

28 May 2025

227501.0284AT04

RE: Response To Information Request From ABP Dated 2nd May 2025

The enclosed technical note is a response to the request from An Bord Pleanála dated 2nd May 2025 in which further information was requested.

Specifically, this note is in response to Information Request 2. which focusses on the recently published Climate Action Plan 2025, published 15th April 2025, and also refers to the EPA Report entitled "*Ireland's Greenhouse Gas Emissions Projections - 2023-2050*" (EPA, May 2024). The request asks that the findings of the environmental assessment be re-affirmed, or otherwise, and that details and observations be made regards the two publications referred to in the previous sentence.

The response to the information request, overleaf, discusses the Proposed Development and Overall Project in the context of the recently published CAP 2025 and in the context of the relevant Carbon Budgets and the Electricity Sectoral Emission Ceilings, as outlined in the above-mentioned EPA Report (EPA, May 2024) and in the context of Section 15 of the *Climate Action and Low Carbon Development (Amendment) Act 2021*. This response has also included a review of the EPA Report entitled "*Ireland's Greenhouse Gas Emissions Projections - 2024-2055*" (EPA, 27th May 2025).

Kind regards



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INFORMATION REQUEST FROM ABP DATED 2ND MAY 2025

2. In relation to the environmental impact assessment of the Proposed Development and Overall Project and the necessity, as set out in the Environmental Protection Agency 2022 "Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR)", to identify a reasonably foreseeable worst-case scenario as a context for 'likely significant effects', the Board noted:

- (a) *the Climate Action Plan 2025 published on the 15th April 2025 and Section 11.1 Electricity State of Play that "There has been a steady decline in annual emissions from 9.89 MtCO₂eq. in 2021 to 7.56 MtCO₂eq. in 2023. While the EPA Projections Report 2023-2050 indicates an overshoot of over 1 MtCO₂eq. in the period 2021 to 2025, and an overshoot of over 5 MtCO₂eq. in the second period 2026 to 2030, these are both significant improvements on the projected overshoots (5.2 MtCO₂eq. and 8.2 MtCO₂eq. respectively) set out in the Climate Action Plan 2024".*
- (b) *the aforementioned Environmental Protection Agency Report "Ireland's Greenhouse Gas Emissions Projections 2023-2050" published in May 2024. In particular in the associated document "Input Assumptions for Ireland's Greenhouse Gas Emissions Projections", Table 1: Policy Input Assumptions contained modelling assumption details outlined in the With Existing Measures and With Additional Measures scenarios.*

In light of the publication of the Climate Action Plan 2025 by Government and Ireland's Greenhouse Gas Emissions Projections 2023-2050 by the Environmental Protection Agency since the preparation of the Environmental Impact Assessment Report and its addendum, to assist the Board in carrying out its Environmental Impact Assessment you are required to:

- (i) *re-affirm, or otherwise, the findings of its environmental assessment in relation to climate based on its modelling assumptions, and*
- (ii) *provide details of, and observations regarding, the significant differences that may arise in the emerging context noting the points raised in 2(a) and (b) above.*

Response To 2 (i)

1. Chapter 9 (Climate) of the Environmental Impact Assessment (EIAR) undertook a detailed assessment of the impact of the Proposed Development and of the Overall Project (i.e. the Proposed Development and existing / permitted / potential future development on the wider landholding) on climate (GHG emissions) and the vulnerability of the Project to climate change. The Addendum to Chapter 9 submitted as part of the further information response built on Chapter 9 of the EIAR and was updated to incorporate the new IEMA Guidance - *Assessing Greenhouse Gas Emissions and Evaluating their Significance 2nd Edition* (IEMA, 2022). The Addendum also framed the impact of the Proposed Development and Overall Project in the context of the Sectoral Emission Ceilings. The addendum confirmed, as outlined in Section 7.2.4 of the addendum, that through a series of measures including project replacement, a reduction in residual emissions through best practice and the implementation of a series of adaptive design measures, the net impact of the Proposed Development and the Overall Project is not significant. Given that the use of electricity to power the facility will achieve net zero by 2050 and the commitment to offset all interim fossil fuel derived GHG emissions by the purchase of Corporate Power Purchase Agreements (CPPAs) the predicted impact to climate was deemed to be indirect, long-term, negative and minor adverse. This addendum has been updated now (attached in Appendix 5) to incorporate the findings of CAP25 and any additional new information which has become available since the previous version of the Addendum.

