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16<sup>th</sup> February 2024

**Re: National Energy Demand Strategy Consultation Paper (CRU2023148)**

To whom it may concern,

I refer to the CRU consultation paper “National Energy Demand Strategy” published on 21/12/23, with a closing date for submissions of 16/02/24.

This consultation paper sets out proposals for the structure, content and implementation of the National Energy Demand Strategy (NEDS) for Ireland and seeks input to inform decisions on more detailed design of proposals, next steps for implementation and the long-term design of the strategy.

The EPA note and support the objective of the National Energy Demand Strategy (NEDS) to facilitate a co-ordinated approach across all relevant public bodies working to increase demand flexibility. In particular, the EPA support the objective of enabling Ireland to decarbonise its economic growth, support energy customers having more control over when they use energy, and to move their consumption to times when renewable generation is available.

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.

EPA greenhouse gas inventory and projection reports inform the monitoring of Ireland's climate action performance on a sectoral level. These reports, published in 2023, have highlighted the challenges that Ireland faces in achieving the scale and pace of Greenhouse Gas emissions reduction required to stay within the first two carbon budgets and reduce emissions by 51% relative to 2018.

[EPA greenhouse gas inventory 2022](#) show that National total emissions (including LULUCF), in 2022, were 68.07 Mt CO<sub>2</sub> eq, 2.7 per cent below the 2018 reference year. 47 per cent of Ireland's Carbon Budget for 2021-2025 has been used in the first 2 years. If Ireland is to stay within the first carbon budget, an extremely challenging annual reduction of 12.4 per cent is required for each of the remaining years. In the Electricity sector, with 49% of the 2021-25 emissions budget already used, annual emissions reductions of 17% are now required from 2023-25 to stay within budget.

[EPA greenhouse gas projections 2021-2040](#) 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 24 per cent (With Additional Measures - WAM scenario) and 34 per cent (With Existing Measures – WEM scenario). In the WAM scenario it is assumed that by 2030 the renewable electricity share increases to at least 80% (as set out in the Climate Action Plan 2023). This is mainly a result of further and rapid expansion in wind energy generation (comprising 7.8 GW onshore and 5 GW offshore). A large expansion of other renewables (such as solar photovoltaics increasing to 6 GW by 2030) is also assumed under this scenario. Almost all sectors are on a trajectory to exceed their national sectoral emissions ceilings for 2025 and 2030, including Electricity, Transport, Agriculture and Industry. A continued lack of delivery of large-scale practical actions to decarbonise activities in all sectors will see us exceed our carbon budgets.

You are also referred to the recently published "[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 demands 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

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.

It is recognised that world class infrastructure takes significant time and investment from conception to implementation. Reducing electricity demand as intended by the draft National Energy Demand Strategy can reduce the requirement for additional renewable generation capacity and can potentially be achieved more quickly. The time horizon for achievement of national and EU commitments is getting ever shorter.

Considerations have been outlined below under the proposed core objectives of the strategy.

***Set out measures which contribute to ensuring overall electricity and gas demand is consistent with Ireland’s carbon sectoral emissions ceilings (SECs).***

Under Section 14A of the Climate Act, giving an account of the trend in sectoral emissions is an obligation on each Minister of Government for their sector and that analysis is to be based on the Agency’s (EPA’s) reports, these being the national greenhouse gas emissions inventory and the projection of future greenhouse gas emissions prepared by the Agency. For this reason, the EPA is committed to producing sectoral emissions estimates aligned with the sectors set out in Ireland’s sectoral emissions ceilings (SECs). In Table 2 on p.26 of the Consultation Paper where it highlights the responsibility of State Agencies for Monitoring and reporting on sectoral emissions, it would be welcome to note this requirement on sectors to give an account of reductions or increases in emissions seen in the EPA reports.

In table 2 on p.27, there is reference to the obligation on Suppliers and other market participants to “Deliver and enable uptake of dynamic and Time of Use (ToU) tariffs”. One important part of enabling this uptake is by providing the necessary information to electricity users to allow informed decisions to be made. Indeed the 2024 Climate Action plan commits to “*empower business and households by developing clear public information regarding electricity carbon intensity in real time and promote opportunities to shift demand to times of low carbon intensity*”.

The provision of publicly available real-time carbon intensity data will undoubtedly contribute to customers knowledge, but of particular usefulness to prospective customers could be having time-of-use data available to users in advance of signing up to ToU tariffs. This would aid the decision-

making process and is something that could be achieved relatively quickly, potentially contributing to making a positive impact towards the achievement of the first carbon budget and associated sectoral ceilings.

The future role of biomethane is something that is the subject of a separate strategy, co-developed by the Department of the Environment, Climate and Communications (DECC) and the Department of Agriculture, Food and Marine (DAFM), which is currently open to public consultation until 27<sup>th</sup> February 2024. It will be important for the NEDS to align with the biomethane strategy and vice-versa in considering the role biomethane could play in demand reduction.

In this Consultation Paper the role of biomethane is discussed in section 4.2.2 in the context of enabling energy users to shift away from grid electricity use. Incentivising such a shift is something that would require very careful consideration, as onsite power fuelled from the gas grid is still likely to be largely fossil fuelled for a considerable period of time. This could have the unwelcome side-effect of threatening the achievement of the SEC for the Industry sector to pursue achievement of the SEC for Electricity. There is also the potential risk of creating stranded assets in a future scenario where renewable generation and storage have been greatly increased. A less risky use of biomethane would be as a replacement for fossil gas in hard to decarbonise sectors.

