

Observation on Planning Appeal ABP-317446-23

To the Secretary,
An Bord Pleanála,
64 Marlborough Street,
Dublin 1, D01 V902

July 10th 2023

Observer No 1: John Callaghan, of 10 The Cloisters, Kells, Co. Meath. A82 C9Y7

Observer No 2: Sustainability 2050 of (An Environmental NGO)

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Development Description: *Development on a Site that includes a two storey residential property on lands to the south of the New Nangor Road (R134), Dublin 22; and on land within the townlands of Ballybane and Kilbride within Profile Park, Clondalkin, Dublin 22 on an overall site of 3.79hectares; The development will consist of the demolition of the two storey dwelling (207.35sqm) and associated outbuildings and farm structures (348.36sq.m); and the construction of 1 two storey data center with plant at roof level and associated ancillary development that will have a gross floor area of 12,893sqm that will consist of the following, 1 two storey data center (Building 13) with a gross floor area of 12,893sqm. It will include 13 emergency back-up generators of which 12 will be double stacked and one will be single stacked within a compound to the south-western side of the data center with associated flues that each will be 22.316m in height and 7 hot-air exhaust cooling vents that each will be 20.016m in height; The data center will include data storage rooms, associated electrical and mechanical plant rooms, loading bays, maintenance and storage spaces, office administration areas, and plant including PV panels at roof level as well as a separate house generator that will provide emergency power to the admin and ancillary spaces. Each generator will include a diesel tank and there will be a refuelling area to serve the proposed emergency generators; The data center will have a primary parapet height of 14.246m above ground level, with plant and screen around plus a plant room above at roof level. The plant room has an overall height of 21.571m; Construction of an internal road network and circulation areas, with a staff entrance off Falcon Avenue to the east, as well as a secondary vehicular access for service and delivery vehicles only across a new bridge over the Baldonnel Stream from the permitted entrance as granted under SDCC Planning Ref. SD21A/0241 from the south-west, both from within Profile Park that contains an access from the New Nangor Road (R134); Provision of 60 car parking spaces (to include 12 EV spaces and 3 disabled spaces), and 34 cycle parking spaces; Signage (5.7sq.m) at first floor level at the northern end of the eastern elevation of the data center building; Ancillary site development works will include footpaths, attenuation ponds that will include an amendment to the permitted attenuation pond as granted to the north of the Baldonnel Stream under SDCC Planning Ref. SD21 A/0241, as well as green walls and green roof. The installation and connection to the underground foul and storm water drainage network, and installation of utility ducts and cables, that will include the drilling and laying of ducts and cables under the internal road network within Profile Park. Other ancillary site*

development works will include hard and soft landscaping that will include an amendment to the permitted landscaping as granted under SDCC Planning Ref. SD21A/0241, lighting, fencing, signage, services road, entrance gates, and sprinkler tanks; An Environmental Impact Assessment Report (EIAR) has been submitted with this application.

Applicant: Vantage Data Centers DUB11 Ltd.

Address: Site within the townlands of Ballybane & Kilbride, Clondalkin, Dublin 22

Planning Reference: SD22A/0420

Dear Secretary,

The Board petitioned to refuse permission for the development on the following grounds.

Introduction

Data Centres are vital for the Irish Economy but they must be constructed and operated in a manner that is compatible with EU Climate related directives on renewable energy and energy efficiency.

Executive Summary

Government policy seeks to enable the 'twin transitions' of digitalisation and decarbonisation of our economy and society. These transitions can - and must be - complementary. For this to happen, digital and climate change policies need to move in tandem and this Statement sets out how this will be achieved in respect of data centres. Data centres are core digital infrastructure and play an indispensable role in our economy and society.

Data centres provide the foundation for almost all online aspects of our social and work lives, including video calling, messaging and apps, retail, banking, travel, media, and public service delivery such as healthcare and welfare. However, in the short term, there is only limited capacity for further data centre development, as the key state bodies, regulators and the electricity sector work to upgrade our infrastructure, connect more renewable energy and ensure security of supply.

The capacity that will be available will be in regional locations and must assist in national ambitions to deliver an efficient, low-carbon energy system. By addressing these capacity constraints now, we can build the longer-term foundations for a net-zero-ready economy and society that will be a competitive and attractive hub for decarbonised digital services, enabling the industries and services of the future.¹

¹ Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy July 2022
<https://assets.gov.ie/231142/e108d6fa-c769-4286-8fb4-0e2ff07548fe.pdf>

There has been a large change in the ambition of Climate and Energy related objectives as set out in the EU 2030 targets. The EU has adopted the following revised 2030 Energy and Climate Targets

| | Old 2030 Target | New 2030 Target |
|-------------------------|-----------------|-----------------|
| CO2 Emissions Reduction | 40% | 55% |
| Renewable Energy | 40% | 45% |
| Energy Efficiency | 30% | 39% |

The European Climate Law² writes into law the goal set out in the European Green Deal for Europe's economy and society to become climate-neutral by 2050. The law also sets the intermediate target of reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.

The EU Targets relate to all energy consumption across Electricity, Heat, and Transport Sectors.

The Irish Government have set out an amended Climate Action Plan 2023³

Key Targets

| Target | 2025 | 2030 |
|-----------------------------|------------|---------------|
| Renewable Electricity Share | 50% | 80% |
| Onshore Wind | 6 GW | 9 GW |
| Solar | Up to 5 GW | 8 GW |
| Offshore Wind | - | At least 5 GW |
| New Flexible Gas Plant | - | At least 2 GW |
| Demand Side Flexibility | 15-20% | 20-30% |

Renewable Generation does not operate all the time but only on a limited amount of the time. Ireland's principle renewable resources are wind and solar energy. While a target of 500 MW generation capacity was set out by Minister Ryan in his first term as Energy Minister it was no more than a pipe dream.

² Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law') <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32021R1119>

³ <https://assets.gov.ie/256997/b5da0446-8d81-4fb5-991e-65dd807bb257.pdf>

A key concept with renewable generation technology is the **Capacity Factor**.

