The evidence available suggests that the wind industry have lobbied extensively to retain this subsidy both in Ireland and in the UK, which is in our view misguided, and short-sighted in view of the many other more promising and sustainable energy sources. **Chasing grants/ subsidies makes for very poor planning law and should have no place in any society.**

RoCoF

37. **RoCoF**: Rate of Change of Frequency (islanding detection method for decentralised generation units). Because wind fluctuates electricity generated changes regularly which can cause problems o the grid. This is difficult to manage on the grid. It follows that the more wind that is put on, the more difficult it is to manage. i.e. the more wind we get the more likely the grid will have problems in managing the fluctuating power intake. We have inserted some quotes taken from a document published in 2011 by the University of Manchester entitled 'Loss of Mains Protection':
    a. *'Loss of Mains (or islanding) occurs when part of the public utility network (incorporating generation) loses connection with the rest of the system*
    a. *If LOM is not detected, then the generator could remain connected, causing a safety hazard within the network.*
    b. *Automatic reconnection of the generator to the network may occur causing damage to the generator and the network*
    c. *Islanding is not permitted in most countries. The most challenging scenario is when the local load closely follows the generator output both in terms of active and reactive power.*
    d. *LOM performance requirements – stability*
    e. *LOM should be stable under remote faults cleared by the utility system.*
    f. *It is undesirable to issue a false trip as it leads to the unnecessary disconnection of the generator.'*

OTHER SOURCES OF ALTERNATIVE ENERGY

38. **Alternative Energy Sources**: Renewable Energy comes in many forms including: -

    a. Solar Energy,
    b. Biomass,
    c. Biofuels,
    d. Tidal Energy,
    e. Wave Energy,
    f. Hydroelectric,
    g. Geothermal,
    h. Hydroelectricity, etc.

    It is appropriate that we should give a brief analysis of each below.

39. **Solar power**: Is the conversion of sunlight into electricity. This is somewhat dependent on technical advances in the conversion rates of the photovoltaic (PV) cells that convert sunlight into electricity. Moreover, battery power would be required during night hours or when there is poor sun during daylight hours. <u>It is important to state that we only support solar on rooftops. The use of finite agricultural land for solar is an unacceptable use of finite resources</u>.

40. **Biomass:** usually refers to plants, which are specifically grown as a crop for the purposes of energy generation. **Often available in the form of wood pellets that can be produced from crops of plants such as willow. Given the existing Moneypoint Power plant in County Clare, there is potential to convert this plant from burning coal (fossil fuel) to burning biomass.**

41. **Biofuels**: Biofuels have been proposed as an alternative by some commentators. Bioethanol is made by fermenting plant materials and biodiesel is made from vegetable oils, animal fats or recycled grease. Biofuels typically include Biodiesel and Ethanol. In 2008 biofuels provided a mere 1.8% of the world's transport fuel. Bioethanol production relies on the cultivation of large amounts of plant material. A major issue with biofuels is that arable land would have to be taken out of food production to produce bio fuels. Given that the human population of the world is increasing at a rate never before seen, little of no land could be made available for production of biofuels. Moreover, there is a danger that more tropical rain forest would disappear to satisfy the demands for same.

42. **Tidal**: Tidal energy capture usually consists of the construction of barrage dam type structures is being examined as a means of converting tidal movements into energy. Turbines installed in the barrage wall generate power as water flows in and out of the estuary basin, bay, or river. There are downsides to this though, the most obvious one being that the structures in themselves are visually obtrusive. There are also ecosystem considerations as the flooding of mud-flats within the estuary together with altered saltwater flow which changes the hydrology and salinity within. That said, they are not near as visually obtrusive as large land based wind turbines.

43. **Wave**: Wave Energy refers to the capture of energy from the motion of surface waves of the ocean. This is still a developing science, which is still in experimental stage but looks promising.

44. **Hydroelectric**: Hydroelectric: the capture of energy from running water such as in a river is perhaps among the oldest of the alternative energy's as was seen in the 17-1800's when countless water mills were erected on river banks to power massive mechanical apparatus. In the 1900's this was developed into a far more commercial scale energy capture with the construction of massive dams. Examples being the famed Hoover Dam on the Colorado River in the USA, The Three Georges Dam on the Yangtze River in China, the Golden Dam situate on the Golden River, in Tasmania, Australia and Ardnacrusha power plant situate on the Shannon River in Ireland.

45. **Geothermal**: Geothermal: work on this form of energy generation is much more advanced that other alternatives. Energy capture ranges from installing a series of pipes in the upper layers of the earths crust typically about a meter deep in domestic type situations. On a commercial basis, exploitation of hot springs, which often occur on fault lines is usually indicative of thermal energy close to the surface.

46. **Deep Bore Geothermal**: This is essentially 'free' energy contained within the earths crust. Briefly, it entails boring to depths of between 2 and 3 miles and harnessing energy from the natural heat contained within the earth's crust where temperatures of between 100°c and 200°c can be easily achieved. This is done by circulating water down and back up (rather like a heating system). A very small plant is all that is required on the surface to convert the energy into electricity. There are many examples around Paris, Austria, Germany, Iceland and so on. The Eden Project in Cornwall published plans for such a plant in October of 2019. See: https://www.dailymail.co.uk/sciencetech/article-7571129/Eden-Project-ahead-17m-geothermal-energy-revolution.html

47. **Deep Geothermal in a local context**: Off all the points listed above, Deep Geothermal is extremely promising and warrants further discussion having regard to the local context. Our research as shown this to be by far the most promising.

    a. The Caledonian fault line traverses the Irish and English landscape in a rough line from Limerick – Dundalk – Newcastle in the UK. Either side of this, there are two different rock formations on two different tectonic plates.
    b. The differences in rock fossils in Scotland and England are well documented. Thermal energy tends to be much closer to the surface on such fault lines.
    c. In Ireland a fault line stretching from Limerick to Louth [the Caledonian fault line] where this heat is much closer to the earth's surface than elsewhere.
    d. The irony with the current planning proposal is that alternative energy is virtually underneath the proposed sites.
    e. Moreover, as an energy source, it's far more stable and reliable than wind energy. This has been used as an energy source in Austria and other countries.

f. We understand that legislation is currently being drafted to facilitate this energy source in an Irish context.
g. Therefore, leaving aside all the other planning and related issues, it is submitted that the erection of turbines in the current context is rather ironic. It is unlikely that there would be the same challenging issues re **RoCoF** with the use of Deep Geothermal.

