NETWORKS

REVIEW OF LARGE ENERGY USERS CONNECTION POLICY

ESB Networks' Response to CRU's Review of Large Energy Users Connection Policy – 30/08/2023

Call for Evidence

CRU/202357

Contents

1. Introduction

ESB Networks welcomes the opportunity to respond to the Commission for Regulation of Utilities' (CRU) Call for Evidence on "Review of Large Energy Users connection policy."

ESB Networks recognises that Large Energy Users (LEUs) are a fundamental aspect of the success of the Irish economy and that they will have an important role in Ireland's transition to a low-carbon economy. The issues that arise are well covered in the CRU's Call for Evidence relating to its Energy Demand Strategy.

Whilst large energy users can play a central role in carbon reduction through participating in flexible electricity demand, without urgent action there is growing public concern about the potential impact of the growth of LEUs on Ireland's binding climate emissions targets. ESB Networks recognises the importance of this call for evidence on how policy might be developed in the coming years to alleviate any such impacts.

ESB Networks recognises the importance of achieving a closely aligned strategy between Ireland's gas and electricity networks, to reduce carbon emissions and achieve our Climate Action targets. Furthermore, as new strategies for low or zero carbon demand growth are developed, there is the potential to accelerate solutions by looking for complementarities between flexible demand policy and connections policies.

For the purposes of this response, we refer to the ring-fenced business unit of ESB known as ESB Networks, and ESB Networks DAC collectively as 'ESB Networks'.

2.1 Role of ESB Networks

As Distribution System Operator (DSO), Distribution Asset Owner (DAO) and Transmission Asset Owner (TAO), ESB Networks serves the needs of all Irish electricity customers, providing universal access to the electricity system, and delivering and managing the performance of a system of almost 157,000 km of overhead networks; 26,000 km of underground cables; 800 high voltage substations; significant amounts of connected generation, including ~5.4 GW of renewable generation connected to the Distribution and Transmission systems; 2.5 million demand customers; and now several thousand "active customers" – including but not limited to domestic premises with microgeneration (a rapidly increasing number), demand side management and houses with battery storage.

2. Executive Summary

ESB Networks is committed to ensuring that the most timely and cost-effective connections to the grid are provided to all our customers including large energy users while ensuring that we are compliant with all regulatory and licence compliance obligations. We share the CRU's concern regarding the impact of electricity demand growth on Ireland's ability to meet greenhouse gas emission reduction targets, and the critical importance of introducing strategies for low or zero carbon demand growth.

Therefore, ESB Networks agrees that it is appropriate that we consider how best to balance these considerations in the development of policy for the connection of Large Energy Users to the electricity system.

ESB Networks recognises the importance of a closely aligned strategy between electricity and gas to achieve these objectives and agrees that it is suitable to consider policy changes for large gas and electricity customers together given that gas demand (and associated emissions) is likely to fluctuate depending on access to electricity capacity. ESBN has provided detailed answers to most of the questions below however, in summary, there are a number of key points that ESBN would emphasise. These are:

1. Any policy that is developed or proposed as a result of this Call for Evidence must be clearly defined and transparent. Any policy which could potentially impact on connections would need to be carefully considered in regard to EU and Irish law, should have a strong legal basis and must be clear and unambiguous, so that any such policy is capable of implementation in a fair and non-discriminatory manner. The potential requirement for legislative change to support any proposed policy changes should be kept under review.
2. It is important to define XLEU (as DG10 and Transmission connected) and LEU (DG7 – DG9) and that the initial focus of any measures should be limited to the XLEU cohort which will have a far greater impact on the system, and lower risk of unintended adverse impacts. In putting in place new policy it is important to be cognisant of the number and type of customers that are in each of the DG groups, their sizes and impact, along with their ability to meet any new requirements i.e. policy must be workable for the connecting customers.
3. Depending on the policy changes there may be an impact on the speed at which offers can be created and the cost associated with undertaking assessments, at least initially.
4. There is substantial potential to accelerate policy delivery and implementation, efficiently and effectively, if the solutions for connections policy are aligned with and/or apply developments underway to incentivising flexible demand amongst extra-large energy users. We set out later in this response how this could be achieved.
5. It should be acknowledged that connection policy is one very specific policy area that impacts on large demand users however it should not be considered in isolation. There are other areas of policy/regulation that impact on addressing climate concerns associated with such developments including, for example, the planning, environmental and market frameworks. ESBN would expect to see that developments would continue to be considered at the appropriate levels in these areas in a complementary manner, and that this is not being exclusively addressed through connection policy and energy regulation.