2. This note is in response to Information Request 2., outlined above, which focusses on the recently published Climate Action Plan 2025, published 15th April 2025, and also refers to the EPA Report entitled "*Ireland's Greenhouse Gas Emissions Projections - 2023-2050*" (EPA, 2024a).
3. In addition, the response has updated the Addendum to Chapter 9 of the EIAR has taken into account recent guidance relevant to the climate impact assessment as outlined below:
 - Department of Environment, Climate and Communications (DECC) (2024) Future Framework for Offshore Renewable Energy Policy Statement
 - Department of Environment, Climate and Communications (DECC) (2024) Buying Greener: Green Public Procurement Strategy and Action Plan (2024–2027)
 - Global Facility for Disaster Reduction and Recovery (GFDRR) (2025) ThinkHazard! Tool. Available online at: <https://thinkhazard.org/en/>
 - Institute of Air Quality Management (IAQM) (2024) Guidance on the assessment of dust from demolition and construction v2.2
 - Transport Infrastructure Ireland (TII) (2022) PE-ENV-01104: Climate Guidance for National Roads, Light Rail and Rural Cycleways (Offline & Greenways) – Overarching Technical Document.
4. In addition, updated data of relevance to the climate impact assessment is outlined below:
 - Environmental Protection Agency (EPA) (2024b) Ireland's Provisional Greenhouse Gas Emissions 1990-2023 July 2024
 - EPA Report (2025) Ireland's Greenhouse Gas Emissions Projections - 2024-2055 (published 27th May 2025)
 - Met Éireann (2024a) Met Eireann website: <https://www.met.ie/science/translate>
 - Met Éireann (2024b) Annual Statement for 2024
5. This response to the information request discusses the Proposed Development and Overall Project in the context of the recently published CAP 2025 and in the context of the relevant Carbon Budgets and the Electricity Sectoral Emission Ceilings, as outlined in the EPA Reports "*Ireland's Greenhouse Gas Emissions Projections - 2023-2050*" (EPA, May 2024) and "*Ireland's Greenhouse Gas Emissions Projections - 2024-2055*" (EPA, 27th May 2025) and in the context of Section 15 of the *Climate Action and Low Carbon Development (Amendment) Act 2021*. The EPA report *Ireland's Greenhouse Gas Emissions Projections - 2023-2050*" (EPA, 2024a) was reviewed and no updated modelling of GHG emissions was deemed necessary as the EPA was predicting 80% renewables by 2030 under the WAM scenario which was consistent with the assessment undertaken for the previous addendum to the climate chapter of the EIAR. However, EPA report *Ireland's Greenhouse Gas Emissions Projections - 2024-2055*" (EPA, 2025) was recently reviewed and given that the EPA is now predicting 68.3% renewables by 2030 under the WAM scenario, updated modelling of GHG emissions has been undertaken in this addendum to reflect this.
6. As detailed in "*Appendix 3 – Technical Response to Third Party Appeals*" (Dated November 2023), and in Section 9.6 of the attached (Appendix 5) Updated Addendum To The Climate Chapter Of The EIAR, AWS are committed to implementing a range of mitigation measures which will be applied in line with "*best practice*" as outlined in IEMA (IEMA, 2022).
7. The following mitigations have been qualitatively assessed as mitigations to GHG emissions as outlined in the in "*Appendix 3 – Technical Response to Third Party Appeals*" (Dated November 2023) and in the attached (Appendix 5) Updated Addendum To The Climate Chapter Of The EIAR:
 - The Proposed Development and Overall Project is designed to fully comply with the Climate Neutral Data Centre Pact as outlined on Page 24 of the Appeal (November 2023). The Proposed Development has an annualised design Power Usage Effectiveness (PUE) of 1.12 and has a design water usage effectiveness (WUE) of 0.075 L/kWh as compared to the 0.4 L/kWh set under the Climate Neutral Data Centre Pact. PUE is the most commonly used