48. The ADVANATAGES of Deep Bore Geothermal over Wind are many and may be summarised as follows: -
    a. no visually obtrusive issues,
    b. no fluctuations in the availability of energy and dispatchable,
    c. no property devaluation,
    d. no health issues,
    e. no noise,
    f. no infrasound,
    g. no spinning reserve (backup) requirement,
    h. minimal wastage of finite natural resources such as sand and gravel, steel and so fourth.
    i. There are numerous suitable geological bedrock areas in Ireland.

PLANNING ENFORCEMENT/ POLICING

49. Without prejudice to the main rationale advanced in this submission that the current proposal is contrary to numerous planning principles, we are obliged to point out that it has been our experience in a long course of dealings with the enforcement departments of numerous municipal authorities, that enforcement of the planning laws has been poor and lethargic.

50. We regularly, encounter a plethora of conditions pertaining to a given planning permission, which are not enforced or followed up on. This continues to be the case even after specific concerns and issues have been raised. It follows that we would have similar concerns in the current context and other future developments.

51. Moreover, the concept of self-policing, which is where operators are mandated to submit various results to planning authorities on a specified regular basis, has also proved to be extremely problematic. Our experience has been that compliance with such requirements has been poor. Therefore it would be remiss of us not to express similar concerns for this and all other proposed developments of a significant or industrial nature.

SUMMARY

52. The applicants should also be required to provide a full inventory of all resources required to implement their proposals. This should include quantities of Concrete, Steel, roofing materials, aggregate, hardcore, fossil fuels (diesel, petrol, kerosene, etc), etc. This is not an exhaustive list.

53. We again recommend that a **full cost/ benefit analysis** be conducted to establish value for money given the resources required taking into account the intermittent nature of solar energy. This should include comparisons with other forms of sustainable energy with particular reference to Deep-bore geothermal energy, which is fully dispatchable and not intermittent. Such an analysis should ignore completely any artificial grant incentives and focus purely on the real cost of the development together with an assessment of what can realistically be expected in terms of deliverable energy generation at these northerly latitudes. This should also factor in worst-case scenario climatic conditions (light levels) with extensive periods of cloud cover.

54. We have repeatedly asserted over the years that EIAR's, which are prepared directly by a developer/ applicant are in our opinion unreliable and self-serving statements in support of their employer. We have found this one to be particularly so in that respect and in our opinion to some extend glamorises an operation that is anything but glamorous. What EIAR's omit to state is also of concern. In this case for example we were unable to find any reference infrasound or the sustainability of finite resources. In summary we remind the statutory authorities of their duty of care to each individual, the wider community and to the environment.

PREVIOUS REFUSALS

It is worth noting the reasons specified in previous decisions by An Bord Pleanála to refuse various wind farm and mast applications. We have provided references and extracts from some of those decisions hereunder. It is submitted that many aspects in these refusals are also applicable to the proposals in the current application. Moreover, it should also be noted that some of these refusals relate to much lower structures/ turbines/ masts. It follows that these issues are even more critical in the instant context given the proposed height of the turbines.

55. 2002 – CAVAN – PL 02.125904 – Gaeltacht Energy Limited

56. Application for one number 50 metre high wind measuring mast.

57. REASONS AND CONSIDERATIONS – The proposed development is located in an area designated as an "Area of High Landscape Value" in the current Cavan County Development Plan where it is the objective of the planning authority to regulate development to ensure that no adverse use or visual impacts occur. This designation and objective are considered reasonable. Furthermore, the site is located in a candidate Special Area of Conservation and a Special Protection Area. It is considered that the proposed development would have a significant visual and environmental impact and would seriously injure the amenities of the area. The proposed development would, therefore, be contrary to the proper planning and development of the area.

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58. 2015 – CLARE – PL 03.244088 – Clare Coastal Wind Power Limited

59. nine electricity generating wind turbines with a hub height of up to 85 metres and a rotor diameter of up to 82 metres giving an overall height of up to 126 metres

60. REASONS AND CONSIDERATIONS – Having regard to the location of the proposed development on a site where there is a significant extent of peat material, the presence of a direct aquatic connection between turbine locations and the Doonbeg River, and to the identification of the Doonbeg River as a habitat with a significant concentration of species listed under Annex II of the Habitats Directive, that is, freshwater pearl mussel (Margaritifera margaritifera), the Board is not satisfied that the proposed development would not constitute a serious risk of impairment to the aquatic habitat of this sensitive species. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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61. 2004 – CORK – PL 04.205254 – South Western Services Group care of SWS Environmental Service

62. 29 wind turbines (hub height 80 metres, blade diameter 80 metres

63. REASONS AND CONSIDERATIONS – The proposed development is located on a site identified as a nesting and foraging habitat of the hen harrier, an Annex 1 species listed for protection in the Birds Directive (Council Directive 79/409/EEC on the conservation of wild birds). Furthermore, the site is in an area that is under consideration for designation as a Special Protection Area for this species. Having regard to the size and scale of the proposed windfarm in an area of national importance for the conservation of the hen harrier and to the number of already permitted windfarms in this area, the Board is not satisfied, on the basis of the submissions made in connection with the planning application and the appeal, that the proposed development would not have significant and adverse impacts on the hen harrier by reason of disturbance displacement and loss of foraging habitat (without any compensatory habitat proposals). The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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64. 2012 – CORK – PL 88.239280 – Leonard Draper

