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Introduction

Not Here Not Anywhere (NHNA) is a nationwide, grassroots, volunteer group campaigning to end fossil fuel exploration and the development of new fossil fuel infrastructure in Ireland. We advocate for a just transition to publicly-owned renewable energy systems and a society-wide reduction in energy demand both here, and around the world. We are a non-partisan group and are therefore not affiliated with any political party.

NHNA welcomes the fact that this proposed decision paper is being developed and that the Commission for Regulation of Utilities (CRU) has recognised the massive impact of data centres on Ireland's energy system means the status quo cannot continue. Therefore, a longer-term state-led approach for spatial planning and strategic development in addition to an updated LEU connections policy, as is being developed in the proposed decision paper, is required. We also welcome that CRU recognises that due to the size and scale of data centre demand, and their high utilisation of allocated capacity, in the absence of clear data centre connection policy, the continued reliability of our electricity network infrastructure is significantly impaired.

We support the principle of a strategic development/spatial strategy for LEUs. However, we have concerns about the extent, suitability and legality of this current proposed decision paper. In particular, gradual declines in fossil fuel usage are not enough for a safe and livable climate future. We need a dramatic and steep decline in fossil fuel use, production and proliferation particularly in wealthy countries like Ireland, and this document fundamentally seeks to do the opposite, through the focus on dispatchable fossil-fuel generation. The balance of interests are not being met within this document to adequately safeguard the future of Irish citizens from climate breakdown and keep us in line with the legal requirements under section 15 of the Climate Action and Low Carbon Development (Amendment) Act 2021.

Fundamentally, grid infrastructure development needs to focus on the decarbonisation and democratisation of our society as a whole, by enabling resilience through sustainable forms of energy generation such as renewable energy, innovative battery storage technology, green hydrogen, demand-side management, community-based microgrids and further bilateral

interconnectors. Unfortunately, data centres under current and proposed strategies undercut our potential to decarbonise society and increase reliance on further fossil fuel generation due to their extensive electricity and water usage. The extent of data centre development in Ireland makes us a notable outlier from our European peers. Despite Ireland having more pressing challenges, our European peers are taking more considered and urgent action, in their transposition of the EU Energy Efficiency Directive (EED).. Therefore, this submission proposes alternative methods to manage the impact of LEUs within our borders so Ireland can be presented as an exemplar, instead of a laggard, in how data centres can contribute to society in a sustainable way.

Key Observations

The Large Energy Users (LEU) Connection Policy proposed decision paper:

- Is a welcome admission that the state must play a larger and more consistent role in data centre regulation.
 - The laissez-faire approach to data centre regulation has led to a ballooning of resource usage and the introduction of emergency measures, such as the CRU's <u>2021 decision paper</u> and subsequent policy documents.
 - It is in no one's interest to have an ad-hoc policy regarding the regulation of data centres and this proposed LEU policy is a welcome departure from that approach.
- Neglects our legally binding obligations under the Climate Action and Low Carbon Development (Amendment) Act 2021.
 - The legal advice raised in this document, regarding this body's lack of responsibility to ensure explicit greenhouse gas (GHG) emissions reduction and offsetting measures is opaque. The fact that the substance of this legal advice is not stated limits the extent of meaningful commentary that participants such as ourselves can make on this consultation and we are concerned about this lack of transparency.
 - Other domestic legislation, such as the 2023 Climate Action Plan notes that demand growth from data centres will need to be "moderated" and "achieve carbon-free demand".
 - The Climate Change Advisory Council (CCAC) <u>has stated</u> that it "views the recent growth in 'Islanded' data centres as of particular concern due to their potential to increase gas demand, jeopardise gas security and associated increased carbon emissions."
- Will result in more climate-harming fossil infrastructure being commissioned.
 - Irish data centres currently <u>have enough private fossil fuel generation</u> to power the entire country.

