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31st March 2025

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Re: Large Energy User Connection Policy Consultation (CRU202504) – EPA Ref: EPAC-0225

To whom it may concern,

I refer to the CRU consultation paper “Large Energy Users connection policy” published on 18/02/25, with a closing date for submissions of 04/04/25.

This consultation forms part of the National Energy Demand Strategy, being led by the CRU, which seeks to reduce the carbon intensity of energy demand in Ireland as we continue to grow our economy. The consultation on the review of Large Energy Users connection policy is being conducted in response to recent developments including the Government publication of the Sectoral Emissions Ceilings and the Government Statement on the Role of Data Centres in Ireland’s Enterprise Strategy.

The approach taken through the National Energy Demand Strategy has the potential to have a significant impact on carbon emissions in the future, particularly in relation to the actions taken to address the issues raised.

Climate change mitigation and reducing greenhouse gas emissions

The EPA Greenhouse Gas Inventory for 2023 and Projections 2023-2050 highlight the challenges that Ireland faces in achieving the scale and pace of greenhouse gas emissions reductions required to stay within the first two carbon budgets and reduce emissions by 51% relative to 2018. Important actions include large-scale and immediate

emissions reductions across the energy system, which is currently heavily dependent (86%) on fossil fuels.

Clear pathways to implementation are required to include all planned measures in future projections, and to ensure the achievement of the necessary emissions reductions, including clarification on the additional measures associated with the potential 26 Mt CO₂eq unallocated savings specified in the Climate Action Plan for the 2026-2030 period.

The EPA greenhouse gas inventory 2023 shows that National total emissions (incl. LULUCF) in 2023 were 58.8 Mt CO₂eq, 10.3 per cent below the 65.6 Mt CO₂eq in the 2018 reference year. 63.0 per cent of Ireland's Carbon Budget for 2021-2025 has been used in the first 3 years. If Ireland is to stay within the first carbon budget, an extremely challenging annual emissions reduction of 8.3 per cent is required for each of the remaining years. Almost all sectors are on a trajectory to exceed their national sectoral emissions ceilings for 2025 and 2030, including Electricity, Transport, Agriculture and Industry.

The latest EPA greenhouse gas projections 2023-2050 indicate that the first two carbon budgets (2021-2030), which aim to support achievement of the 51 per cent emissions reduction goal, are projected to be exceeded by a significant margin of between 17 per cent (With Additional Measures – WAM scenario) and 27 per cent (With Existing Measures – WEM scenario).

The EPA noted in its 2024 projections report that some measures included in the 2024 Climate Action Plan could not be included in the Projections as insufficient detail was available to model an implementation pathway (e.g. emissions savings from a decrease in embodied carbon in construction and agriculture diversification measures).

According to the latest National Inventory submission for 2023, the electricity sector reached 67.9 per cent of its allocated total budget for 2021-2025 of 40 Mt CO₂ eq. Given this amount, the electricity sector requires a reduction level of 10.3 per cent per annum over the 2024-2025 period to comply with its defined legal limits.

Emissions trading

The EU targets for GHG emission reduction are allocated separately to sectors that participate in the EU Emissions Trading System (ETS) (electricity generation, large industry and intra-EU aviation) and sectors outside the scheme, i.e. the non-ETS sectors (heat, transport and agriculture). Directive (EU) 2023/959 targets a 62% EU-wide reduction in ETS emissions by 2030 relative to 2005 levels. The ETS establishes a 'cap-and-trade' market that results in a carbon price for emissions associated with fossil fuel-generated electricity and for heavy users of fossil fuels. The EPA is responsible for

administering the EU ETS in Ireland for both stationary operators and for aircraft operators.

The EPA was designated the national competent authority for the EU Carbon Border Adjustment Mechanism, Regulation (EU) 2023/956. This regulation aims to put a fair price on carbon emitted during production of carbon intensive goods that are entering the EU, including electricity. CBAM will apply in its definitive phase from 2026.

Climate change adaptation and resilience

The EPA is leading the development of Ireland's first National Climate Change Risk Assessment (NCCRA), to be published in 2025. The risk assessment will be informed by the current understanding of projected impacts (from hazards such as heatwaves, flooding or drought) and consequences of climate change for Ireland. The approach will follow international best practice and be aligned to the European climate risk assessment (EUCRA) approach. This major national resource will inform strategic adaptation priorities and provide a basis for making decisions on the acceptability of climate risks to Irish society, informing action and investment to mitigate unacceptable risks and realise opportunities.

Ireland's Climate Change Assessment

You are also referred to the "Ireland's Climate Change Assessment" report, that provides summary information that can inform decision-making on climate actions.

Volume 4 of the report on Realising the Benefits of Transition and Transformation provides some insight into what is required to transform energy systems towards renewable energy and efficiency. The report notes how lowering final energy demand reduces the reliance on unproven mitigation technologies in the future. It also highlights the benefits the energy transition brings; lowering fossil fuel import dependence improves energy security; reducing combustion in vehicles and buildings increases air quality; renewables open up opportunities in the green economy, including for coastal communities and farmers; and distributed energy enables homeowners to be producers of energy, lowering 3 energy bills.