65. Replacement of an existing wind turbine (hub height 55 metres, rotor diameter 58 metres) with a larger turbine (maximum hub height 80 metres, maximum rotor diameter 90 metres),

66. REASONS AND CONSIDERATIONS –
1. On the basis of the submissions made in connection with the planning application and the appeal, it appears to the Board that the proposed development would comprise modifications and extensions to an unauthorized development. It is considered, therefore, that it would be inappropriate for the Board to consider a grant of permission for the proposed development in such circumstances.
2. Having regard to the scale of development proposed and that of the overall wind farm proposed in appeal reference number PL 88.240143 and the pattern of development in the area, where several residences are located in close proximity to the wind farm, the Board is not satisfied that the proposed development, would not seriously injure the residential and visual amenities of the area, in cumulative terms, by reason of noise, shadow flicker and the scale of the increased height and extent of the proposed development. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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67. 2014 – CORK – PL 88.240461 – Ardrah Wind Farm Limited

68. Development comprising a wind farm of five (5) number electricity generating wind turbines with a hub height of 64 metres and a rotor diameter of 71 metres

69. REASONS AND CONSIDERATIONS –
The Cork County Development Plan 2009 sets out policies and objectives in relation to wind energy development and identifies areas in broad strategic terms for the location and siting of such development, identifying "Strategic Search Areas" and "Strategically Unsuitable Areas". The overall strategic approach as set out in the said Development Plan is considered to be reasonable. The proposed development, which is not located within a "Strategic Search Area", is located immediately adjacent to areas designated as "Strategically Unsuitable Areas", would be unsuitable for wind energy projects and where such projects would normally be discouraged.
The proposed development, which would by itself be visible over a wide area, would in conjunction with permitted and proposed development in the area, give rise to an undue concentration of wind energy development with significant negative impacts on the landscape character and visual amenities of the area, and in particular the Mealagh Valley, and it's amenity, tourism and recreational potential.
The proposed development would, therefore, seriously injure the visual amenities of the area and be contrary to the proper planning and sustainable development of the area.

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70. 2017 – CORK – PL04.246824 – Ardglass Windfarm Limited

71. wind farm of up to seven wind turbines with a maximum ground to blade tip height of up to 140 metres,

72. REASONS AND CONSIDERATIONS –
(a) Policy Objectives GI 7-2 and ED
(b) the location of the proposed wind farm on a rural elevated upland plateau within an open and exposed landscape, without any landcover or significant features capable of visually absorbing the scale of the development proposed,
(c) the "Wind Energy Development Guidelines for Planning Authorities" issued by the Department of the Environment, Heritage and Local Government in June, 2006,
(d) the scale and height of the proposed turbines, and
(e) the pattern of development in the vicinity and the planning history of the subject site,

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73. 2016 – DONEGAL – PL 05.246265 – Declan Clarke

74. a single turbine extension of tip height of 119.33 metres, comprising a hub height of 78.33 metres and a rotor diameter of 82 metres, to a permitted two turbine windfarm (each with tip height 119.33 metres, hub height 78.33 metres and rotor diameter of 82 metres) granted permission on this site under appeal reference number PL 05A.240394

75. REASONS AND CONSIDERATIONS –

1. The appeal site is located in a scenic coastal area in close proximity to an Area of Especially High Scenic Amenity, as set out in the current Donegal County Development Plan, where the policy is to safeguard the natural landscape qualities and the environmental habitats of the county. The site is also located in close proximity to a number of designated views and prospects identified for protection in the said plan. It is considered that the cumulative impact of the proposed development would interfere with the character of the landscape and in particular the aforementioned Area of Especially High Scenic Amenity and the designated views and prospects, which it is considered necessary to preserve. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

2. It is a policy of the planning authority (TOU-P-3) "...not to permit development proposals which would detract from the visual quality/amenity on either the approach roads to, or the views to be had from significant tourism attractions." The proposed development is located in close proximity and in clear sight of a scenic driving section of the Wild Atlantic Way, which is considered to be a significant tourist resource both locally and nationally. Having regard to the scale of the proposed turbine and its visual prominence in closer proximity to the coastline than permitted turbines at this location, it is considered that the proposed development would seriously injure the amenities of the area, by reason of visual intrusion and overbearing visual impact within a spatially enclosed landscape to the east and a more open landscape to the west. The proposed development would, therefore, detract from the tourism resource and would be contrary to the proper planning and sustainable development of the area.

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76. 2013 – DONEGAL – PL 05E.241596 – GDNG Renewables Limited

77. The development will consist of 16 number turbines, (maximum tip height of 152 metres and maximum rotor blade length of 50.5 metres), associated hardstanding areas, five borrow pits,

78. REASONS AND CONSIDERATIONS –

1. Glenveagh National Park is recognised as a national and local asset reflected in statements and policies set out in the Donegal County Development Plan 2012 – 2018 including (i) the designation of the area in which the park is located as an Area of Exceptionally High Scenic Amenity (EHSA), (ii) the designation of the park as one of nine iconic attractions to assist in the diversification and development of the tourism mix in County Donegal, (iii) the policy not to permit development proposals that would detract from the visual quality/amenity on either the approach roads to or the views to be had from significant tourism attractions and (iv) the policy to prohibit wind turbines within the zone of visual influence of the national park (Section10.6.5). The proposed development would result in an expansion in a north-westerly direction towards Glenveagh National Park of the geographical area within which existing and permitted wind farms in the general vicinity of the site are currently contained and would result in proposed wind turbines being visible from a number of vantage points in the National Park. It is considered that such a development would conflict with Development Plan policy and would seriously injure the visual amenities of the area. Accordingly, the proposed development would be contrary to the proper planning and sustainable development of the area.