- Under current regulation many large data centres have been granted industrial emission licenses allowing them to avail of their backup, fossil-fuel generation, on a near-constant basis.
- The recently approved Shannon LNG Ltd. gas plant (PA08.319566) is planning to co-locate data centres on campus, demonstrating that data centres are creating justification for new fossil fuel demand.

• Represents a weak transposition of the EU Energy Efficiency Directive.

- Reporting on use of renewable/non-renewable energy and on-site GHG emissions is the bare minimum required under relevant European directives.
- Additional reporting requirements, as per the EED, should be mandated such as real-time water usage, waste heat re-use, battery capacity, power demand, floorspace, Power Usage Effectiveness (PUE) and additional metrics such as data storage capacity and data storage categorisations.
- Other European countries, <u>such as Germany</u>, have required strict renewable energy usage requirements within their relevant domestic legislation.
- Misses an opportunity to provide necessary transparency regarding data centre operations.
 - It is crucial that transparency is provided as to which sector data centres fall under in the climate act (e.g. electricity, industry or built environment) for clear accountability and to prevent data centres 'falling through the cracks' between sectoral boundaries.
 - A tiered system of data centres should be outlined to determine priority for new connections (e.g. essential services, commercial, sovereign clouds etc.)
 - In addition, the services provided by current data centres should be broadly categorised (e.g. business critical, moderate priority, low priority), regularly reported and prioritised based on demand management and social need. Data centres should then be mandated to limit services based on these categorisations/prioritisations and the needs of the grid.
 - Data centres must provide real-time GHG emissions and hourly electricity reporting to ensure accuracy of reporting, sufficient information for demand-side management and sectoral emissions monitoring.
 - Adherence should be monitored in pre-planning approval, annual audits and verifiable through a live public dashboard.

Policy Asks

The LEU Connection Policy should require:

- 1) The infrastructure of data centres is regulated as a public utility
 - NHNA recognises and agrees that data centres and Information and communication technology (ICT) are critical to a modern economy and therefore propose that data centres are regulated as public utilities.

• The ESB model is an example of a state-owned entity that balances maintaining public service with commercial opportunities.

The benefits of such an approach are numerous:

- Regulatory clarity and responsibility would be provided in relation to data protection, energy usage and water usage.
- Requirements regarding direct onsite renewables would be easier to enforce.
- Similar to broadband infrastructure, large users could lease storage and generation capacity to ensure a more sustainable long-term operation.
- Digital utility levies, similar to the Digital Services Levy Act (2024), could be introduced to directly improve the sustainability of the national grid and broadband access across the country.
- The requirement of a license to operate with obligations for providers concerning resource usage and adherence to national targets. This license would mandate adequate reporting is adhered to on an accurate and non-volunteer basis.

Policy asks:

- The CRU should recommend that in order to sufficiently regulate this industry that the government legislate to amend the Electricity Regulation Act (1999) and/or create a new Digital Infrastructures Regulation Act.
- The CRU, or a newly defined body, should have the legal mandate to regulate all aspects of this essential service to ensure a fair and sustainable data centre landscape.

2) New data centres are powered by on-site renewable energy

- Data centres are currently cutting into our renewable energy capacity that could be used to decarbonise current demand and are not currently acting as an accelerator for new renewable investment, <u>as detailed</u> by the Energy policy and Management Group (EPMG) last year.
- There is legislative precedent for mandating renewable usage within Europe. The German Energy Efficiency Act (EnEfG) requires data centres to have 50% of their electricity consumption from renewable sources as of 2024 and 100% as of 2027. Albeit, the German legislation allows for Corporate Power Purchase Agreements (CPPAs).
- Allowing the use of CPPAs to match data centre demand runs the risk of enabling greenwashing by allowing data centres providers to claim additionality without evidence. CPPAs <u>have been shown</u> to provide only limited mitigation within the Irish context "with only 16% of data centre demand covered by additional renewable capacity between 2020 and 2023". This demonstrates the unreliability of this method to ensure necessary decarbonisation.