metric to determine the energy efficiency of a data centre. Data centres need a range of auxiliary services, including cooling, to support the main 'work' of the IT systems, PUE measures the size of this 'overhead' energy used as a ratio to the energy used to power the computing equipment. Since PUE is a ratio, the closer the number is to 1.0, the more energy efficient the data centre. A survey of European data centres by 451 Research found "European enterprises cited on average a PUE of 2.1¹ as compared to a PUE of 1.3 set by the Climate Neutral Data Centre Pact and an annualised design PUE of 1.12 for the Proposed Development.

- AWS signed a supply agreement in March 2023 with Certa to supply renewable hydrotreated vegetable oil (HVO) to their Dublin operations including the existing permitted development and the Proposed Development. AWS's supply agreement with Certa means that the backup generators for the Proposed Development will be supplied with HVO from the date of commissioning along with any subsequent refills due to generator use. In fact, all refills of AWS's existing generators in Dublin have been with HVO since October 2022
- AWS has a global Energy Management System program that centralizes and standardizes all of this work across the business. This program aligns with industry best practices and international standards to help ensure AWS energy management practices are comprehensive and effective. All AWS Services and data centers (Leased, Owned, Hybrid, Colo, Edge, Local Zones, and Wavelengths) in France, Germany, and Spain are currently ISO 50001 certified. For a copy of the certification, see here: <https://aws.amazon.com/compliance/iso-50001-faqs/>. The efficient use of energy across AWS data centres will reduce GHG emissions associated with electricity generation.
- A PV array is proposed on building E and F and will consist of 285 PV modules, each of 300Wp, yielding a total peak power generated of 85.5kWp to match the lighting and IT electrical power requirements during the peak summer months for the administration & office of each building.
- A rainwater harvesting system will be used to ensure non-potable process water for cooling needs for the operational development are met with no reliance on the public water mains. The proposed buildings are designed to harvest rainwater for up to 100% of the annual process water requirements and includes 2170m³ of onsite water storage designed to maximise the storage and utilisation of rainwater, significantly reducing the annual water demand from the local supply.
- Facilitating district heating to a local user for heat or a future heat network – the Proposed Development incorporates design provisions to facilitate district heating including heat distribution pipework up to the site boundary.
- Internal lighting shall be provided by highly efficient, low energy LED luminaires combined with presence detection controls or local switching where appropriate.
- The external lighting will make use of high efficiency, low energy LED luminaires. The lighting design has been optimized to reduce glare, spillage or other light nuisance to adjacent sites and/or public road.
- The data storage rooms are supplied with fresh air which is sufficient to cool the space for the majority of the annual running hours. For a small number of hours during the peak cooling season, adiabatic cooling is required. The system utilises fans to supply air directly from outside to the data storage rooms. The air is warmed as it passes across the IT servers located in the data storage rooms, and subject to external ambient conditions, the air is either recirculated or returned to atmosphere.
- The mechanical system has various modes of operation to provide efficient and reliable cooling to the data processing area. The mechanical system is monitored and controlled by an electronic building management system (BMS). The system monitors conditions and responds to reduce fan speeds and pump speed to maintain the operating point at the minimum necessary to meet the data storage room environmental conditions.

¹ 451 Research - [Improving datacenter efficiency in Europe - the role of PUE](#)

- All air supply and extract systems serving the data storage rooms are provided with high efficiency direct drive fans. The EC direct drive fan is the most efficient fan solution available to facilitate demand control.