2. Having regard to the overall scale and height of the proposed wind turbines together with their location on the leeward side of this upland area, it is considered that, taken in conjunction with the existing and permitted wind farm developments in the vicinity of the site, the proposed development would result in an excessive concentration of wind turbines in this elevated and exposed area which would seriously injure the visual amenities of the area. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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79. 2009 – GALWAY – PL 07.229362 – Cruachan Wind Energy Limited

80. six wind turbines, six transformers, an electrical substation and control building, a meteorological mast

81. REASONS AND CONSIDERATIONS –

The site is located within the Moycullen Bogs Natural Heritage Area (NHA) (number 2634), a site which has been selected for the conservation of active blanket bog, an Annex 1 Priority Habitat and which supports the Annex 1 Habitats Northern Atlantic wet heaths and European dry heaths. The likely significant effects of the proposed development on priority habitats within the site, including habitat loss and fragmentation, would result in an unacceptable degradation of the protected habitat, and would also result in an unacceptable risk to the endangered red grouse, which is of high conservation value. It is, therefore, considered that the proposed development would have a significant adverse effect on the integrity of the Annex 1 Priority Habitat and would be contrary to the proper planning and sustainable development of the area.

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82. 2011 – GALWAY – PL 07.238734 – Gaoi an Iarthar Teo

83. 27 wind turbines (each with a maximum hub height of 98 metres, a maximum rotor diameter of 82 metres and total tip height of 139 metres), one number anemometry mast (100 metres in height),

84. REASONS AND CONSIDERATIONS –

The Connemara landscape is one of the principal assets of the tourism industry in County Galway. The proposed development is located on a prominent site within Landscape Character Area Number 16 – West Foothills of East Connemara Mountains in South Connemara, between the R336 Regional Route and Glenicmurrin Lough, which is part of the Connemara Bog Complex Special Area of Conservation. Furthermore, the site is located within a Class 3 Landscape with a "High" Landscape Sensitivity designation, as set out in the current Development Plan for the area and within an area with a high value coastal tourism infrastructure and fisheries resource.
Notwithstanding the location of the site within a "Strategic Area For Wind Farm Potential", as designated in the current Development Plan, it is considered that the proposed wind energy development, by reason of its location in this highly scenic open landscape with no natural screening, and by reason of its nature and scale, would be an excessively dominant feature and visually obtrusive form of development in this landscape. The proposed wind farm development would erode the visual and environmental amenity of this area and would contravene the objectives of the Development Plan 2009-2015 to protect this sensitive landscape designation. The proposed development would seriously injure the amenities of the area, would interfere with the character of the landscape which it is necessary to preserve and would, therefore, be contrary to the proper planning and sustainable development of the area.

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85. 2015 – GALWAY – 07.PA0036 – Ardderroo Windfarm Limited

86. Construction of a total of 29 number wind turbines with a maximum overall blade tip height of up to 156.5 metres and all associated hard-standing areas

87. REASONS AND CONSIDERATIONS –

1. The subject site is located within 15 kilometres of ten statutorily designated European sites. Bird species in the vicinity of this site, and utilising water bodies in the area, are the subject of conservation objectives for special protection areas in this area (Connemara Bog Complex Special Protection Area (site code 004181), Lough Corrib Special Protection Area (site code 004042) and Inner Galway Bay Special Protection Area (site code 004031)). The site also hosts a bat species that is the subject of conservation objectives for special areas of conservation in the vicinity (Ross Lake and Woods Special Area of Conservation (site code 001312) and Lough Corrib Special Area of Conservation (site code 000297)). It is considered that the information in the Natura impact statement and other documentation supporting the planning application is not adequate to support a conclusion that that the integrity of these European Sites would not be adversely affected by the proposed development, in particular, by reason of disturbance, barrier effects to movement and collision risk arising from the proposed wind farm for birds of special conservation interest that may traverse the site and the network of Special Protection Areas in the vicinity, including Cormorant, Merlin, Golden Plover, Common Gull, Teal, Grey Heron and Red Grouse, or for the Lesser Horseshoe Bat, which is known to be present at the proposed development site. Furthermore, the Board is not satisfied that bird flight lines in the vicinity or cumulative effects with permitted wind farms in the area have been adequately identified or analysed. In addition, the Appropriate Assessment screening documentation screens out sites that host qualifying interests that could have connectivity with and could be subject to impacts from the proposed development, namely the Lough Corrib Special Area of Conservation, the Lough Corrib Special Protection Area and the Inner Galway Bay Special Protection Area. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

2. Notwithstanding the location of the subject site largely within an area designated in the Galway County Development Plan 2015 – 2021 as a strategic area for wind energy development, it is considered that the information submitted on birds and bats in the environmental impact statement and further information is inadequate. In particular, the duration and scope of surveys are insufficient, and flight lines in the vicinity and cumulative impact on birds arising from permitted wind farm development in the area have not been adequately assessed. The Board is, therefore, unable to complete an environmental impact assessment. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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88. 2017 – GALWAY – PL 07.247582 – Frank Ó Domhnaill and Richard Bourns

89. "…. The proposed wind farm will comprise the provision of a total of up to five number wind turbines with a maximum overall blade tip height of up to 169 metres…"

90. REASONS AND CONSIDERATIONS –

The proposed development would be located within 15 kilometres from an extensive range of European sites (Special Areas of Conservation and Special Protection Areas). It would also be located in close proximity to the River Suck Callows Special Protection Area (Site Code 004097), the Middle Shannon Callows Special Protection Area (Site Code 004096) and the River Little Brosna Callows Special Protection Area (Site Code 004086), which are designated for their importance to wintering and migratory birds, wetland birds, and waterfowl. The wind farm site is potentially used and overflown by a range of bird species that are listed as conservation interests for these nearby Special Protection Areas, and the proposed development would cause a disturbance and pose a potential collision risk to these species, which include Whooper Swan, Lapwing and Golden Plover, arising from the construction and operation of the wind farm.