Policy asks:

- Data centres should be required to create new on-site renewables to ensure the new demand they create is not being powered by new fossil fuel generation.
- Where complete onsite generation is deemed unfeasible, contribution to off-site renewable production within the locality, with sufficient energy storage, and hourly matching of production and consumption, must be required (not optional as in the proposed decision paper). The current "Guarantees of Origin" scheme does not match the timing or geography of electricity production and consumption, thus causing increased fossil fuel consumption on the electricity grid to meet data centre demand at times when the renewables they have purportedly funded are not available, and placing further burden on transmission infrastructure to cater for data centre needs.
- This should be done on a phased basis, such as the <u>German EnEfG</u>, by mandating 50% of their electricity consumption from renewable sources as of 2025 and 100% as of 2027.
- CPPAs should only be used if the provider can prove their creation of new additionality within Ireland and on a time-limited basis while onsite renewables are being operationalised.
- The CRU, or a newly defined body, should have the legal mandate to regulate all aspects of this process.

3) Strict demand-side enforcement of data centre water usage

- As stated in the opening page of this policy the CRU's mission is "to protect the public interest in Water, Energy and Energy Safety". However, the responsibility to mitigate the impacts of data centres on water usage has been largely abdicated within the LEU Connection Policy.
- The EDD and Corporate Sustainability Reporting Directive (Directive (EU) 2022/2464) (CSRD) will require that water usage from data centres is reported upon.
- Notably, the 2020 hose pipe ban in the Dublin region <u>exempted data centres</u>, further highlighting the regulatory inequality these infrastructures can expose if not managed appropriately.
- As the climate crisis worsens, <u>the risk of drought is increasing</u>, with the European Environmental Agency (EEA) stating that "that Europe is the fastest-warming continent in the world".
- Dublin, where most data centres are located, already has a particularly stressed water system which will require new, expensive infrastructure to mitigate. Crucially, 40% of all Dublin's water supply comes from one source and the Chair of Uisce Eireann has <u>recently warned</u> that our water system is in a 'desperate state'.
- Currently, regulation of water usage by data centres is fragmented between Uisce Éireann, the Environmental Protection Agency and the CRU, hampering

the effective regulation/monitoring of this critical resource by data centres. This also adds to the difficulty of obtaining reliable statistics on water usage by data centres in Ireland.

Policy asks:

- New data centres should only be approved if they commit to renewable-powered cooling systems.
- Where renewable-powered cooling systems are deemed inappropriate closed-loop cooling systems should be required.
- Existing data centres with water cooling systems should be subject to real-time reporting and charged water abstraction levies where necessary.
- Data centres should be charged new sector-specific levies, as LEUs, due to their increased water usage.
- In the case of acute water shortages, data centres should be deprioritised to prevent negative impacts on affected communities.
- The concept of constrained regions should apply to water usage in the same way it is utilised for electricity usage of data centres.
- The CRU, or a newly defined body, should have the legal mandate to regulate all aspects of these processes.

4) District heating schemes by default unless proven otherwise unfit for the locality

- As per the <u>2023 CCAC recommendations</u> more "urgency and ambition" is needed for district heating systems for data centres.
- Currently, there is only one data centre in Ireland that has been equipped for a district heating system. That data centre is in Tallaght.
- <u>Cost and regulatory concerns indicate</u> that current and in-stream data centres are highly unlikely to be retrofitted for district heating systems.
- Therefore, new data centre applications must be prioritised for such schemes, where it makes sense to do so.

Policy asks:

- New data centres should be required to provide or contribute to an existing district heating system unless they can demonstrate that it is not technically or economically feasible, at the planning stage.
- The CRU, or a newly defined body, should have the legal mandate to regulate all aspects of this process.

5) Data centres cannot exceed their contribution to an overall energy cap.