Total Output in kWh per year

Name Plate output in kWh x 8766 hours

(there are 8766 hours in an average year)

Typical Annual Capacity Factors for Solar PV Generation are 10%

Typical Annual Capacity Factors for Wind Power range from 27% to 33%

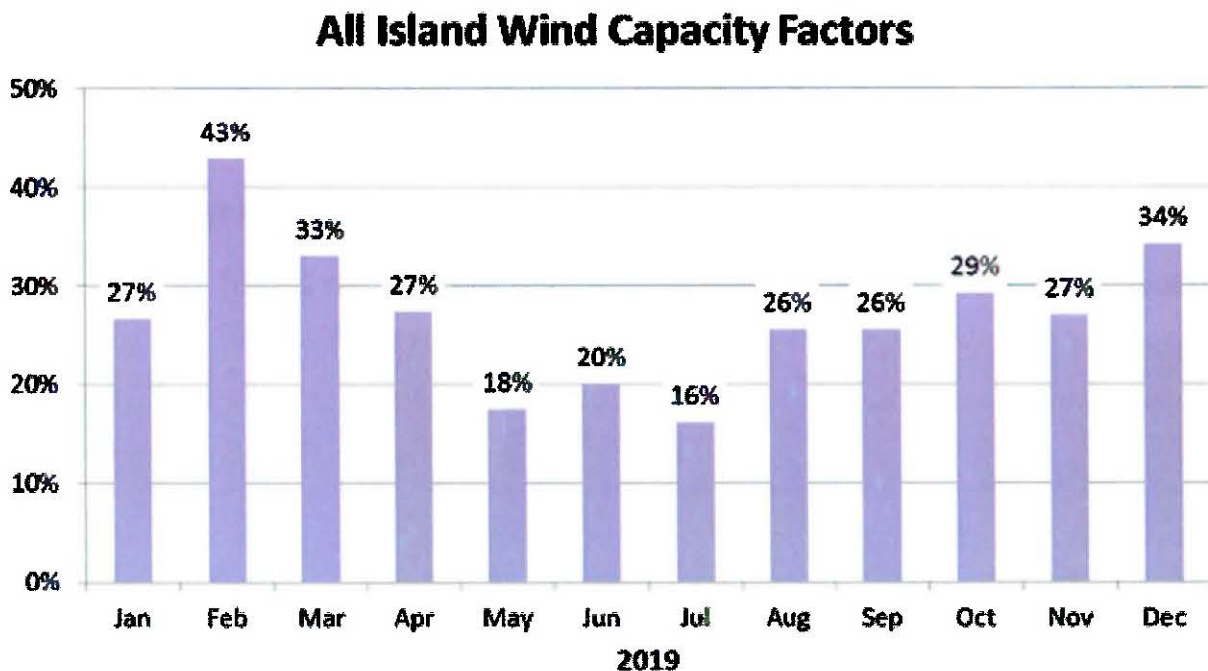


Figure 4: All-Island Monthly Wind Capacity Factors in 2019

The Figure above from Eirgrid's **Annual Renewable Energy Constraint and Curtailment Report 2019⁴** illustrates the variation in capacity factor for wind power by season.

Again the Wind Generation output graph (next page) from Eirgrid demonstrates the variable output of wind power.

⁴

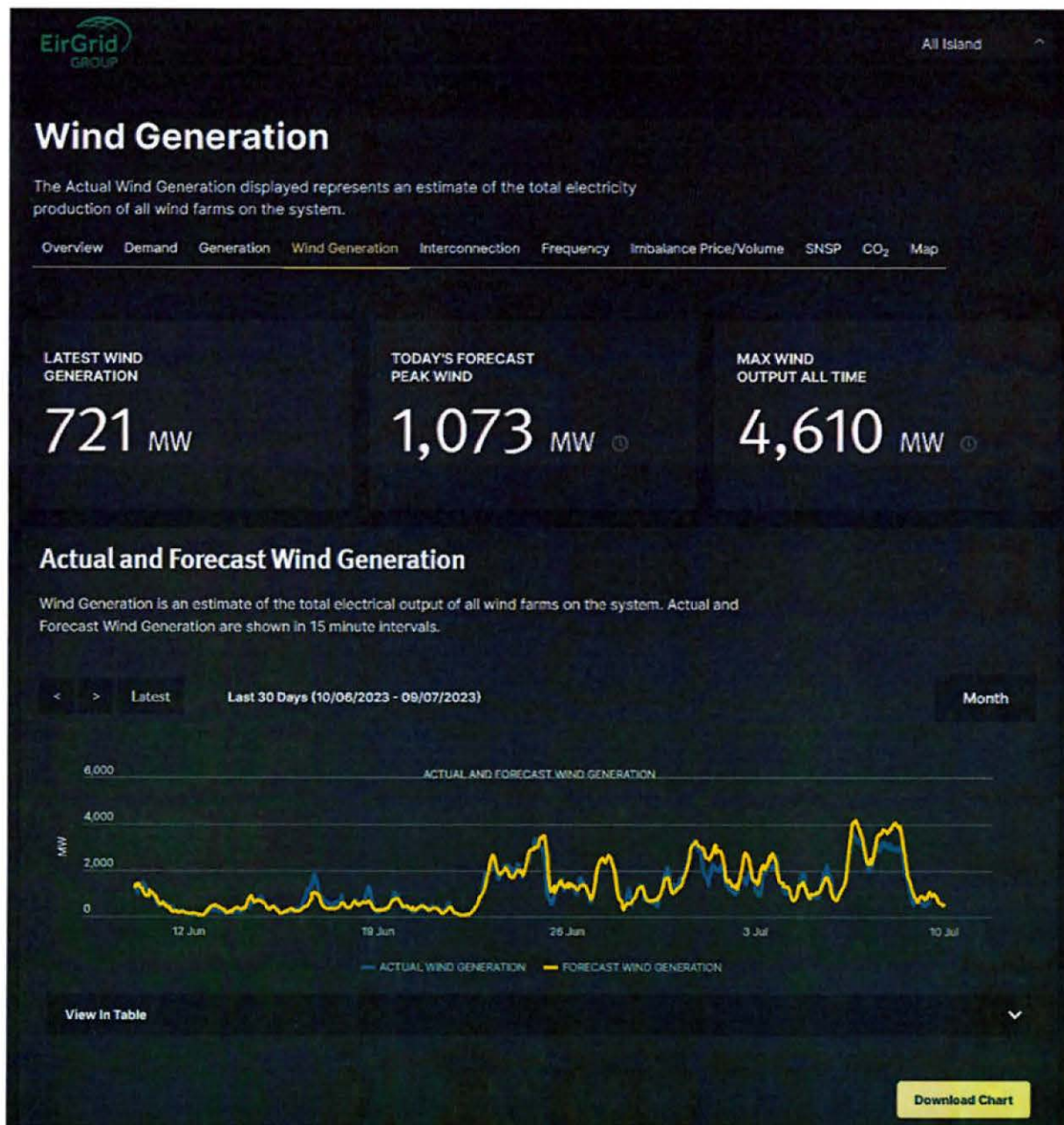
<https://www.eirgridgroup.com/site-files/library/EirGrid/Annual-Renewable-Constraint-and-Curtailment-Report-2019-V1.2.pdf>

Data Centres operate 8766 hours or 31,557,600 seconds a year and hence their power demand is permanent and cannot be provided by a renewable fleet based on solar and wind power generation without massive electricity storage.