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91. 2014 – KERRY – PL 08.243129 – SWS Energy Limited

92. a wind farm consisting of nine number turbines (eight with a maximum tip height of 125 metres and one with a maximum tip height of 110 metres), a meteorological mast up to 80 metres in height, two number borrow pits,

93. REASONS AND CONSIDERATIONS –

1. Having regard to:
(a) the extensive, elevated and exposed nature of the receiving environment and the open nature of the immediately adjoining lands which in turn adjoin or are proximate to designated sites and areas of high or very high landscape value and sensitivity,
(b) the location of the site within the Mangerton Mountain and Owbaun River Valley Landscape Character Area as set out in the Kerry County Council Renewable Energy Strategy 2012,
(c) the location adjacent to the Mangerton Archaeological Landscape as set out in the Kerry County Council Renewable Energy Strategy 2012,
(d) the designation of views and prospects for protection from the R569 Regional Road to the east of the site, and
(e) the potential for adverse cumulative visual impact with the extensive existing and permitted wind energy developments in the area to the west of the R59 Regional Road, it is considered that the proposed wind farm development would create a significant visual intrusion in this important landscape and would be excessively dominant and visually obtrusive when viewed from the surrounding landscape. The proposed wind energy development would, therefore, both on its own and in combination with other such developments in the general area, seriously injure the designated views and prospects in the vicinity and the visual amenities of the area and would be contrary to the provisions of the Kerry County Development Plan 2009-2015.
2. Given the relatively recent re-introduction of the White-tailed Sea Eagle to Ireland the Board is not satisfied that the proposed development would not negatively impact on this formerly native species which is also a species listed in Annex 1 of the Birds Directive, in view of the proximity of the site to areas known to be important roost sites. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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94. 2014 – KILDARE – PL 09.243523 – Bord na Móna Energy Limited

95. wind monitoring mast with instruments up to 100 metres in height.

96. REASONS AND CONSIDERATIONS –

The proposed development by reason of negative impact which the mast would have on the air navigability of the area, would decrease the utility of the area for flight operations and training. Furthermore, the proposed development would indirectly cause an increased risk of airspace infringements, which would result in a risk to the safety of air traffic. It is considered that the proposed development would endanger and interfere with the safety of aircraft and the safe and efficient navigation thereof, and would, therefore, be contrary to the proper planning and sustainable development of the area.

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97. 2004 – KILKENNY – PL 10.205800 – Ecopower Developments Limited

98. five wind turbines up to 67 metres hub height and up to 33 metres blade length, one 60 metre meteorological mast

99. REASONS AND CONSIDERATIONS –

The proposed five turbine wind farm development would be situated along a crest in a visually sensitive 'Area of High Amenity' as designated in the current development plan for the area. The proposed development, both in itself and by the precedent which the grant of permission for it would set for other similar development in this 'Area of High Amenity', would be unduly prominent and visually obtrusive, would be prejudicial to the natural beauty of the area and would interfere with the character of this designated landscape. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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100. 2006 – KILKENNY – PL 10.214844 – Ecopower Developments Limited

101. five number wind turbines up to 85 metres overall height, one number 50 metre meteorological mast with

102. REASONS AND CONSIDERATIONS –

The proposed five turbine wind farm development would be situated along a crest in a visually sensitive 'Area of High Amenity' as designated in the current development plan for the area. The proposed development, both by itself and by the precedent a grant of permission for it would set for other similar development in this 'Area of High Amenity' would be unduly prominent and visually obtrusive, would be detrimental to the natural beauty of the area and would interfere with the character of this designated landscape. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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103. 2003 – LAOIS – PL 11.201618 – David Maher

104. Erection of a small scale (2.5 kw) wind turbine at Bracklone, Portarlington, County Laois.

105. REASONS AND CONSIDERATIONS –

It is considered that the proposed development, which is located in close proximity to both existing and proposed development, would seriously injure the amenities of the area and depreciate the value of property in the vicinity. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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106. 2004 – LAOIS – PL 11.205497 by Sheila Laydon (Gaoithe Saor Teoranta), Michael Broe and Thomas Connolly

107. Construction of a wind farm consisting of six wind turbines (80 metres hub height), electrical substation with control building, an 80 metre high meteorological mast...

108. REASONS AND CONSIDERATIONS –

1. Having regard to the scale and height of the proposed wind turbines and their proximity to existing dwellings, it is considered that the proposed development would seriously injure the amenities of property in the vicinity, by reason of visual obtrusiveness and noise generation. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

2. The site of the proposed development is located within the Killeshin Plateau, described as a primary area of natural environmental quality and designated an Area of Special Development Control under the current Laois County Development Plan. The proposed development would constitute a visually obtrusive form of development in this landscape, in particular when viewed from residential property in the vicinity of the site. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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109. 2004 – LAOIS – PL 10.205800 – Ecopower Developments Limited

110. five wind turbines up to 67 metres hub height and up to 33 metres blade length, one 60 metre meteorological mast

111. REASONS AND CONSIDERATIONS –

The proposed five turbine wind farm development would be situated along a crest in a visually sensitive 'Area of High Amenity' as designated in the current development plan for the area. The proposed development, both in itself and by the precedent which the grant of permission for it would set for other similar development in this 'Area of High Amenity', would be unduly prominent and visually obtrusive, would be prejudicial to the natural beauty of the area and would interfere with the character of this designated landscape. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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112. 2015 – MAYO – 16.PA0031 – Coillte

113. Construction of a wind farm comprising 48 number wind turbines with a maximum electricity generating capacity up to a maximum of 150 megawatts. 38 number turbines will have a maximum tip height of up to 150 metres, comprising a hub height of up to 100 metres and a blade length of up to 60 metres....