 Data centres' electricity usage is massively out of step with our European peers. As of 2022, the average electricity consumption across Europe ranged between <u>1.8–2.6%</u> while Ireland sat at 18% at that same time (21% as of 2023 and continuing to grow).

- The proposed strategy of necessitating on-site dispatchable fossil-fuel electricity generation is inappropriate as it puts our legally binding climate targets at risk. This is an unnecessary and shortsighted trade-off.
- Instead, the guiding principle of the LEU Connection Policy should be bringing Ireland in-line with the European average, through various means and methods while encouraging decarbonisation in the sector.
- The CRU should take inspiration from the <u>German EnEfG</u> as a forward-thinking approach to managing data centres within the EU, but take these instruments further due to the outlier situation in Ireland (German data centre electricity consumption sat at just 3%, <u>as of 2022</u>).

Policy asks:

- The CRU should recommend a legislative energy cap, matching the European average, as the guiding principle for all data centres to adhere to.
- A tiered system of data centres should be outlined to determine priority for new connections (e.g. essential services, commercial, sovereign cloud etc.)
- Similar to the <u>German EnEfG</u>, phased mandates for PUE of existing data centres should be introduced with an aim for a PUE of 1.2 by 2030.
- Existing data centres must produce regular reduction plans in order to achieve the national energy cap.
- Data centres should be mandated to install battery storage, instead of fossil fuel generation, to shift and manage peak loads.
- Data centre operators should face financial penalties or forced power-downs if they fail to adhere to reduction plans.
- Adherence should be monitored through planning approval, annual audits and verifiable through a live public dashboard.
- The Irish Government should invest in sovereign cloud services, such as <u>France's Bleu</u>, to raise the industry standards and mitigate against unforeseen market shocks.
- Community-owned microgrids, like the <u>Brooklyn microgrid</u>, should be encouraged to achieve national reductions while creating energy resilience, autonomy, employment and other financial benefits within communities.
- The CRU, or a newly defined body, should have the legal mandate to regulate all aspects of this process.

6) A nationwide moratorium on data centres is imposed until the above policies are enacted.

• To ensure that data centres do not undermine our climate commitments, a nationwide moratorium on the construction of new data centres is required.

• A moratorium or "pause" on new data centres is supported by a majority of the Irish public, <u>as evidenced by polling</u>.

Policy asks:

- The CRU extends the "de-facto moratorium" on data centres as imposed by the creation of "constrained" regions to cover all new connections to the grid.
- The CRU recommends that the government enact a policy statement on data centres to enforce this moratorium across relevant planning authorities.
- This policy statement stays in effect until the creation of a newly defined body or the CRU is provided a legal mandate to regulate all aspects concerning data centres in Ireland.

In conclusion, and on a broader geopolitical scale, we note the increased risk of Ireland's economy being over-dependent on one sector, particularly a sector that is primarily US-headquartered. For example, we have seen Microsoft (one of Ireland's largest operators) pull back from data centre investments, raising the possibility of data centres becoming stranded assets. Data centre policy must acknowledge that long term growth in this sector is not guaranteed and these developments present regulatory space for innovative solutions, as suggested throughout this document (e.g. energy caps, sovereign clouds, on-site renewable energy requirements and resilient community-owned microgrids).

Thank you in advance for your consideration and the opportunity to comment on this important policy document.

Kind regards,

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Comment Responses

Q1. Comments are invited from interested parties in relation to the topics covered in Section 2 Constrained regions of the electrical system and security of supply.

See heading 6 in the "Policy Asks" section of this submission.

Q2. Comments are invited from interested parties in relation to the topics described in Section 3 Proposed decision on electricity connections.

See answers 1, 2, 5 and 6 in the "Policy Asks" section of this submission.

Q3. Comments are invited from respondents as to whether there should be a minimum level in terms of MIC below which this policy, or elements thereof, should not apply and, if so, what would be a reasonable minimum level of MIC?