Therefore Data Centres will increase demand and consumption for Natural Gas. Natural Gas is the cheapest fuel and it is admitted that on site generation can run on diesel, HVO, Biogas.

The EU view on the strong growth in the Irish Economy is that it cannot be on the back of fossil fuel. President Ursula Von Leyden.

*"A growth model centred on fossil fuels is simply **obsolete**," von der Leyen said, adding the goal of the EU's Green Deal energy transition was to create "a different growth model that is sustainable far into the future".⁵*



⁵ <https://www.reuters.com/business/energy/fossil-fuel-centred-growth-is-obsolete-says-eus-von-der-leyen-2023-05-15/>

Figure above clipped from Eirgrid Dashboard on 09/07/2003 at 11.15 am⁶

Any additional demand for energy which generates emissions, drives our emissions upwards rather than being climate neutral. The clear inference of the EU Commission's interpretation of the EU Law on Climate is that growth must be climate neutral.

Figure 107: Monthly electricity generation – January 2015 to September 2022

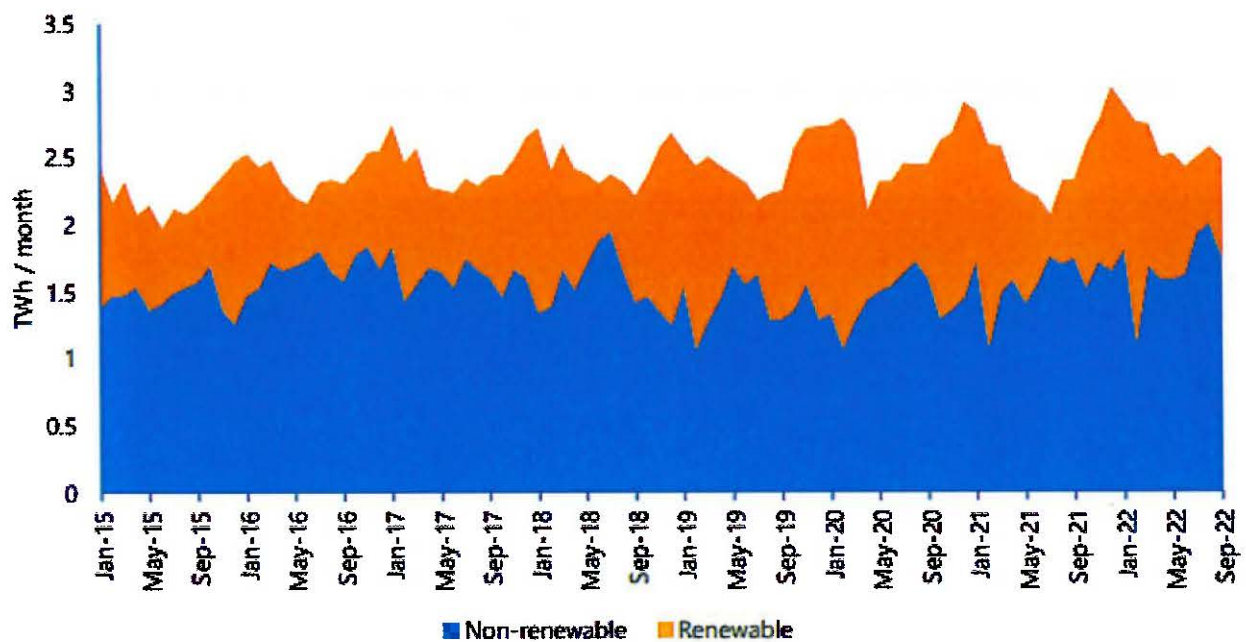


Figure above from SEAI ENERGY IN IRELAND 2022 Report⁷

The Applicant has not set out clearly the primary energy demand of the proposed facility for the various fuels proposed nor the efficiency of conversion to electricity.

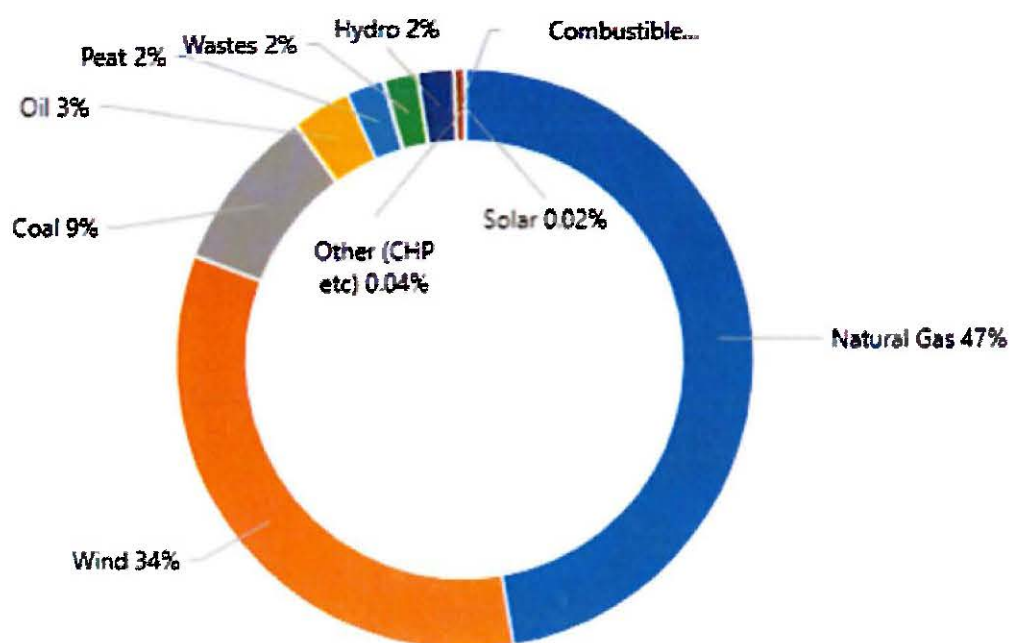
Coal and Gas⁸ are still a major inputs into the electricity system.