114. REASONS AND CONSIDERATIONS –

Having regard to:
i) the scale of the proposed development comprising turbine bases, access tracks, control buildings and related works, its widely dispersed spatial extent and unconsolidated nature;
ii) the exceptionally sensitive nature of the location of the proposed development in an area of extensive commercial forestry in close proximity to a number of designated and protected habitats in a generally open landscape characterised by blanket bog, lakes, ponds and watercourses;
iii) the isolation of the subject lands from the public roads necessitating a relatively long access road through third party lands;
iv) the necessity for a further extended access track to service a remote and isolated borrow pit;
v) the proposed mitigation measures set out in the application and supporting documentation, including the environmental impact statement and the Natura impact statement and as clarified or modified at the oral hearing, and
vi) the report and recommendation of the Inspector, the general conclusions of which are accepted by the Board,

the Board is not satisfied, on the basis of the information provided, and notwithstanding the inclusion of some of the subject lands within areas identified in the Renewable Energy Strategy for County Mayo 2011-2020 either as suitable for large scale wind farm development or as open for consideration for such development, that the development as proposed would not adversely affect the integrity of certain designated sites (including certain European sites) in view of those sites' conservation objectives. Specifically, the Board is not satisfied that the development as proposed would not have the potential to impact negatively on the surface and groundwater hydrology of those sites by, inter alia, peat slippage and changes to the morphology and flows in natural streams and rivers. The designated sites of concern are:

- Bellacorick Bog Complex candidate Special Area of Conservation (Site Code 001922);

- Glenamoy Bog Complex candidate Special Area of Conservation (Site Code 000500);

- Inagh Bog proposed Natural Heritage Area (Site Code 002391), and

- Ummerantarry Bog proposed National Heritage Area (Site Code 001570).

Having regard to the above, the Board considers that the proposed development would be contrary to the proper planning and sustainable development of the area.

115. 2004 – MAYO – PL 16.206517 – Airtricity Development (Ireland) Limited and Coilte Teoranta

116. 'Construction of a wind farm consisting of 29 wind turbines (maximum hub height 65 metres and maximum blade diameter 80 metres with a total height not exceeding 100 metres), a 110 kV substation, including pylon and control building, one 65 metre high meteorological mast, construction upgrading of site entrances, site tracks and associated works at Glenora, Ballykinletteragh, Lugnalettin and Sralagagh West, Ballycastle, County Mayo.'

117. REASONS AND CONSIDERATIONS –

1. The proposed development is sited on the slopes of Maumakeogh Mountain, of which the ridgeline is designated as vulnerable, in the current Mayo County Development Plan. It is an objective of the planning authority, as set out in the development plan, to recognise and facilitate appropriate development in a manner that has regard to the character and sensitivity of the landscape, to ensure that the development will not have a disproportionate effect on the existing or future character of a landscape in terms of location, design and visual prominence, and to ensure that development will have regard to the effects on views from the public realm towards sensitive or vulnerable features and areas. This objective is considered reasonable. It is considered that the proposed wind farm sited at this location, which would be intervisible with existing and permitted wind farm developments at Bellacorick, would constitute an obtrusive development which would detract from the rural character and scenic amenities of this sensitive and vulnerable area. The proposed development would, therefore, conflict with the provisions of the development plan, would seriously injure the visual amenities of the area and would be contrary to the proper planning and sustainable development of the area.

2. Having regard to the extent of existing and permitted wind farm development in the general Bellacorick area, it is considered that the proposed wind farm development at this location would be premature pending the preparation of a Wind Energy Strategy for County Mayo, in accordance with objective TI-RE 3 of the current Mayo County Development Plan. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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118. 2015 – MEATH – PL 17.244357 – Cregg Wind Farm Limited

119. '10 hear permission for construction, operation and decommissioning of a wind farm of up to six number wind turbine generators to export electricity to the national grid. Each turbine will be up to 150 metres to blade tip height with an associated crane hardstand....'

120. REASONS AND CONSIDERATIONS –

Having regard to the Wind Energy Development Guidelines, Guidelines for Planning Authorities issued by the Department of the Environment, Heritage and Local Government, June 2006, to the policies and objectives set out in the current Meath County Development Plan including the provisions in relation to designed landscapes, historic parks, gardens and demesnes (Section 9.6.13), to the height and spatial layout of the proposed six number wind turbines, to the potential for the wind turbines to unduly interfere with views from Whitewood House, a protected structure in the Meath County Development Plan (MH005-104), and to the failure to demonstrate adequate consideration of alternatives, it is considered that the development as proposed would be contrary to CH OBJ 22 of the County Meath Development Plan which seeks "to discourage development that would lead to a loss of, or cause damage to, the character, the principle components of, or the setting of historic parks, gardens and demesnes of heritage significance". The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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121. 2016 – MEATH – 17.PA0038 – North Meath Wind Farm Limited

122. 'Construction of three number wind farm clusters comprising a combined total of up to 46 number wind turbines with a maximum tip height of up to 169 metres and associated turbine foundations, hardstanding areas and drainage,