The proposed Industrial and commercial heat flexibility in section 4.3.5 would appear to offer some potential to save carbon emissions if it enables the use of additional renewable electricity and less fossil fuelled heat. This is effectively a selective switch away from fossil fuel use and towards grid electricity use but only at times when there are high levels of renewable generation, avoiding a situation where it contributes to greater fossil fuelled electricity demand. In this situation achievement of the SEC for Industry should not result in a negative outcome for the Electricity SEC.

***Deliver demand flexibility, particularly non-fossil fuel flexibility, and demand response initiatives, as outlined in CAP23, which sets a target of 15-20% demand side flexibility by 2025 and 20-30% by 2030.***

A particular issue raised in the Consultation paper is that of monitoring and measurement, of the impact of demand flexibility measures on emissions and of the emissions impact of demand more generally. Section 2.7 highlights the need for engagement with relevant bodies, including the SEAI and EPA, to understand how best to review the impacts. To this end it would be important to give due consideration to the ongoing work of the SEAI with relevant stakeholders on the development

of an Enhanced Reporting Framework and Implementation Plan for Electricity Emissions for Large Energy Users (LEU's).

As a point of clarification in relation the emissions reporting by the EPA, it should be noted that the sources used to produce the greenhouse gas inventory and projections do not support the sectoral attribution of emissions associated with electricity consumption or sectoral distribution of renewable electricity. Emissions associated with grid electricity consumption in the greenhouse gas Inventory are attributed to the power generation sector, with a small number of exceptions associated with onsite usage. This is sufficient for Inventory purposes where the chief concern is that all sources of emissions are accounted for. Additional data sources (such as the CSO's Business Energy Use survey conducted annually) allow for further estimation of sectoral electricity usage. The Consultation proposes that DECC (and relevant State Agencies) carry out work to address the information gap with respect to the attribution of sectoral emissions and the EPA will be happy to be involved in this. The EPA's involvement can provide its expertise in emissions measurement and reporting and emissions drivers rather than additional data sources. More detailed sectoral and temporal attribution and tracking of electricity use on a timely basis is likely to require the use of Smart Meter data (and possibly sub-metering to understand the purpose of the electricity consumption).

***Support the delivery of Ireland's transition to reach net zero emissions by 2050.***

Section 3.2.2 of the Consultation Paper discusses the use of ToU tariffs and their potential to shift consumption away from times of peak demand or system stress. It is noted that only 8% of consumers with a smart meter are currently availing of smart meters. It is also noted that it is proposed to increase awareness and information provision around smart meters, helping consumers make informed decisions regarding ToU tariffs, and that ToU does not rely on additional infrastructure to be built to realise the benefits in emissions terms.

As noted further on in the Consultation Paper the use of dynamic tariffs, that incentivise use of renewable generation in a meaningful way when it is abundant, has been successful elsewhere and could play an important role in Ireland also. As the electrification of heating and transport happens over the next decade, ToU tariffs have the potential to not just assist with alleviating peak demand but to play an important role in ensuring the maximum benefit is obtained from planned level of renewable generation.

The proposed procurement of 500MW of flexibility, most likely in the form of battery storage, has the potential to support the transition to net-zero emissions by obtaining further value from renewable generation that would otherwise be dispatched down. The UAE Consensus from COP 28 in Dubai recognises the need for “*Accelerating efforts globally towards net zero emission energy systems, utilising zero- and low-carbon fuels well before or by around mid-century*”. This proposed flexibility procurement (intended to be energised by the end of 2026) will provide important insight into one possible approach towards achieving that objective while at the same time helping achieve shorter term sectoral emission ceiling and carbon budget goals.

On a domestic and commercial scale, an assessment of similar use of battery storage (with or without associated solar generation) and its potential role to help achieve or surpass the flexibility targets being anticipated in table 4 on p.38 may also be worth further consideration.

### ***Regulatory Considerations***

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. In this regard, the EPA is placing a priority on regulatory decisions that support and enable the transition to a low-carbon economy.

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 are subject to run time limitations and 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 site 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 also like to draw the CRUs attention to 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<sub>x</sub> quality standard to be breached. Under the CAFÉ Directive, the annual air quality standard for NO<sub>x</sub> is 40 mg/m<sup>3</sup>. Furthermore, an annual limit value of 30 µg/m<sup>3</sup> for NO<sub>x</sub> 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.

Concerning the use of biomethane as fuel. The EPA would like to draw the CRU's attention to the fact that if this biomethane is going to be produced by anaerobic digestion of waste materials, then the anaerobic digestion installations will likely require IE licences from the EPA, as anaerobic digestion is a Class 11.4(b) activity under the EPA Act as amended.

Thank you for the opportunity to comment on the National Energy Demand Strategy (NEDS)

Your sincerely

A handwritten signature in black ink, appearing to read "Darragh Page". The signature is written in a cursive, flowing style.

Darragh Page

Programme Manager

Office of Environmental Sustainability

Environmental Protection Agency