⁶ <https://www.smartgriddashboard.com/#all/wind>

⁷ Page 126 <https://www.seai.ie/publications/Energy-in-Ireland-2022.pdf>

⁸ SEAI Energy in Ireland 2022 page 130 <https://www.seai.ie/publications/Energy-in-Ireland-2022.pdf>

Figure 112: Sources of electricity generation – 12-month rolling average to September 2022



11.1.3 Spotlight on coal and oil in electricity generation

The latest statistics from the SEAI indicate that Energy Demand and Emissions are growing rather than reducing⁹.

⁹ <https://www.seai.ie/data-and-insights/seai-statistics/key-publications/energy-in-ireland/>

Latest energy trends in Ireland

Our annual publication looks at trends in national energy use and at the underlying driving forces, such as the economy and weather, and more recently the impacts of the COVID-19 pandemic. It also examines greenhouse gas emissions from energy use, energy security, cost competitiveness, and our progress towards EU renewable energy targets.

The data provided in this report is a key strand in the evidence base that SEAI provides to support the transition to a carbon neutral society.



5.4%

Energy Related CO₂ up



7.1%

Transport Demand up



12.5%

Renewable Energy Share

Although, Ireland has committed to reducing its CO₂ emissions by 4.8% per annum from 2021- 2025 under the first carbon budget, energy related emissions were instead up 5.4% in 2021. They are now back at the same level as 2019 after a temporary reduction due to COVID-related restrictions.

Provisional estimates for energy demand in 2022, based on extrapolations of January to September's monthly data suggest a strong rebound in 2022 of +6% in energy demand, indicating that Ireland's energy demand has almost fully recovered to its pre-COVID 2019 levels

As evident from the data and analysis in this report, our energy use and energy-related emissions have now fully rebounded following the lifting of Covid-related restrictions. Despite the upgrade of a further 40,000 homes, the addition of almost 40,000 EVs and a broad range of other actions including in the public sector and communities around Ireland over the last two years, our emissions are on an upward trajectory. As our economy recovers, and our population grows, it is more important than ever to deliver energy efficiency measures, while shifting this efficient demand to dependence on renewable energy sources.

William Walsh, SEAI CEO

2021 and 2022 Highlights

Emissions

- Although, Ireland has committed to reducing its CO₂ emissions by 4.8% per annum from 2021- 2025 under the first carbon budget, energy related emissions were instead up 5.4% in 2021.
- Provisional data from monthly surveys indicate that energy related emissions will increase by a further 6% in 2022.

- A rebound in car use after the lifting of COVID-19 restrictions is a significant contributor to Ireland's increased emissions.
- The 35.5 MtCO₂ of energy-related CO₂ (including international aviation) accounts for over half of all GHG emissions in Ireland.
- Due to a low wind year for renewable generation in 2021, we used more coal and oil for electricity generation, which increased the carbon intensity of our electricity by 12.5%

Transport

- Energy demand for transport rose by 7.1% from its significant suppression in 2020.
- Provisional data from monthly surveys indicate that energy demand for transport will rebound more fully in 2022 by up to 18%, returning us to roughly pre-COVID levels.
- The transport sector emitted 12.0 MtCO₂ in 2021 and accounted for 34% of Ireland's total energy emissions.
- Transport remained the most carbon intensive demand sector, with 95.5% of transport energy demand coming from fossil fuels in 2021
- Private car use is by far the largest transport sub-sector accounting for 43% of all transport energy demand in 2021

Residential

- The residential sector emitted 9.8 MtCO₂ in 2021, which was 27.5% of Ireland's total energy emissions
- Oil remains the dominant source of residential energy demand in 2021, and accounted for 41% of all home energy use, followed by electricity at 25% and gas at 19%.

Business

- Ireland's business activities consist of our industry sector, which emitted 6.2 MtCO₂ in 2021, and our commercial and public services sector, which emitted 6.3 MtCO₂.
- Together, the industry and services sectors accounted for 34.9% of Ireland's energy demand in 2021.
- The ICT sub-sector, which includes data centres, accounted for 3.9% of Ireland's total energy demand, and 16.5% of its electricity demand in 2021.
- Energy demand in the ICT sub-sector increased by 17.9% in 2021.

Ireland has failed generally to comply with Commission Recommendation of 18 June 2019 on the draft integrated National Energy and Climate Plan of Ireland covering the period 2021-2030¹⁰

HEREBY RECOMMENDS IRELAND TAKES ACTION TO:

1. *Put forward additional measures, notably in the building and transport sectors, to cost-effectively reduce the significant projected gap to its 2030 greenhouse gas target for sectors not covered by the EU emissions trading system of -30 % compared to 2005.*
2. *Put forward, as Ireland's contribution to the Union's 2030 target for renewable energy, a share of renewable energy of at least 31 % as indicated by the formula in Annex II under Regulation (EU) 2018/1999. Include an indicative trajectory in the final integrated national energy and climate plan that reaches all the reference points pursuant to Article 4(a)(2) of Regulation (EU) 2018/1999 in accordance with that share, in view of the need to increase the level of efforts for reaching this target collectively. Put forward detailed and quantified policies and measures that are in line with the obligations laid down in Directive (EU) 2018/2001 of the European Parliament and Council (8), to enable a timely and cost-effective achievement of this contribution. Ensure that the renewable energy target for 2020 set in Annex I of*
3. *Directive 2009/28/EC of the European Parliament and of the Council (9) is fully met and maintained as a baseline from 2021 onwards, and explain how it intends to meet and maintain such baseline share. Put forward trajectories and corresponding measures in the heating and cooling sector and the transport sector to meet the*

¹⁰ [https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1576058251741&uri=CELEX:32019H0903\(07\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1576058251741&uri=CELEX:32019H0903(07))

indicative target included in Article 23 of Directive (EU) 2018/2001 and the transport target in Article 25 of Directive (EU) 2018/2001. Put in place measures to overcome administrative burden and detailed information on measures on the enabling frameworks for renewable self-consumption and renewable energy communities, in line with Articles 21 and 22 of Directive (EU) 2018/2001.