Corporate Power Purchase Agreements (CPPA) As Offsets

8. As set out in the JSA Response To Third Party Appeals document (dated November 2023), under Amazon's publicly available Renewable Energy Methodology², Amazon works with energy companies around the globe to develop **new** renewable projects dedicated to serving their load, which is aligned with the CPPA Roadmap which states: "*Additionality and Avoiding Greenwashing: If CPPAs simply purchase certificates from projects that would have existed anyway, especially those that have already been funded under schemes supported by the PSO levy (REFIT schemes or the RESS), they may not contribute to additional decarbonisation, which would not achieve the benefits of such contracts for all electricity users and harm public trust. CPPAs for **new** non-subsidised or repowered projects should be prioritised.*" [Emphasis added]
9. The CPPA Roadmap itself notes that "*keeping RESS and CPPAs separate leads to clearer additionality for CPPAs*". The stipulation that any CPPA related to the Proposed Development would not be subject to any direct government financial subsidy, consumer, or public subsidy ensures that any renewable development subject to such a CPPA does not benefit from receipt of subsidy under the Renewable Electricity Support Scheme (RESS), in line with the CPPA Roadmap. Condition 13(a) of the Fingal County Council decision captures the requirements set out in the CPPA Roadmap, requiring that:

"The new renewable energy projects shall not be supported by government, consumer or other public subsidies"
10. The Institute of Environmental Management and Assessment (IEMA) guidance document – *Pathways to Net Zero - Using the IEMA GHG Management Hierarchy* (Nov 2020) revised the IEMA GHG Management Hierarchy as shown in Figure 1 below to include CPPAs under the category of "*substitution*" within the Hierarchy:

² <https://sustainability.aboutamazon.com/renewable-energy-methodology.pdf>

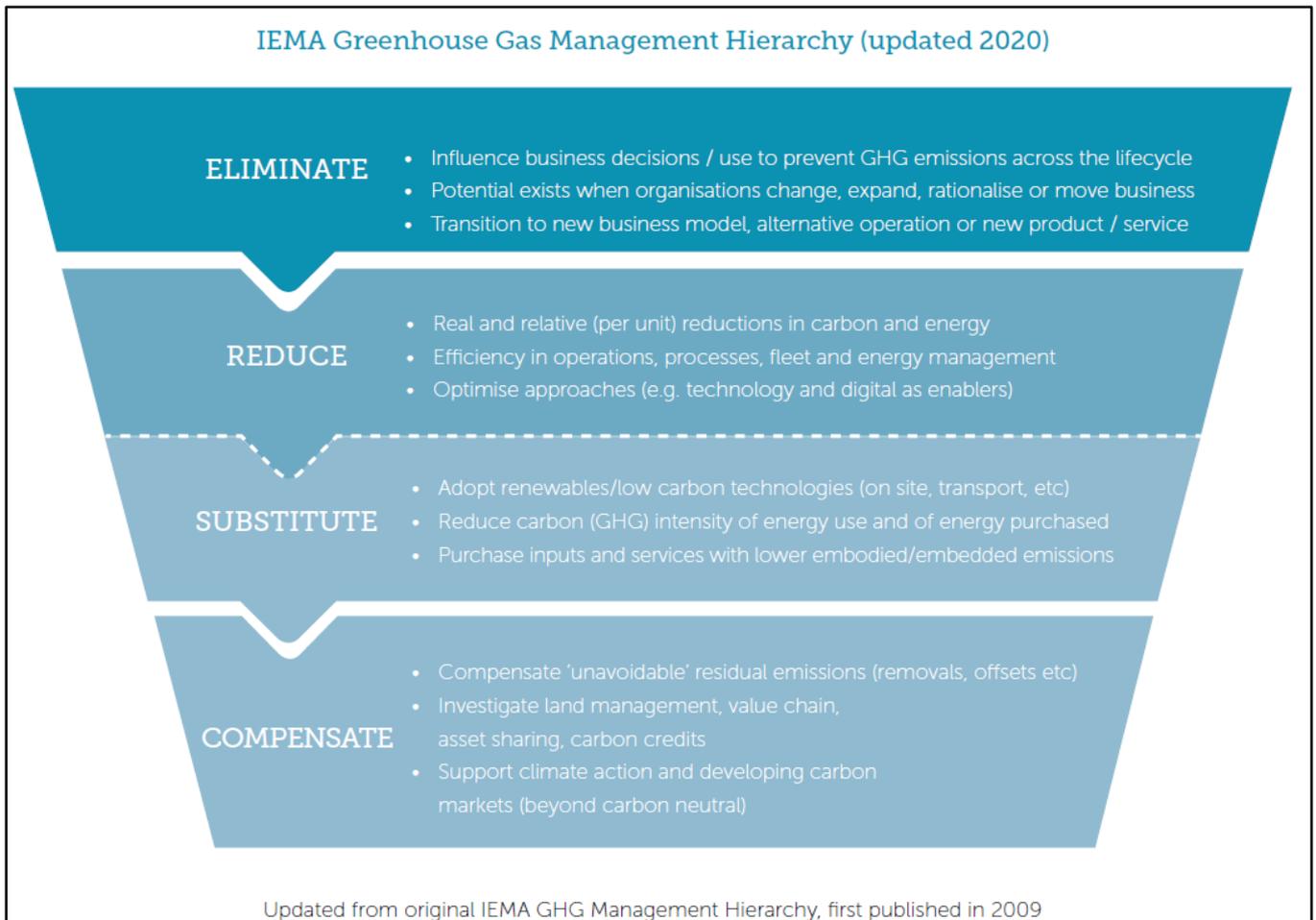


Figure 1 IEMA Greenhouse Gas Management Hierarchy (IEMA, 2020)

11. In relation to the use of CPPAs, the IEMA 2020 guidance states, on Page 5, the following (bold added):

*"Purchased green electricity tariffs (also green gas) are increasingly being considered within net-zero approaches. In earlier versions of the Hierarchy these tariffs only appeared within COMPENSATE. This is still the case for market-based approaches that use certificates where additionality or quality thresholds are poor, or hard to substantiate. The hierarchy does now allow for higher quality energy tariff purchases within the SUBSTITUTE line, reflecting developing practice and some improved purchasing arrangements (e.g. **higher quality procurement or quasi-investments via power purchase agreements**)."*

12. Thus, CPPAs are now recommended by IEMA (IEMA, 2020) as an appropriate project-specific "substitution" mitigation measure alongside measures such as adopting renewable technologies and reducing the carbon intensity of energy used.

13. For further clarity on the position of IEMA regarding CPPAs and mitigation, the *IEMA Assessing Greenhouse Gas Emissions and Evaluating their Significance 2nd Edition* (IEMA, Feb 2022) has recently stated, on Page 9, that:

"GHG mitigation is best achieved by taking a planned and focused approach following the IEMA GHG management hierarchy principles."

14. When projecting into the future, there is associated uncertainty as to the penetration of renewable energy in the national grid. An updated Uncertainty Analysis has been undertaken for the Proposed Development and is attached as Appendix 6). However, the use of CPPAs can be viewed

as allowing for this inherent uncertainty in future years as the CPPA will match the actual GHG emissions regardless of the quantity of emissions in any one year and the time period in which they occur whilst the operation of both indirect electricity and direct emissions will continue to operate within the ETS which has committed to achieving net zero by 2050. Thus, even if the national renewable targets are not achieved on time, the facility will ensure that the CPPAs match the GHG emissions from the electricity used to power the Proposed Development on an annual basis to ensure the facility remains net-zero in terms of operational GHG emissions. As outlined below by the SEAI, (Paragraph 24) there is the possibility that the import of electricity may increase or decrease in the future due to a range of both domestic and international considerations. The implication for the Proposed Development is that the total amount of renewable energy generation that is required to be purchased may vary year on year based on a range of factors including the rate of penetration of renewable energy into the national grid and the amount of imported electricity that occurs in any one year. The Proposed Developer has committed to ensuring that the facility operates in a net zero environment and will ensure that energy consumed by the development on site is met by new renewable energy generation in line with the Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy (2022) irrespective of the total amount that is required in any one year.

