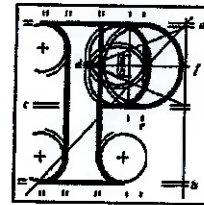


Our Case Number: ABP-309770-21

Planning Authority Reference Number:



**An
Bord
Pleanála**

Daryl Kennedy
Grangemore
Raharney
Co. Westmeath

Date: 19 May 2021

Re: Proposed development of up to 15 wind turbines with a tip height of up to 175 metres and laying of approximately 26km of underground electricity cabling to facilitate the connection to the national grid, and all associated site development works
Townlands of Camagh, Carlanstown, Coole, Clonrobert, Clonsura, Doon, Monkstown, Mullagh, Newcastle and other townlands, Co. Westmeath

Dear Sir / Madam,

An Bord Pleanála has received your observation or submission in relation to the case mentioned above and will take it into consideration in its determination of the matter. Please accept this letter as a receipt for the fee of €50 that you have paid.

Please be advised that copies of all submissions / observations received in relation to the application will be made available for public inspection at the offices of the Local Authority and at the offices of An Bord Pleanála when they have been processed by the Board.

For further information on this case please access our website at www.pleanala.ie and input the 6-digit case number into the search box. This number is shown on the top of this letter (for example: 303000).

Yours faithfully,

Eimear Reilly
Administrative Assistant
Direct Line: 01-8737184

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Submission to: An Bord Pleanála, 64 Marlborough St, Dublin 1

Person making the submission: Daryl Kennedy, Grangemore, Raharney, Co. Westmeath.

Submission development date: May 13th 2021.

Submission Case reference: PA25M.309770

Planning Application: Proposed development of up to 15 wind turbines with a tip height of up to 175 metres and laying of approximately 26km of underground electricity cabling to facilitate the connection to the national grid, and all associated site development works.

Proposed location: Townlands of Camagh, Carlanstown, Coole, Clonrobert, Clonsura, Doon, Monktown, Mullagh, Newcastle and other townlands, Co. Westmeath.

Planning Applicant: Coole Wind Farm Ltd

Subject Matter of this submission and observation:

- that the proposed project does not qualify for Strategic Infrastructural Development status with regards to the Planning & Development (Amendment) Act 2010, Seventh Schedule.
- that the designation of SID status is contrary to proper planning and sustainable development.

See immediately following, extract from Irishstatutebook.ie

Planning and Development (Amendment) Act 2010

The screenshot shows the Irish Statute Book website. The main heading is 'Planning and Development (Amendment) Act 2010'. Below this, there is a section titled 'Seventh Schedule to the Act'. The text of the Act is displayed, including the definition of 'wind farm' and the criteria for Strategic Infrastructure Development (SID) status. The criteria are: 'An installation for the harnessing of wind power for energy production (a wind farm) with more than 25 turbines or having a total output greater than 50 megawatts.' and 'An installation for the harnessing of wind power for energy production (a wind farm) with more than 50 turbines or having a total output greater than 100 megawatts.'

The Reasons, considerations & arguments being made in relation to said submission and observation:

the law referenced above clearly states that SID status is awarded to Energy Infrastructure, and in this instance "harnessing of wind power for energy production", where a wind farm consists of "more than 25 turbines or having a total output greater than 50 megawatts".

The Coole Windfarm does not meet these criteria for the following reasons:

- (a) Proposed 15 turbines is less than the 25 criterion;
- (b) The Wind farm, as understood from the planning consent application, does not have "a total output greater than 50 megawatts".

In relation to (b) above specifically, total output is based on a combination of many factors which are accounted for in energy generation as Capacity factors (further detail and context below*).

Hence for a proposed windfarm of 15 turbines, each being of possible 6MW Turbine design & nameplate capacity, 2 different models of Wind farm output are put forward here to determine best estimate of proposed wind farm output; each model is specific to a selected power generation Capacity Factor; Model 1 uses a lower capacity factor of 30% based on Irish historical data (Reference A below) whereas Model 2 uses an upper factor of 35%, based on the Coole Windfarm model approach (Reference B below).