4. *Substantially increase its energy efficiency ambition by lowering the level of both final and primary energy consumption in absolute terms in view of the need to increase the level of efforts to reach the Union's 2030 energy efficiency target. Support this with policies and measures that would deliver additional energy savings by 2030. Express the final contribution as a specific value for both primary and final energy consumption. Detail the underlying methodology to estimate energy savings. An indication of required investments to implement energy efficiency policies is also needed.*
5. *Specify the measures supporting the energy security objectives on diversification and reduction of energy dependency in particular in the gas and oil sector in light of uncertainties related to the withdrawal of the United Kingdom from the European Union.*
6. *Further elaborate on the national objectives and funding targets research, innovation and competitiveness, specifically related to the Energy Union, to be achieved between now and 2030, so that they are readily measurable and fit for purpose to support the implementation of targets in the other dimensions of its integrated national energy and climate plan. Underpin such objectives with specific and adequate policies and measures, including those to be developed in cooperation with other Member States, such as the Strategic Energy Technology Plan.*
7. *Build on the framework of the North Seas Energy Cooperation and the Clean Energy for EU Islands Initiative in order to deliver on the renewables target and ensure timely implementation of ongoing interconnection projects. In light of the United Kingdom's decision to leave the European Union, provide for measures to ensure continued regional cooperation with the UK on emergency preparedness and response for electricity, and security of supply for gas and oil.*
8. *List actions undertaken and plans to phase-out energy subsidies, in particular for fossil fuels.*
9. *Present the impacts on air pollution for the various scenarios, providing underpinning information, and considering synergies and trade-off effects.*

10. Integrate just and fair transition aspects better, notably by providing more details on social, employment and skills impacts of planned policies and measures. The final plan should particularly address the impact of the transition on the populations living in carbon-intensive regions. Complement the approach to addressing energy poverty issues with indicative objectives for reducing energy poverty as required by the Regulation (EU) 2018/1999.

Done at Brussels, 18 June 2019.

For the Commission Miguel ARIAS CAÑETE

Member of the Commission

Ireland has failed to submit a long term Climate Strategy to the EU as required under Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (Text with EEA relevance.)

Grounds of Objection to a grant of permission.

1. An Bord Pleanála in determining the Appeal on a de novo basis must determine the application in accordance with the Planning and Development Regulations, the Planning & Development Act, the various Planning Guidelines, the RSES, The National Planning Framework, The Energy Efficiency Directive, The Renewable Energy Directive, The Waste Framework Directive, The EU Climate Law Regulation (EU) 2021/1119. The Board should note that:
 - The RSES is based on a 40% emissions reduction target by 2030 and has not been amended to reflect the new EU Target of 55%.
 - The Renewable Energy Directive has been recast in 2018 (RED II) and is again under revision to make it fit for the new EU Fit for 55 Package.

- The Energy Efficiency Directive has been recast in 2018 and is again being revised to take account of the Fit for 55 package.
- While South Dublin County Council have carried out an assessment of the potential to run a District Heating System on waste heat recovered from Data Centres and determined the potential was limited they have no assessment of the potential of waste heat from the process converting thermal energy to electricity, using either OCGT (Open Cycle Gas Turbines) or CCGT (Combined Cycle Gas Turbines)

2. It is conceded that the Board have the power to grant permission even if the South Dublin County Development Plan is contravened per Section 37 (2)¹¹

(2) (a) Subject to paragraph (b), the Board may in determining an appeal under this section decide to grant a permission even if the proposed development contravenes materially the development plan relating to the area of the planning authority to whose decision the appeal relates.

(b) Where a planning authority has decided to refuse permission on the grounds that a proposed development materially contravenes the development plan, the Board may only grant permission in accordance with paragraph (a) where it considers that—

(i) the proposed development is of strategic or national importance,

(ii) there are conflicting objectives in the development plan or the objectives are not clearly stated, insofar as the proposed development is concerned, or

(iii) permission for the proposed development should be granted having regard to F362[regional spatial and economic strategy] for the area, guidelines under section 28, policy directives under section 29, the statutory obligations of any local authority in the area, and any relevant policy of the Government, the Minister or any Minister of the Government, or

(iv) permission for the proposed development should be granted having regard to the pattern of development, and permissions granted, in the area since the making of the development plan.

(c) Where the Board grants a permission in accordance with paragraph (b), the Board shall, in addition to the requirements of section 34(10), indicate in its decision the main reasons and considerations for contravening materially the development plan.

- The application references a 96 MW Power generation plant that can run on various fuels.

¹¹ <https://revisedacts.lawreform.ie/eli/2000/act/30/section/37/revised/en/html>

3. An Bord Pleanála as the Competent Authority must assess the application under the Habitats Directive. To that end the Application documents must be sufficiently extensive to describe the development in its entirety. The project assessed must be complete and not based on typical drawings or a preliminary design. The Board are referred to ***Sweetman V An Bord Pleanála (No. 1) [2020] IEHC 390 & Sweetman V An Bord Pleanála [2021] IEHC 662***
4. An Bord Pleanála as the Competent Authority must assess the application under the Environmental Impact Assessment Directive . To that end the applicant must provide sufficient information to allow the cumulative impact of the directive to be assessed on a threshold or sub threshold basis. The fundamental objective of the EIA enjoins Member States to implement Directive 85/337 in a manner which fully corresponds to its requirements, having regard to its fundamental objective which, as is clear from Article 2(1), is that, before development consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location should be made subject to a requirement for development consent and an assessment with regard to their effects.
- Many of the EIAR documents on the South County Dublin Council website are scanned with every page upside down and are not electronically searchable

| | | | | | | | | | |
|--------------|--|---|---------------|----------------------------------|---|---|---|---|---|
| Human Health | | Waste gases could result in the damage of stockpiles. Secondary impacts could include site personnel welfare impacts. | None required | Imperceptible to Not Significant | - | U | D | R | T |
| Human Health | | Heatwaves, higher temperatures could impact on site construction personnel welfare, for example, | None required | Imperceptible to Not Significant | - | U | D | R | T |

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| | | | | | | | | | |
|--------------|--|---|---------------|----------------------------------|---|---|---|---|---|
| Human Health | | Waste gases could result in the damage of stockpiles. Secondary impacts could include site personnel welfare impacts. | None required | Imperceptible to Not Significant | - | U | D | R | T |
| Human Health | | Heatwaves, higher temperatures could impact on site construction personnel welfare, for example, | None required | Imperceptible to Not Significant | - | U | D | R | T |

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- The Board's attention is drawn to the definition of "Project" under the Revised EIA Directive.