Response To 2 (ii)

15. The Proposed Development and Overall Project has been undertaken based on a worst-case approach in terms of the impact on calculated GHG emissions. The worst-case approach has been undertaken in regards to:

- Year of opening,
- Phasing of operations,
- Operational load,
- Changes to the electricity grid.

The worst-case approach is outlined in detail in Appendix 6 for each of the parameters.

16. The EPA Report³ entitled "Ireland's Greenhouse Gas Emissions Projections - 2024-2055" (EPA, 27th May 2025) (and the previous EPA report (EPA, 2024a) outlined two scenarios to project into the future:

- With Existing Measures (WEM) - a projection of future emissions based on currently implemented measures and actions committed by Government which are in place by the end of 2023.
- With Additional Measures (WAM) - a projection of future emissions based on currently implemented measures and actions committed by Government including all WEM measures plus those included in Government plans but not yet implemented.

17. "Ireland's Greenhouse Gas Emissions Projections - 2024-2055" (EPA, 2025) confirms that the EPA is projecting, based on the WAM scenario, that there will be a 68% reduction in electricity associated GHG emissions between 2018 and 2030 (EPA, 2025). The report also confirms that over the period 2023 to 2030, electricity emissions under the WEM scenario will reduce from 7.845 to 4.4 Mt CO₂eq whilst under the WAM scenario will reduce from 7.845 to 3.4 Mt CO₂eq. The report states:

"There was a significant drop in emissions from the Energy Industries sector between 2022 and 2023 (down 2.1 Mt CO₂eq or 21.4%). This reduction in emissions was partly due to a 12-

³ [Ireland's Greenhouse Gas Emissions Projections 2024-2055 | Environmental Protection Agency](#)

fold increase in the amount of imported electricity (9.5% of electricity supply in 2023), in combination with an increase in the share of renewable energy from 38.6% in 2022 to 40.7% in 2023. This step change in interconnector behaviour is projected to increase to 22% in WEM and 19% in WAM by 2030” (EPA, 2025 (Section 4.3))

18. The companion document to the 2024 EPA report, entitled “Input Assumptions for Ireland’s Greenhouse Gas Emissions Projections” (EPA, 2024b)⁴ outlines a range of policy assumptions both under the WEM and WAM scenarios (the 2025 EPA comparison report is not yet published). In relation to electricity, various policy assumptions have been compared. In many cases, the WEM and WAM are unchanged or very similar such as the switch from coal to HFO at Moneypoint power station by 2025 and the use of 100% biomass at Edenderry power plant which was achieved in January 2024.
19. In regards to the renewables (RES-E), the WEM has assumed a renewables estimate of 68.9% compared to 80% for the WAM scenario by 2030. When broken down into each sector, the WAM assumes higher renewable energy outcomes in each case (Onshore wind 6.8 GW vs 7.2 GW, Solar PV 5.6 GW vs 6.0 GW, Offshore wind 2.7 GW vs 3.5 GW, Hydrogen 0 GW vs 2 GW, Biomethane 0 TWh vs 5.7 TWh).
20. As to the large energy users (data centres), the WEM and WAM have both used Eirgrid’s medium data centre demand scenario from 10-year median forecast (EirGrid’s best estimate as outlined in “Input Assumptions for Ireland’s Greenhouse Gas Emissions Projections” (EPA, 2024b)) taken for both WEM and WAM, with data extrapolated for remaining projections horizon.
21. A key factor in the significant drop in electricity GHG between 2022 and 2023 can be accounted for by the significant increase in imported electricity. The Celtic Interconnector which will link the French and Irish grids with a capacity of 700MW will come onstream in 2026⁵. The Energy In Ireland 2023 report (SEAI, 2024)⁶ states that:

“In the first 9 months of 2022, Ireland imported 1.2% of its electricity supply through interconnectors with mainland UK and Northern Ireland. One year later, in the first 9 months of 2023, Ireland had imported 9.1% of its electricity supply.” (Page 18)

23. The Energy In Ireland 2023 report (SEAI, 2024) clarifies that:

“The increase in net import of electricity across the interconnector between GB and Ireland began in March 2023 and coincided with several shifts in the GB electricity market: a steep drop in the UK carbon price with respect to that in the EU, an overall decrease in generation from fossil fuel in GB, and a significant increase in imports to GB via its other interconnectors (from France, Netherlands, Belgium and Norway). These and other market factors combined to increase imports of electricity through the interconnectors to Ireland from the UK (specifically GB), while reducing the quantity of electricity generated in Ireland.

The overall effect of the increased use of imported electricity has acted to displace fossil-based generation in Ireland in 2023 and has significantly reduced Ireland’s GHG emissions from electricity generation. In terms of the national carbon budgets, electricity imported into Ireland is ‘emission free’. Any emissions are counted in the country that generates the electricity, not the country that imports and uses the electricity.” (Page 18)

24. The Energy In Ireland 2023 report (SEAI, 2024) also cautions that:

⁴ [Input-Assumptions-for-Irelands-Greenhouse-Gas-Emissions-2023-2050.pdf](#)

⁵ [Celtic Interconnector | Projects | EirGrid](#)

⁶ [Energy-in-Ireland-2023.pdf](#)

"It is important to acknowledge that the reduction in electricity emissions and carbon intensity of electricity have come about predominately through an increase in imported electricity – with increases in wind and solar generation also contributing – and the resultant decrease in fossil-fuel generation in Ireland. Flows across international interconnectors occur due to differences in marginal prices between jurisdictions. These price differences arise due to fuel mix differences (e.g., different levels of renewables in different countries), fuel and carbon price differences, and the level of interconnection between jurisdictions (e.g., new interconnection between two jurisdictions can have knock-on impacts for flows elsewhere). The market factors influencing the imports of electricity to Ireland could change as markets rebalance, or as new EU legislation is introduced (e.g., the CBAM Regulation)." (Page 19)

25. The Proposed Development will not contribute to any exceedance of the sectoral emissions ceiling for the electricity sector, as the proposed development is included under existing electricity demand forecasts, and will bring forward renewables for contracted demand which is already accounted for within CAP24 and CAP25. The Electricity sector has an emission ceiling of 40 MtCO₂eq for the first carbon budget period (2021–2025), with the EPA's 2023 provisional greenhouse gas inventory reporting that 67.9% of the sectoral emissions ceiling has been used in the first 3 years of the first carbon budget. The recently published *Climate Change Advisory Board Annual Review 2025: Electricity* (CCAB, 2025), based on the EPA's 2023 data combined with the latest emissions data from the EU ETS for 2024 estimated that 83.6% of the sectoral emissions ceiling has been used in the first 4 years of the five-year sectoral emissions period. Thus, 2024 used 15.7% of the sectoral budget and if 2025 has emissions of a similar magnitude it is likely that the first carbon budget period (2001-2025) will be approximately 99% of the budget and thus in compliance. This analysis has recently been supported by work undertaken by MaREI at the University of Cork in terms of both sectoral emission ceilings and the first carbon budget⁷

"Ireland is currently on track to meet the first carbon budget (CB1) when we compare the last three years of data with a greenhouse gas emissions pathway that aligns with CB1. The CB1 pathway ensures Ireland remains within the statutory target of 295 MtCO₂eq in the time period 2021-2025" (MaREI, Sept 2024).