Volume 2 of the report on Achieving Climate Neutrality by 2050 introduces the current best understanding of how to mitigate climate change with a central focus on Irish literature seeking to inform the pathway to a climate neutral Ireland.

Large Energy User Connection Policy Climate Impact

In July 2022 the Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy was published. This states that 'islanded' data centre developments,

that are not connected to the electricity grid and are powered mainly by on-site fossil fuel generation would not be in line with national policy as they would run counter to emissions reduction objectives and would not serve the wider efficiency and decarbonisation of our energy system. Unless there is a specific plan to transition "islanded" datacentres to a decarbonised national grid, the widespread use of gas-fired off-grid datacentres may lead to a long-term commitment to fossil fuel usage hindering efforts to reduce Greenhouse Gas Emissions.

The EPA note the proposed decision that data centres connecting to the electricity network will be required to provide dispatchable (i.e. available when it is needed by the system) generation or storage onsite or nearby, which will participate in the electricity market. It is inevitable that this dispatchable generation capacity will be provided by fossil fuels and will contribute to rising Greenhouse Gas Emissions without any requirement to provide alternative or compensating supply from renewables.

Regulatory Considerations – Licensing Requirements

The EPA would like to draw your attention to the regulatory and licensing issues regarding Large Energy User installations and their potential environmental impact, in particular, on air quality, which will need to be considered if the proposed decision is to become policy.

Although “Large Energy User” is not defined in the document, the EPA would like to draw the CRU’s attention to the fact that any installation which exceeds the 50 MWth threshold of Class 2.1 of the First Schedule of the EPA Act 1992, as amended, must hold an EPA Industrial Emissions licence to operate. The EPA can only licence activities that have received full planning permission and conditions in that the licence must be consistent with the planning permission. For example, limitations regarding run hours may apply to the licence dependent on the information and emissions modelling provided by the applicant.

Installations below the 50 MWth threshold of Class 2.1 of the First Schedule of the EPA Act 1992 as amended, must comply with the requirements of the MCP Regulations (S.I. No. 595 of 2017 - European Union (Medium Combustion Plants) Regulations, 2017. As such they must register with the EPA and must adhere to appropriate ELVs and other conditions specified.

Air Quality Considerations

The EPA wish to highlight that where there is a high concentration of data centres, for example in Dublin, that there is the potential for an exceedance of air quality standards for NO_x, especially if generators across several of the data storage facilities operate simultaneously with each other and power plants or other licensed activities in the area.

EPA licences will require licensees / applicants to put a series of mitigation measures in place to ensure when their installation is operational, the activity and the cumulative operation of nearby installations must not exceed the ambient air quality standards. They may be required to consult with EirGrid as part of the establishment and implementation of the Ambient Air Quality Monitoring Programmes to ensure emissions do not breach the air quality standards.

The EPA notes that the Commission has made a proposed decision that data centres connecting to the electricity network will be required to provide dispatchable onsite or proximate generation and/or storage capacity which matches their MIC (subject to derating requirements), with this generation required to participate in the wholesale electricity market.

Data centres with dispatchable generation may take up a significant percentage of the NO_x or other emissions envelope, i.e. modelling of potential air emissions compared to the limit values for air. This may limit the amount of such activities that the EPA can licence in a particular location.

When applying for planning permission or an IE licence, the emissions impact assessment modelling should have clear operational scenarios, such as run hours, loading and fuel types. The modelling must consider the potential impacts on human health, ecological receptors, Natura 2000 sites and climate. Proposed development, in-combination and cumulative effects in relation to emissions (such as but not limited to air and noise) should be considered. This would also include considering potential emissions from the “onsite or proximate generation” detailed as part of “Current arrangements as per this policy decision” in the Proposed Decision Paper (CRU/202504). Therefore, this could prevent the applicant or applicants for other developments in the area from being granted the necessary connection agreement/ licences/ permissions to operate due to potential for cumulative/ in-combination effects. Also, based on the potential for exceedances of limit values, not all dispatchable generation in an area may actually be able to operate even if they are considered by CRU/ EirGrid to be available, as to do so may lead to a breach of air quality standards and potentially impact on human health. Therefore, this could impact the CRU’s ability to comply with its statutory obligation to protect the security of supply of electricity by ensuring that electricity system can meet the reasonable demands of all consumers.

It is critical that great care is taken to ensure that permissions are not granted through one process without taking into account the full key risk of emissions and renewable energy impact. This should be considered at the beginning of the regulatory process rather than it being identified at later stages of regulatory processes. This is to avoid unnecessary investment in infrastructure that cannot be authorised. It is critical that earlier stages of the permissions/ consenting/ processes take into account the risks to human health, the environment and climate from emissions, and that Ireland does not

end up with a significant amount of data centres/ power plants/ other industries with similar emission types in an area where such development impacts on the environment.