2. For the purposes of this Directive, the following definitions shall apply: (a) 'project' means: — the execution of construction works or of other installations or schemes, — other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources;

- *Article 3 as amended by Directive 2014/52/EU states*

1. The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors:

(a) population and human health;

(b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;

(c) land, soil, water, air and climate;

(d) material assets, cultural heritage and the landscape;

(e) the interaction between the factors referred to in points (a) to (d).

2. The effects referred to in paragraph 1 on the factors set out therein shall include the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned.

- *Article 5 as amended by Directive 2014/52/EU*

1. Where an environmental impact assessment is required, the developer shall prepare and submit an environmental impact assessment report. The information to be provided by the developer shall include at least:

(a) a description of the project comprising

information on the site, design, size and other relevant features of the project;

(b) a description of the likely significant effects of the project on the environment;

(c) a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;

(d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;

(e) a non-technical summary of the information referred to in points (a) to (d); and

(f) any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.

Where an opinion is issued pursuant to paragraph 2, the environmental impact assessment report shall be based on that opinion, and include the information that may reasonably be required for reaching a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment. The

developer shall, with a view to avoiding duplication of assessments, take into account the available results of other relevant assessments under Union or national legislation, in preparing the environmental impact assessment report.

2. Where requested by the developer, the competent authority, taking into account the information provided by the developer in particular on the specific characteristics of the project, including its location and technical capacity, and its likely impact on the environment, shall issue an opinion on the scope and level of detail of the information to be included by the developer in the environmental impact assessment report in accordance with paragraph 1 of this Article. The competent authority shall consult the authorities referred to in Article 6(1) before it gives its opinion.

Member States may also require the competent authorities to give an opinion as referred to in the first subparagraph, irrespective of whether the developer so requests.

3. In order to ensure the completeness and quality of the environmental impact assessment report:

(a) the developer shall ensure that the environmental impact assessment report is prepared by competent experts;

(b) the competent authority shall ensure that it has,

or has access as necessary to, sufficient expertise to examine the environmental impact assessment report; and

(c) where necessary, the competent authority shall seek from the developer supplementary information, in accordance with Annex IV, which is directly relevant to reaching the reasoned conclusion on the significant effects of the project on the environment.

4. Member States shall, if necessary, ensure that any authorities holding relevant information, with particular reference to Article 3, make this information available to the developer.

5. The application failed to provide sufficient information on alternatives as required under Article 5 of the EIA Directive. The Board are referred to the Judgement in *Holohan C-461/17*

2. The fifth, sixth and seventh questions — alternatives in the environmental impact assessment

92. The fifth, sixth and seventh questions concern information provided by the developer on alternatives to the project under assessment. In the case in the main proceedings, consideration was given at an early stage to whether the bypass road could 'span' the floodplain by means of a bridge. This alternative development was rejected on cost grounds, however. The High Court's questions seek to ascertain whether the developer must nonetheless provide information on the environmental effects of executing the road development project in that way.

(a) The fifth question — the main alternatives

93. The fifth question seeks to ascertain whether an alternative is to be regarded as one of the 'main alternatives' within the meaning of Article 5(3)(d) of the EIA Directive even in a case where the developer rejected it at an early stage.

94. For the purposes of assessing which alternatives are to be regarded as main alternatives, the relevance of those alternatives to the environmental effects of the project or to their avoidance should be decisive. The purpose of the EIA Directive, after all, according to Article 3 thereof, is to identify, describe and assess the environmental effects of projects. Alternatives therefore are of interest first and foremost if they are capable of influencing the environmental effects of the project concerned.

95. Although the stage at which another solution was rejected is irrelevant from that point of view, it may indirectly have a bearing on the extent of the reasons to be given. The extent of those reasons forms the subject matter of the sixth and seventh questions.

96. For the purposes of Article 5(3) of the EIA Directive, therefore, alternatives are main alternatives if they are capable of having a significant impact on the environmental effects of the project concerned.

(b) Reliance on the assessment by the developer

97. Although the request for a preliminary ruling does not refer a question in this regard, it is important, before answering the sixth and seventh questions, to address the fact that Article 5(3)(d) of the EIA Directive requires only information on the other alternatives studied by the developer. Indeed, the national court proceeds on the assumption that the developer 'studied' the aforementioned bypass road development option. That notwithstanding, the fundamental decision on the part of the EU legislature to place reliance on the assessment by the developer also has a bearing on the information which a developer provides on the alternatives he has studied.

98. *In the light of the EU's environmental policy objective of ensuring a high level of environmental protection, laid down in Article 191(2) TFEU and Article 37 of the Charter of the European Union, as well as the precautionary principle and the principle of preventive action, also enshrined in Article 191(2) TFEU, it seems desirable that the alternatives to a project should be examined as comprehensively as possible. Such an approach would make it possible to select the project option which restricts the adverse environmental effects of that project to a minimum.*

99. *It is in line with this thinking that the strategic environmental assessment report preparation of which is required by Article 5(1) of the Directive on the assessment of the effects of certain plans and programmes on the environment (29) includes reasonable alternatives.*

100. *In Article 5(3)(d) of the EIA Directive, however, the EU legislature chose a different approach. Under that provision, the information to be provided by the developer is to include at least an outline of the main alternatives studied by him and an indication of the main reasons for his choice, taking into account the environmental effects. Annex IV(2) to the directive repeats this.*

- Locating the project at a location that could use more lower carbon electricity is a main alternative under Article 5
- Locating the project at a location where more waste heat from the conversion of heat to electricity was a main alternative under Article 5
- Running the generation plant on renewable fuel such as HVO is a main alternative regardless of the price of the HVO compared to natural gas.
- Discounting 100% HVO use because it is more expensive and cloaking its non use under non availability is adverse to the Alternatives required under Article 5

6. The extent of information in the application is insufficient to determine the application in accordance with law.

7. it is the responsibility of the applicant to provide sufficient information to describe the development.
8. A ten year permission is not appropriate as it puts the development beyond the reach of rapidly changing policy and law on decarbonisation.
9. The location of the development is inconsistent with maximising the amount of renewable energy usefully used in the operation of the development.