123. REASONS AND CONSIDERATIONS – Having regard to:
(a) the Wind Energy Development Guidelines – Guidelines for Planning Authorities issued by the Department of the Environment, Heritage and Local Government in June, 2006, and, in particular, the provisions of Chapter 3 'Wind Energy and the Development Plan' and Chapter 6, 'Aesthetic Considerations in Siting and Design';
(b) the policies and objectives of the Meath County Development Plan 2013-2019, including, inter alia, in respect of renewable energy, wind energy, tourism, cultural heritage, protected structures, views and prospects and landscape character assessment (noting the lack of a Wind Energy Strategy in the Plan);
(c) the need to treat wind farm development in this area with particular sensitivity given the proximity of the development to a large number of houses located in the open countryside and within a network of existing villages at Moynalty, Carlanstown, Castletown, Lobinstown and in the nearby town of Kells;
(d) the location of the proposed development in an area with a history of settlement and an associated legacy of places and features of cultural importance from many historical periods;
(e) the character of the receiving landscape;
(f) the scale, height and number of the proposed wind turbines,
(g) the submissions and observations received in relation to the proposed development, and
(h) the report and recommendation of the Inspector,

It is considered that a wind farm of the scale, extent and height proposed would visually dominate this populated rural area, would seriously injure the amenities of property in the vicinity, would interfere with the character of the landscape and would not be in accordance with the overall development objectives of the Meath County Development Plan 2013-2019. Furthermore, it is considered that the proposed development would not align with the Wind Energy Development Guidelines as this guidance document did not envisage the construction of such extensive large scale turbines in an area primarily characterised as a hilly and flat farmland landscape and in such proximity to high concentrations of dwellings. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.
In deciding not to accept the Inspector's recommendation to grant permission, the Board considered that, notwithstanding the provisions of the National Renewable Energy Action Plan, and other national and European Union policies in support of renewable energy development (including wind), the impacts of this very large development on the substantial local residential population, and the impacts of the proposed development on landscape and cultural heritage, would not be acceptable in this location. The Board further considered that the number and height of the proposed turbines would significantly exceed the landscape's "medium potential capacity" to accommodate wind farm development as set out in the Landscape Character Assessment of the Meath County Development Plan 2013-2019.

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124. 2011 – MEATH – PL 17.238669 – Highpoint Communications Limited

125. Construction of a 30 metre high lattice telecommunications/3G Broadband support structure, carrying 6 number panel antennas

126. REASONS AND CONSIDERATIONS –
By virtue of its location adjacent to the Royal Canal, the proposed development would seriously injure the visual character and scenic amenities of the area in general and the canal in particular. As such it would be contrary to the advice given at section 4.3 of the Guidelines for Planning Authorities on Telecommunications Antennae and Support Structures issued by the Depatment of the Environment and Local Government in July 1996 that care should be taken over sensitive landscapes, and policy HER 40 of the Meath County Development Plan, 2007-2013 to protect and enhance the heritage and recreational potential of the Royal Canal. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

127. 2017 – MEATH – 17.PA0046 – NORTH MEATH WIND FARM LTD, C/o ELEMENT POWER

128. Permission for a period of 10 years and a 30-year operational life from the date of commissioning of the entire wind farm. The proposed development will consist of the following elements: Erection of up to 25 wind turbines with a tip height of up to 169 metres,

129. REASONS AND CONSIDERATIONS –

(a) the Wind Energy Development Guidelines – Guidelines for Planning Authorities issued by the Department of the Environment, Heritage and Local Government in June, 2006, and, in particular, the provisions of Chapter 3 'Wind Energy and the Development Plan' and Chapter 6 'Aesthetic Considerations in Siting and Design';

(b) the policies and objectives of the Meath County Development Plan 2013-2019, including, inter alia, in respect of renewable energy, wind energy, tourism, cultural heritage, protected structures, views and prospects and landscape character assessment (noting the lack of a Wind Energy Strategy in the Plan);

(c) the need to treat wind farm development in this area with particular sensitivity given the proximity of the development to a large number of houses located in the open countryside and within Carlanstown and in the nearby town of Kells;

(d) the location of the proposed development in an area with a history of settlement and an associated legacy of places and features of cultural importance from many historical periods;

(e) the character of the receiving landscape, including the contextual setting of this landscape for cultural heritage of international, national and regional importance.

(f) the large spatial extent of the proposed wind farm and the tall height of the proposed wind turbines, and

(g) the submissions and observations received in relation to the proposed development, and

(h) the report and recommendation of the Inspector,

It is considered that a wind farm of the spatial extent and wind turbines of the height proposed would visually dominate this populated rural area, would seriously injure the amenities of property in the vicinity, would interfere with the character of the landscape and would not be in accordance with the overall development objectives of the Meath County Development Plan 2013-2019.

Furthermore, it is considered that the proposed development would not align with the Wind Energy Development Guidelines as this guidance document does not envisage the construction of wind farms of large spatial extent and generally does not envisage wind turbines of tall height within an area primarily characterised as a hilly and flat farmland landscape and in such proximity to high concentrations of dwellings. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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130. 2013 – OFFALY – PL 19.242354 – Galetech Energy Developments Ltd

131. Development comprising the erection of 10 number wind turbines each with a hub height of up to 110 metres and rotor diameter of up to 120 metres, with an overall maximum tip height of up to 170 metres

132. REASONS AND CONSIDERATIONS –

Having regard to the nature of the receiving environment and the open nature of the immediately adjoining lands and the size and scale of the proposed turbines, it is considered that a wind farm development of the scale proposed would create a significant visual intrusion in this landscape by reason of the height and spatial extent of the proposed turbines which would be excessively dominant and visually obtrusive when viewed from the surrounding countryside and villages. The proposed wind energy development would, therefore, seriously injure the visual amenities of the area, would be contrary to the provisions of the Wind Energy Guidelines for Planning Authorities issued by the Department of Environment, Heritage and Local Government in June, 2006 and would be contrary to the proper planning and sustainable development of the area.