26. The Proposed Development thus has been undertaken based on a worst-case approach in terms of the impact on calculated GHG emissions which will allow for variations in the emerging context in regards to actual GHG emissions compared to the Carbon Budgets and Sectoral Emission Ceiling targets.

Summary

26. In summary, in relation to the response to 2(i), the climatic assessment of the Proposed Development and Overall Project reaffirms the findings of the climate assessment that the impact of the Proposed Development and the Overall Project is not significant, based on the modelling assumptions as summarized below:
27. A Corporate Purchase Power Agreement(s) will be entered into, as proposed by Condition 13 of the planning decision from Fingal County Council, which demonstrates that the energy consumed by the development on site is met by new renewable energy generation in line with the Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy (2022). The CPPA will match the actual GHG emissions in terms of quantity of emissions on an annualized basis.
28. The indirect electricity emissions, from the national grid, will come from a range of electricity generating power stations, each of which hold a GHG permit. In addition, the direct emissions

⁷ <https://acrobat.adobe.com/id/urn:aaid:sc:EU:9eb53277-d503-4d12-944f-3855a47f366f>

from backup generators will be a variation to GHG permit GHG197-02 when in operation. Thus, both indirect and direct GHG emissions will operate within the ETS and thus the GHG emissions associated with the Proposed Development and Overall Project will be in line with CAP25 which stresses the importance of the EU ETS in reducing industry GHG emissions.

29. The electricity from the national grid, used to power the Proposed Development, will be supported by new renewable energy pursuant to a CPPA, and the development itself is therefore clearly in accordance with the aim of achieving the emissions reduction targets of the Sectoral Emissions Ceilings and the policies of CAP25 and the Government Statement on Data Centres. The continued use of CPPAs, which will offset in full all GHG emissions associated with the Proposed Development, and the operation of the facility within the EU ETS will ensure that GHG emissions from the facility will be fully mitigated throughout its lifetime with the facility having a net zero operational impact in terms of GHG emissions.
30. AWS has a global Energy Management System program that centralizes and standardizes all of this work across the business. This program aligns with industry best practices and international standards to help ensure AWS energy management practices are comprehensive and effective. All AWS Services and data centers (Leased, Owned, Hybrid, Colo, Edge, Local Zones, and Wavelengths) in France, Germany, and Spain are currently ISO 50001 certified. For a copy of the certification, see here: <https://aws.amazon.com/compliance/iso-50001-faqs/>. The efficient use of energy across AWS data centres will reduce GHG emissions associated with electricity generation.
31. In summary, in relation to the response to 2(ii), the Proposed Development and Overall Project thus has been undertaken based on a worst-case approach in terms of the impact on GHG emissions which will allow for variations in the emerging context in regards to actual GHG emissions compared to the Carbon Budgets and Sectoral Emission Ceiling targets. The recently published *Climate Change Advisory Board Annual Review 2025: Electricity* (CCAB, 2025), has estimated that 83.6% of the sectoral emissions ceiling has been used in the first 4 years of the five-year sectoral emissions period. Thus, 2024 used 15.7% of the sectoral budget and if 2025 has emissions of a similar magnitude it is likely that the first carbon budget period (2001-2025) will be approximately 99% of the budget and thus in compliance. This analysis has recently been supported by work undertaken by MaREI at the University of Cork which has confirmed that compliance with the first carbon budget is likely. The recently published EPA Report entitled "*Ireland's Greenhouse Gas Emissions Projections - 2024-2055*" (EPA, 27th May 2025) also confirms that the electricity sector is likely to achieve the first sectoral emission ceiling target:

"The sectoral ceilings projected to be achieved in the first budget period (2021-25) are in the Electricity, Buildings and 'Other' sectors"(EPA, 2025 (Section 3.2.2))

The report does note, however, that currently it is projected that the electricity sector is unlikely to achieve the second sectoral emission ceiling period (2026-2030) target.