See heading 5 and 3 in the "Policy Asks" section of this submission.

Q4. Comments are invited from respondents on the proposed approach of providing the System Operators with the ability to require demand flexibility from data centres on the local system as deemed necessary on a case-by-case basis.

See answers 1, 2, 5 and 6 in the "Policy Asks" section of this submission.

Q5. Comments are invited from interested parties in relation to the topics described in Section 4 Gas connections.

Data centres should be required to provide flexibility to the grid. However this should not be in the form of on-site fossil fuel generation. Current policy sets a requirement for data centres to provide onsite or proximate generation, and for this to participate in the wholesale electricity market. However, in practice, this has caused data centres to install new fossil fuel generation infrastructure on-site and use it for significant periods.

We support the policy against islanded data centres (i.e. those connected to the gas network that are not connected to the electricity grid and are powered mainly by on-site fossil fuel generation). However, policy should go further than that, by ensuring that on-site fossil fuel generation should not be allowed at all on data centre sites.

The fact that data centres are currently paid (through the electricity capacity market) to install fossil fuel generation and burn fossil fuels on-site is perverse. On-site fossil fuel generation is even worse in terms of emissions than grid-scale fossil fuel generation. Paying data centres to reduce demand from a high baseline also incentivises high-demand baselines. All capacity market payments should be limited only to non-fossil fuel dispatchable generation and energy storage. Given that private wire legislation is being drafted, it will be important to joined-up thinking and limit the use of private wires to community renewable generation and energy storage only.

Q6. Comments are invited from interested parties in relation to the proposed approach described in Section 5 Proposed direction to System Operators.

See bullet point 5 "Key Observations" and heading 1 in the "Policy Asks" sections of this submission.

Q7. Comments are invited from interested parties in relation to Section 6 Future potential evolution of LEU policy.

The LEU policy should factor in people's well-being, sustainability and reducing fossil fuel use urgently, not economic growth as an end itself. Therefore, this document should adhere to <u>Government policy on well-being</u>. Security of energy supply should be defined as the availability of sufficient energy to provide for people's well-being, and not defined as the availability of sufficient energy to meet all demand of all existing or potential demand customers. "Reasonable" demand does not include demand which causes increased fossil fuel use for non-essential needs in a climate emergency. Any projections of future demand should clearly distinguish between "business as usual" scenarios and scenarios where climate action is prioritised and demand is limited accordingly.

While many digital services are valuable, this does not mean that all data centre services contribute to people's well-being. Digital services which support important tangible services, information services providing quality information, communications services enabling positive connections between people, remote meetings and communications are important. However, many digital activities are not beneficial to, and can also be detrimental to, people's well-being.

For example, advertising-driven social media and platforms use very significant data centre services to maximise content engagement at any cost. They process, store and use energy-intensive artificial intelligence on personal data, in order to persuade people to buy more and more, even when that is detrimental to their own health, the health of the planet and/or the rights of workers. Other examples include the online gambling industry and the highly energy-wasteful cryptocurrency mining industry. The case for data centres should not presume that all data centres are providing positive services. Investment in electricity grids needs to prioritise the decarbonisation of transport and building heat, which is essential to meeting our climate targets and phasing out fossil fuel, rather than prioritising the connection of data centres.

Ireland needs to follow the example of the Netherlands in this area, as noted in the proposed decision paper:

"The Netherlands Authority for Consumers and Markets (ACM) recently developed and implemented a prioritisation framework for the distribution of capacity on the electricity grid, which was facilitated by the introduction of national legislation. Parties that contribute to identified social goals can thus be given priority for a connection to the electricity grid."

In order for society to prioritise what data centre services should be given access to scarce energy, and what data centre services should be de-prioritised, it is important to have more transparency on exactly how much energy is being used by different data centres for different purposes, as well as on the grid capacity available and used by different data centres in different locations for different purposes.