The development proposal which relates also to the other data centres on the lands proposes to draw 96MW from the Grid and maintain stability and reliability by injecting 96 MW of electricity to the Grid derived from thermal generated power plant fueled by natural gas with HVO Backup and with power purchase agreements to cover 20% of power used.

Grid power has the potential to be derived from renewables to high levels of penetration subject to capacity factor mentioned earlier. Wind power output is a function of Wind Speed cubed V^3 hence doubling wind speed from 4 to 8 ms/s increases power output from 4^3 to 8^3

The following pages set out the output of a Vestas V126 3 MW machine operating at a Weibull coefficient of 2 and an average wind speed of 7ms/s

Power Purchase agreements do not in this instance avail increasing the proportion of renewable power consumed.

The European Investment Bank which is an EU Institution counts power in a power purchase agreement at the average CO2 intensity per kWh in its Carbon Footprint measurement system¹². EIB Project Carbon Footprint Methodologies Methodologies for the assessment of project greenhouse gas emissions and emission variations

Version 11.3 January 2023

¹² https://www.eib.org/attachments/lucalli/eib_project_carbon_footprint_methodologies_2023_en.pdf

The Swiss Wind Power Data Website

[www.wind-data.ch](#) » [Tools](#) » [Power Production](#)
[Introduction](#) [Wind Profile](#) [Weibull](#) [Air Density](#) [Power Production](#)

Power Calculator

Wind speed distribution

Either you can estimate the Weibull distribution for your site with the [Weibull calculator](#) or the power calculator approximates a distribution for the mean wind speed that is entered.

☒ Weibull parameters A: m/s k:
☐ mean wind speed v: m/s

Air Density

You can calculate the air density for your site with the [air density calculator](#).

Air density: kg/m³

Power curve

Choose a turbine type from the list or choose "user-defined power curve" and enter your own power curve in the table.

| | | | | | |
|--------|--------------------------------------|--------|--------------------------------------|--------|--------------------------------------|
| 1 m/s | <input type="text" value="0"/> kW | 11 m/s | <input type="text" value="2999"/> kW | 21 m/s | <input type="text" value="3000"/> kW |
| 2 m/s | <input type="text" value="0"/> kW | 12 m/s | <input type="text" value="3000"/> kW | 22 m/s | <input type="text" value="3000"/> kW |
| 3 m/s | <input type="text" value="20"/> kW | 13 m/s | <input type="text" value="3000"/> kW | 23 m/s | <input type="text" value="3000"/> kW |
| 4 m/s | <input type="text" value="173"/> kW | 14 m/s | <input type="text" value="3000"/> kW | 24 m/s | <input type="text" value="0"/> kW |
| 5 m/s | <input type="text" value="397"/> kW | 15 m/s | <input type="text" value="3000"/> kW | 25 m/s | <input type="text" value="0"/> kW |
| 6 m/s | <input type="text" value="712"/> kW | 16 m/s | <input type="text" value="3000"/> kW | 26 m/s | <input type="text" value="0"/> kW |
| 7 m/s | <input type="text" value="1151"/> kW | 17 m/s | <input type="text" value="3000"/> kW | 27 m/s | <input type="text" value="0"/> kW |
| 8 m/s | <input type="text" value="1723"/> kW | 18 m/s | <input type="text" value="3000"/> kW | 28 m/s | <input type="text" value="0"/> kW |
| 9 m/s | <input type="text" value="2433"/> kW | 19 m/s | <input type="text" value="3000"/> kW | 29 m/s | <input type="text" value="0"/> kW |
| 10 m/s | <input type="text" value="2920"/> kW | 20 m/s | <input type="text" value="3000"/> kW | 30 m/s | <input type="text" value="0"/> kW |

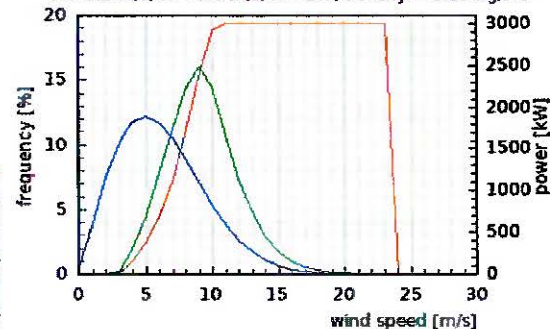
Explanations for the power calculator

Result

| | |
|------------------------------|--------------------|
| Producer | Vestas |
| Type | V126 |
| Capacity | 3'000 kW |
| Rotor diameter | 126 m |
| Power Production | 9'377'416 kWh/year |
| Capacity factor ¹ | 35.7% |
| Full load hours ² | 3'124 h/year |
| Operating hours ³ | 7711 h/year |

Vestas V126 (3000 kW)