Solutions for low or no carbon connections and demand growth may rely on increasing cross-sector integration. The first practical example of this is electricity-gas integration, to the extent that bio-methane matching of flexible electricity demand can be realised in the coming years, in an accelerated manner, by extra-large energy users. It is vital that the necessary gas infrastructure and regulatory frameworks are in place in a timely manner to support this.

2.1 General Observations on Specific Issues Raised in the Paper

Before answering the specific questions raised in the paper, there are a number of observations that ESBN wishes to make about the general commentary included as part of the Call for Evidence.

Statement regarding the obligations of System Operators:

ESB Networks notes the CRU's observations regarding the System Operators' (SOs) responsibility to assess applications considering obligations set out in the Climate Action Act. ESBN is supportive of using the connection process on an enduring basis to add value and aid in the delivery of policy and climate targets. We are working to see how this could be achieved and are committed to working with CRU to determine what is required to ensure that an implementable and grounded regulated process can be put in place. We also note that CRU suggest that the SOs will be required to implement a change to the assessment criteria for applications in the interim. Any changes in the interim period would require thorough consideration and engagement between CRU and the System Operators which is beyond the scope of this Call for Evidence and ESB Networks will engage with CRU separately in this regard.

Aligning solutions for flexible demand and LEU connections policy:

In 2023 ESB Networks commenced the development of a range of innovative new flexible demand products, in response to the CAP 2023 target for 15-20% flexible demand by 2023. Pursuant to CRU direction, a number of these products target flexible demand designed to abate carbon (for example by shifting demand from periods when electricity carbon intensity is high to periods when it is low or storing electricity from periods and locations of renewables' oversupply, for efficient use at other times or locations). Further, pursuant to CRU direction, amongst the first of these products expected to be launched to market by the end of 2023 are targeting flexible demand from extra-large energy users. At the time of writing, the DSO is collaborating with representatives of the large energy and extra-large energy user (XLEU) industries to develop a range of initially bespoke flexible demand products, which can be replicated on a market basis once introduced.

Examples of the kinds of product in question involve XLEUs identifying substantial investments or actions which could be taken to make their demand flexible, for example through process shifting, electricity storage, or matching demand with zero carbon generation. To increase or accelerate the XLEU in taking these actions, they will be offered a range of incentives including:

- Flexible demand schedules which result in material and measurable carbon abatement;
- Robust measurement and reporting of abatement achieved, aligned with carbon measurement and reporting frameworks governing corporate investment activities;
- Market based financial incentives, where required to make projects commercially viable quickly and efficiently.

Through our engagement with XLEUs, it has been identified that:

- The inability to secure increased connection capacity at existing sites is perceived as a barrier to making the requisite investments;
- The ability to secure increased connection capacity on a flexible basis would be perceived as a valuable incentive to participate in flexible demand schemes.

As such, notwithstanding any proposed direction that emissions profiling would be undertaken in processing connections applications, the alignment of connections and flexible demand policy could deliver accelerated impacts. Whereas the products described above initially target existing or already-contracted XLEU demand, the same tools, approaches, and methods could be used for the introduction of low/no carbon flexible demand connections or MIC increases.