Coole Windfarm Total Outputs are calculated as follows:

- ◆ Model 1 : $15 \times 6\text{MW} \times 30\% = 27 \text{ MW Output}$
- ◆ Model 2 : $15 \times 6\text{MW} \times 35\% = 31.5 \text{ MW Output}$

The modelled ranges show Output, in both scenarios well below the 50MW threshold limit required for SID status.

Additional note: the planning application is clear in the number of turbines proposed as well as location, groundworks and many other construction and design specifics. However, it is significantly lacking in definition of the Turbine power rating, other than giving a value of 6MW (see Reference B below) as an assumption. A decision as important as Strategic Infrastructural Development needs to be based on rigorous data and information, rather than assumptions.

The implications of the proposed development for proper planning and sustainable development:

1. The Output of the proposed windfarm does not meet the criteria for SID and this is not aligned with proper planning and sustainable development
2. SID status is being assumed without clarity of turbine output. As SID status is based on specific criteria in law, it appears contrary to proper planning that a Turbine max power rating, mentioned only in a modelling assumption, is being taken as meeting SID criteria.

Reference A: Wind Energy Capacity Factors

Capacity factor is a unitless ratio of an actual electrical energy output over a given period of time relative to the maximum possible electrical energy output over that period. The capacity factor is defined for any electricity producing installation, whether fuel consuming power plant or one using renewable energy, such as wind or the sun. The maximum possible energy output of a given installation assumes its continuous operation at full nameplate capacity over the relevant period. The actual energy output during that period and the capacity factor vary greatly depending on a range of factors. For wind energy, the capacity factor will depend on turbine height, blade design, turbine location (typically low in centres of a landmass, high on coasts), age of equipment, season (winter typically with higher wind speeds), predominant weather patterns etc.

Below is a selection of materials describing measured Wind Energy Capacity Factors in Ireland over recent years, with associated references. We can assume an average of 30% for this submission.

- ◆ Ireland's instantaneous wind power generation fluctuates between near zero and 3,347 MW due to weather, with an average capacity factor of 32.3% in 2015.[1]
- ◆ The average national wind energy capacity factor in 2019 was 28% [2]

- ◆ "2017 was a low wind year with an average capacity factor of 27.5%, which is 2.5% lower than the long term average (around 30%)." [3]
- ◆ 2030 Wind Study model completed by Baringa in 2018 and commissioned by the IWEA: "For modelling purposes, we have assumed an average availability of 35% for onshore wind in all years of the study. Actual onshore wind availability is currently lower than this, as the existing wind fleet was installed over a 25-year period."

[1] "Fuel Mix Disclosure and CO2 Emissions 2015" (PDF). Commission for Energy Regulation. 26 August 2016. p. 10. Retrieved 21 January 2017.

[2] <https://community.ieawind.org/> : IEA WIND TCP IRELAND – 2019

[3] <https://community.ieawind.org/> : 2017 IEA WIND TCP ANNUAL REPORT

Note that Met Eireann Annual Average Wind Speed data 1981 to 2010 has Mullingar (14.1 kph) having the third lowest average wind speeds across Ireland, with only Kilkenny (12.8 kph) and Birr (12.4kph) lower.

Reference B Extraction from Coole Windfram Ltd Application Ch. 4 Description (MKO):

A rated output of 6 MW has been assumed throughout this document for various calculations. This results in an estimated installed capacity of 90 MW. Assuming an installed capacity of 90 MW, the Proposed Development therefore has the potential to produce up to 275,940 MWh (megawatt hours) of electricity per year, based on the following calculation:

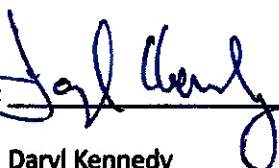
$$A \times B \times C = \text{Megawatt Hours of electricity produced per year}$$

where: A = The number of hours in a year: 8,760 hours

B = The capacity factor, which takes into account the intermittent nature of the wind, the availability of wind turbines and array losses etc. A capacity factor of 35% is applied here

C = Assumed rated output of the wind turbines: 90 MW

Submission prepared by:


Daryl Kennedy

Date: 13th May 2021