v = 6.2 m/s, A = 7.0 m/s, k = 2.0, density = 1.23 kg/m³



— Wind speed distribution
 — power production distribution
 — power curve

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 gemeinsam für windenergie

General information on
 wind power

mandated by the Swiss
 Federal Office of
 Energy

swissenergy

Produced by

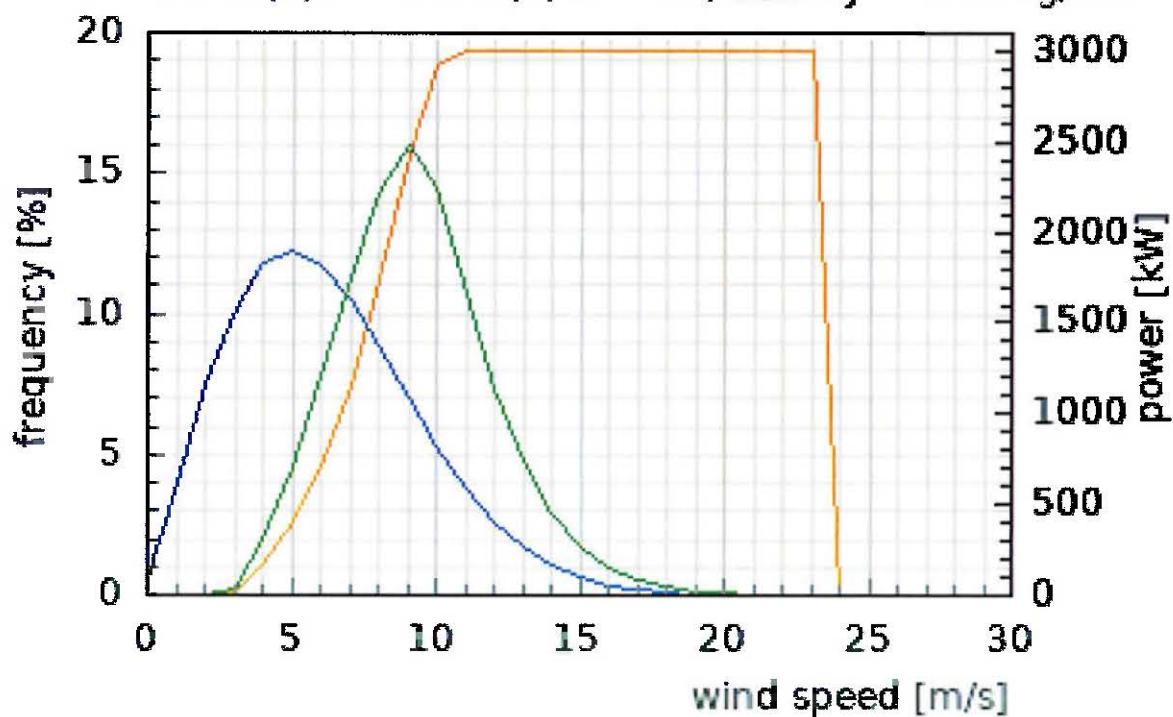


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Vestas V126 (3000 kW)

$v = 6.2 \text{ m/s}$, $A = 7.0 \text{ m/s}$, $k = 2.0$, density = 1.23 kg/m^3



- Wind speed distribution
- power production distribution
- power curve

The problems with the arrangement as proposed.

- The Generator would be dumping dirty power into the grid while drawing renewable rich power from the grid to greenwash the development within its boundaries while raising emission elsewhere.
- Were the development located in an area with a strong grid then it could utilise wind and solar power without dumping dirty power to the grid.
- The barriers to greater integration of renewables lies in a lack of storage for renewable electricity as greater penetration of renewables tends to produce surpluses when wind and sun have high outputs as the fleets grow.
- The application does not propose utilising battery storage to increase renewable usage. It actually proposes by necessity dumping dirty power to the grid when renewable output is high as well as when it is low.

There is some difficulty quantifying the amount of on site generated power in the Dublin Data Centre Belt and consequently assessing cumulative impact properly.

There is no information in the application

- on the quantity of fuel required per MW of electricity generated.
- on the quantity and temperature of waste heat in flues generated.
- on the type, manufacture, model of generation plant.
- on the nameplate capacity of onsite solar pv generation to be deployed.

10. The South County Dublin Development Plan

Policy EDE7: Space Extensive Land Use

Recognise the need for land extensive uses and ensure that they are located within appropriate locations having regard to infrastructural, transport and environmental considerations and the need for orderly growth.

EDE7 Objective 1:

To ensure that, insofar as possible, space extensive enterprise is located on lands which are outside the M50 and which do not compromise labour intensive opportunities on zoned lands adjacent to public transport.

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Economic Development and Employment (EDE)

EDE7 Objective 2:

To require that space extensive enterprise demonstrates the following:

- à The appropriateness of the site for the proposed use having regard to EDE7 Objective 1;*
- à Strong energy efficiency measures to reduce their carbon footprint in support of national targets towards a net zero carbon economy, including renewable energy generation;*
- à Maximise on site renewable energy generation to ensure as far as possible 100% powered by renewable energy, where on site demand cannot be met in this way, provide evidence of engagement with power purchase agreements in Ireland (PPA);*
- à Sufficient capacity within the relevant water, wastewater and electricity network to accommodate the use proposed;*
- à Measures to support the just transition to a circular economy;*
- à Measures to facilitate district heating or heat networks where excess heat is produced;*
- à A high-quality design approach to buildings which reduces the massing and visual impact;*

à A comprehensive understanding of employment once operational;

à A comprehensive understanding of levels of traffic to and from the site at construction and operation stage;

à Provide evidence of sign up to the Climate Neutral Data Centre Pact.

EDE7 Objective 3:

To ensure that landscaping and site layout in space extensive developments provides for demonstrated biodiversity measures and that landscape and biodiversity measures integrate into the green infrastructure network, in accordance with the Green Infrastructure Strategy set out in Chapter 4 of this

- Generating 96 MW of Solar PV onsite would need about 200 acres of land for ground mounted panels and would have a capacity factor of circa 10%
- Generating 96 MW of wind power with a capacity factor of up to 35% would not be feasible in the location of the development.
- The EU Electricity Market Directive Directive (EU) 2019/944 permits Direct Lines or Private Wire but is not facilitated under Minister Ryan's regime. (A main alternative not considered.)
- The EU Solar Energy Strategy prioritises the rollout of Solar PV and Solar Thermal technology. It has not been considered in this application.

Conclusion.

- The Board might determine they are not bound by the South County Dublin's Development Plan and are at liberty to make a conclusion under the Planning Act, but it is doubtful if they have latitude under EU Climate and Environmental Law
- The State is failing to reduce demand for heat in Buildings and fossil fuels in Transport through efficiency measures, public transport, compact growth, and renewable transport.
- While failing to meet even the 2020 energy and climate targets, economic growth based on additional production continues with almost exclusive reliance on fossil fuels in the data sector.
- Recovery of waste heat from thermal electricity generation is practically unknown in Ireland while it is a common practice in many EU Countries.
- The proposed development is poorly located to avail of grid rich renewable power.
- The proposed development does not include provision for waste heat recovery from the thermal power generation process which could be of the order of 876,600,000 kWh per year. At 183.6

grams /kWh (SEAI 2022¹³) it equates to a missed opportunity to reduce CO2 emissions by 161,000 tonnes of CO2 per year arising from waste heat recovery.

- We don't know what type of plant is proposed. OCGT Plant at 30% efficiency would require $96\text{MW}/0.3 \times 8766 \text{ hours} = 2,805,120,000 \text{ kWh}$ of thermal input which equates to 515,020 tonnes of CO2 Emissions per year.

Yours sincerely



John Callaghan on behalf of myself and Sustainability 2050

¹³ <https://www.seai.ie/data-and-insights/seai-statistics/conversion-factors/>