It is important to acknowledge that such connections would place a high burden on the participant; any new or increased MIC would be subject to strict requirements regarding demand flexibility, potentially without financial compensation (on the basis that the incentive provided is access to increased MEC). Furthermore, while this work is underway (as regards flexible demand products), the complexity and challenge of introducing these low/no carbon demand products is high, and the timeframe available is short. Continued and consistent support and regulatory decisions from the CRU will be needed to ensure their introduction in a timely manner.

However, pending XLEUs' appetite for investment in low/no carbon demand growth, this proposal might address the CRU's policy objectives for demand growth and LEUs in a manner which better reflects the role and views of the DSO than any application of emissions profiling in isolation would.

3. ESB Networks' response to Call for Evidence questions

ESB Networks welcomes the opportunity to respond to this Call for Evidence. We note that this paper, which is focused on new demand connections for Large Energy Users, addresses one of three areas contained within the Energy Demand Strategy, the other two being linked to the uptake of Smart Services, and Demand Flexibility and response. As mentioned previously, ESB Networks recognises the need to consider the role of gas networks in the proposed measures, and in that context wants to draw attention to the potential role of gas – and specifically biogas – in enabling electricity flexible demand.

In our response, ESB Networks carefully considers the different categories under which questions are posed by the CRU and is cognisant of the need for consistency across each policy area. Where relevant, published ongoing work relating to these issues is cited to provide further context and clarity, in particular referencing developments from the National Networks, Local Connections (NNLC) programme.

There are six areas across which the seventeen questions are asked - decarbonisation of energy demand; demand flexibility; real time zero carbon emissions; definition of an LEU; islanded connections on the gas network; and general questions. ESB Networks' responses to these questions are set out sequentially below.

3.1 Decarbonisation of Energy Demand

Question 1: Comments are invited from stakeholders on the proposed approach of decarbonising energy demand with a view to achieving net zero emissions from LEUs at time of connection. Please provide reasons and rationale for any views provided.

ESB Networks acknowledges and welcomes the proposed approach of decarbonising energy demand, with a view to ultimately achieving net zero emissions from XLEUs at time of connection. The DSO – through the National Network, Local Connections Programme – is on target to introduce "carbon abatement" local flexibility products from Q3 2023, with dedicated products for XLEUs introduced from the end of 2023. These products allow customers to reduce the carbon intensity by providing localised electricity carbon intensity forecasts and incentives to match their demand with low or no-carbon sources of generation, and shifting away from high-demand, high-carbon-intensity periods. While these carbon abatement products are initially targeted at existing demand connections, the DSO intends to extend to all (including new) demand connections, which would support in achieving net zero emissions for incremental demand from the time of connection.

The timing of having Net Zero emissions requires careful consideration by CRU in the development of regulatory policy changes and rulesets. A key part of that that consideration is the size of the customer's connection and so the customer type and volume of those customers and their ability to meet any new requirements including for example flexibility i.e. putting in place a workable solution for all customers.

Given their high level of energy demand, and an openness to investment which has been indicated to date, the participation of XLEUs in products of this nature – including to achieve net zero emissions from the time of connection – could have a material impact on overall capacity management and carbon emissions. This is as set out in Section 2.1. Our understanding is that regulatory policy changes and rulesets will in the first instance apply to XLEUs i.e. DG10 and transmission connections.

Question 2: Comments are invited from respondents on the need for onsite generation and storage capability for LEU connections. Please provide reasons and rationale for any views provided.

Despite significant progress in realising close-to-emission-free data centres, research undertaken by ESB Networks in developing *Scenarios for 15-20% Flexible System Demand* indicates that some sites' legacy dependence on carbon-intensive back-up generation has hindered efforts to achieve fully renewable operations. Onsite diesel generation remains a common backup power supply solution, thus not suitable for flexible demand due to environmental considerations and the operational limits applied to these resources as a result. ESB Networks is currently working with extra-large energy users to explore their readiness and appetite for introducing alternative sources of flexibility, including:

- Process shifting – this is suited to some XLEU business models, though this varies substantially between XLEUs. Furthermore, innovators in the field of data centre process shifting have emphasised that the technical potential for demand management through process shifting is nascent and not as large as occasionally reported.