Regarding “Location”, the Proposed Decision Paper (CRU/202504) details the future potential evolutions of policy being “Introduction of strategic development/spatial strategy for LEUs, subject to Government Policy, with coordinated provision of supporting utilities and infrastructure.” It is vital that the above points regarding emissions (at installation level, cumulative and in-combination effects) are considered and addressed to avoid the risk of refusal of a licence. Such applications may be refused a licence by the EPA where it may result in elevated levels of emissions in that area (even if still below the limit values). This may result in a potential exceedance of limit values, and potential for other developments to be refused permission in the area. This is due to the fact that the emission limits envelope will be taken up by the emissions and potential emissions from having a significant amount of data centres/ power plants/ other industries with similar emission types in an area.

The CRU’s mission statement includes “drive a low carbon future”. The decision making criteria on driving a low carbon future and adherence to relevant Climate Action Plan(s) and Climate legislation should be built into the decision making process by the CRU.

The CRU’s Connection Policy must be adaptable to changes (often introducing stricter criteria) in emission limit values, climate legislation, Climate Action Plan(s) and other related policies and legislation.

Regulatory Considerations – Demand Flexibility from data centres

The EPA would like to draw your attention to the regulatory and licensing issues regarding the use of demand side management installations and their potential impacts on air quality, which will need to be considered. I also refer you to the EPA’s submission to the National Energy Demand Strategy Consultation Paper (CRU2023148) which are restated here.

The demand site installations are, in general, likely to be subject to the European Union (Medium Combustion Plant) Regulations 2017. Under these Regulations, the operator of a medium combustion plant (MCP) must apply to the Agency for registration in the MCP register in accordance with the following time frames:

- At least two months prior to being put into operation, in the case of new medium combustion plants (i.e. those brought into operation after 20th December 2018);
- Prior to 1 November 2023, in the case of existing medium combustion plants with a rated thermal input greater than 5MW;
- Prior to 1 November 2028, in the case of existing medium combustion plants with a rated thermal input of less than or equal to 5MW.

MCPs may be subject to Emission Limit Values. These will be specified on the MCP register on the EPA website for each individual entry on the register.

If the site where the demand side installation is present has an Industrial Emissions/Integrated Pollution Control or Waste licence, then it is regulated under that licence. If a new demand side installation is being installed on a site, not currently covered by the existing licence for that site, then a Technical Amendment or Licence Review will be required. Similarly, if the demand side installation was put in for emergency generation but is now intended to provide power supply to the grid, it is likely to require a Licence Review as this represents a change of use with a change in the potential environmental impact.

Several existing EPA licenced sites, such as data centres, already have back-up diesel generators with licenced emission points in their licences, but there are often time restrictions on how frequently these generators can run. Any increase in the time limit may require the licence to be technically amended or reviewed.

The EPA would like to highlight the impact that more frequent use of demand side installations (particularly those run on diesel or other fossil fuels) will have on air quality. If several demand side units are run at the same time in the same area, then there is the potential for the ambient air NO_x quality standard to be breached. Under the CAFÉ Directive, the annual air quality standard for NO_x is 40 mg/m³. Furthermore, an annual limit value of 30 µg/m³ for NO_x is specified in the CAFÉ Directive for the protection of ecosystems. This will also have to be considered.

In practice, this means running multiple demand side installations in close proximity to each other may result in air quality breaches and therefore would not be permitted by the EPA under the relevant licence.

Some of the solutions to increase generation capacity set out in the consultation document may require licences and to date there has been limited engagement from licensees with the EPA in the pre-application stage. Consultation with the EPA prior to the submission of a licence application results in a better-quality licence application resulting in a reduced risk of delays in the time a licence takes to be processed. Where demand side installations are part of existing licenced sites or where the power generation exceeds the licensable threshold of 50 MW thermal input the operator should engage with the EPA at the earliest opportunity.

Biomethane/biofuels

Concerning the use of biomethane as fuel. It is essential that in achieving the environmental objectives (net zero by 2050), that renewable sources such as biofuels e.g. HVO, bioliquids and biomass are sourced sustainably and prevent biodiversity loss, on which the indirect land use change associated with the production of certain biofuels,

bioliquids and biomass fuels has a negative impact. Certificates of source and origin for such fuels should be provided and sourcing must be in line with RED III.

Reporting Arrangements

The LEU Connection Policy states that data centres will be required to self-report to the System Operator annually in relation to their use of renewable energy and their sites' emissions. The EPA would like to draw the CRU's attention to the fact that where the large energy user requires an EPA licence and/or a Greenhouse Gas (GHG) permit from the Agency they will be required to report key environmental data to the EPA annually (as part of the Annual Environmental Report) or more frequently. It is important to consider these reporting requirements in light of any additional reporting requirements proposed and that duplication of reporting is avoided.

Summary

The EPA welcomes the opportunity to comment on the CRU Large Energy User Policy. The EPA assessment of this policy and is that it will result in a rise in Greenhouse Gas emissions due to the use of fossil fuels to power the dispatchable power at these large energy users. This will impact on Ireland's ability to implement the Climate Action Plan for the 2026-2030 period and to reach the legal binding targets for emissions reductions.

Thank you for the opportunity to comment on the Large Energy Users Connection Policy.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Darragh Page'.

Darragh Page

Programme Manager

Office of Environmental Sustainability

Environmental Protection Agency