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133. 2005 – TIPPERARY – PL 23.213125 – Sean Clancy

134. Construction of two wind turbines, an electrical sub-station, a meteorological mast 40 metres high and associated ancillary works at Glengoole South, Mellisson and Ballynastick, Thurles, County Tipperary. The turbines will have a tower height of 65 metres and a blade diameter of 71 metres. (as revised by further public notice received by the planning authority on the 23rd day of May, 2005).

135. REASONS AND CONSIDERATIONS –

Having regard to the nature of the proposed development, the location of the two number wind turbines, and the scale, height and proximity of the proposed turbines to existing residential property, it is considered that the proposed development would be visually obtrusive and would seriously injure the residential amenities of property in the vicinity. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

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136. 2006 – TIPPERARY – PL 22.214114 – Curraghbristy Wind Farm Limited

137. 'Development of a 24 megawatt wind farm comprising 12 number two megawatt wind turbines with steel towers and composite fibre rotor blades, of hub height up to 67 metres, a rotor diameter of up to 80 metres and base to blade-tip height of up to 107 metres....'

138. REASONS AND CONSIDERATIONS –

It is the policy of the planning authority to protect a number of views and prospects of special amenity value or special interest as indicated in the current development plan for the area. This policy is considered reasonable. It is considered that the proposed development, by reason of its nature and scale and the location of turbines along the ridge of the Benduff, Borrisnoe and Kilduff Mountains, adjacent to the Devilsbit Mountain, would interfere with, and detract from, the existing character of the landscape, would be highly visually obtrusive over a wide area of landscape and would seriously injure the visual amenities of the area. The proposed development would, therefore, contravene the policy of the planning authority and be contrary to the proper planning and sustainable development of the area.

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139. 2014 – TIPPERARY – PL 22.243470 – Archai Resources Limited

140. Development consisting of a ten year planning permission for the construction, operation and decommissioning of a wind farm of up to four number wind turbine generators to export electricity to the national grid. Each turbine will be up to 132 metres to blade tip height with an associated crane hardstanding.

141. REASONS AND CONSIDERATIONS –
Having regard to the scale and height of the proposed wind turbines; to the nature of the receiving landscape at the interface of upland and lowland areas; to the absence of a back drop for the development; to the wide area to the north and west from which the development will be viewed and also its relative prominence when viewed from the immediate area and nearby transportation routes, it is considered that the proposed development would represent a visually dominant development in what is a sensitive landscape as identified in the County Landscape Character Assessment 2009. The proposed development would, therefore, be contrary to the provision of policy SERV 23 as stated in the current North Tipperary County Development Plan 2010 and to the strategic approach adopted in the plan in considering windfarm type development which are considered to be reasonable, would seriously injure the visual amenities of the area and of property in the vicinity and would be contrary to the proper planning and sustainable development of the area.

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142. 2004 – WATERFORD – PL 24.206203 – Edward Sheehan

143. 'Erection of a wind farm comprising seven wind turbines with towers up to 46 metres in height and rotor diameter up to 62 metres and ancillary equipment for electricity generation including substation control building and monitoring mast at Knocknalougha and Knockaveelish Townlands, County Waterford.'

144. REASONS AND CONSIDERATIONS –
The site is located in an area designated as scenic landscape in the current Waterford County Development Plan and adjoins lands which are designated as vulnerable and these include skylines in the Knockmealdown Mountains. It is the policy of the planning authority, as set out in the development plan, to conserve the overall character of these landscapes. This policy is considered reasonable. It is considered that the proposed development would seriously injure the scenic and visual amenities of the area, would seriously detract from the distinct qualities of the area and would set an undesirable precedent for further similar developments in the upland areas of the Knockmealdown Mountains. The proposed development would, therefore, contravene the policies and provisions of the planning authority and be contrary to the proper planning and sustainable development of the area.

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145. 2004 – WATERFORD – PL 24.206203 – Edward Sheehan

146. seven wind turbines with towers up to 46 metres in height and rotor diameter up to 62 metres

147. REASONS AND CONSIDERATIONS –
The site is located in an area designated as scenic landscape in the current Waterford County Development Plan and adjoins lands which are designated as vulnerable and these include skylines in the Knockmealdown Mountains. It is the policy of the planning authority, as set out in the development plan, to conserve the overall character of these landscapes. This policy is considered reasonable. It is considered that the proposed development would seriously injure the scenic and visual amenities of the area, would seriously detract from the distinct qualities of the area and would set an undesirable precedent for further similar developments in the upland areas of the Knockmealdown Mountains. The proposed development would, therefore, contravene the policies and provisions of the planning authority and be contrary to the proper planning and sustainable development of the area.

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148. 2011 – WESTMEATH – PL 25.237728 – Galetech Energy Developments

149. Construction of 12 number wind turbines of hub height 85 metres and rotor diameter 100 metres, with an overall height not exceeding 135 metres,

150. REASONS AND CONSIDERATIONS –

The site of the proposed windfarm development is located in the vicinity of Lough Ennell, in an area of good quality, small scale landscape, containing the remnants of 18/19th century demesnes of particular significance in terms of amenity, tourism and heritage. The area also contains a large number of new houses. It is the policy of the planning authority to assess any development proposals in areas of demesne landscape according to best practice guidelines for historic landscapes. It is considered that insertion of a windfarm into this landscape would constitute a dominant and obtrusive feature in the area, which would interfere with the character of the landscape which it is necessary to preserve. Furthermore, having regard to the statements in the current Westmeath County Development Plan 2008-2014, generally advocating accommodation of windfarms in the extensive cut-over peatland areas of the county and also having regard to the sensitivities of the area and its environs, it is considered that the proposed development, notwithstanding its location in an area of "medium capacity" in the Windfarm Capacity Map of the said Development Plan, would not be in accordance with the overall development objectives of the current County Development Plan. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

ENDS