- Behind the meter or locally sited storage – this is suited to some XLEU development plans, however whilst it may meet decarbonisation and flexible demand objectives, it would not be able to simultaneously meet site-reliability objectives for the XLEU.

- Behind the meter gas generation matched by domestic biogas injections (remotely from the site but to the Irish gas grid) – this is suited to some XLEU development plans and business models, however, will require extensive collaboration between ESBN, GNI, the CRU and the relevant XLEUs, potentially along with gas wholesale / retail market participants to facilitate.

While the solutions identified above can support net zero demand growth, and enable demand growth using existing network infrastructure, it should be noted that ESB Networks is required to complete technical studies relating to the new resources connecting, and some changes in connections policy may be needed to facilitate flexible connections with respect to the impact on or alternative use of the customers' MIC.

Question 3: Comments are invited on the use of CPPAs for additionality of renewable generation outside of support schemes for decarbonising electricity consumption. What type of de-rating may be appropriate to reflect real-world performance of renewable generation during peak times? Please provide reasons and rationale for any views provided.

In the absence of a service which enables demand customers to match their demand with renewable generation output, coincidence between the peak demand contribution of the demand customer and generation output from the new renewables' resources cannot be reliably anticipated. This is particularly the case where the CPPA-supported renewable generation is remote from the customers' new / additional demand. As such, to the extent that CPPAs are adopted as a mechanism to support capacity for LEUs, it would be necessary to couple these CPPAs with the LEU's participation in a flexible demand product. The products which ESB Networks is developing currently could facilitate this.

Question 4: Based on preference that renewable electricity and /or gas contributes to Ireland's emissions targets and security of supply, do respondents have a view in relation to how electricity feeding into Irish system and renewable gas credits feeding into the Irish system could be tracked?

As set out above, ESB Networks is currently developing a range of products to enable carbon abatement by means of matching localised carbon intensity of electricity with flexible demand. The products in development include a simple domestic demand shifting product for introduction in Q3 2023, and products targeting the XLEU and commercial storage development markets from the end of 2023. Further products targeting the participation of other commercial segments (initially industrial electric heat) will be introduced from 2024 onwards.

Amongst the more promising sources of net zero carbon demand growth and flexible demand is matching behind-the-meter gas generation facilities (for example a 40 MW gas reciprocating generator at an XLEU demand site) with domestically produced biogas injections into the Irish gas grid. At the time of writing, ESB Networks is engaging with stakeholders on a potential scheme whereby:

- ESBN contracts with XLEUs for demand flexibility. The XLEU provides this demand flexibility in part or in full through the use of on-site gas generation;

- The XLEUs contracts with domestic biogas producers through a PPA or similar for renewable gas injections matching their onsite generation activities. This might be done either directly (XLEU bilaterally contracts with a number of domestic biogas producers) or through an intermediary (XLEU contracts with an energy company who contracts directly with a number of biogas producers and aggregates these contracts into a single larger contract for the XLEU).

- Prospective domestic biogas producers can secure capital based on the revenue certainty provided by their PPA or similar supply contract with the XLEU (or intermediary energy company).

Based on our engagement to date, this potential solution could make efficient use of latent gas network capacity in locations whose electricity network is constrained (e.g. greater Dublin area), provide flexible electricity demand in those locations, and provide the revenue certainty needed by many prospective biogas production facilities to bank and progress their projects.

To facilitate all of these products, including where this involves the use of gas / biogas matching, ESB Networks is in the process of developing methods and tools to forecast, measure, and report the time-varying locational carbon intensity of electricity consumed, and the impact of flexible demand actions in reducing this. We are in the early stages of engagement with the SEAI on collaborating to align this development with the framework for XLEU emissions reporting that the SEAI is leading under the Climate Action Plan. Expert resources have been assigned and work is commencing in late Q3 2023. We would welcome the opportunity to further engage with the CRU on the point raised in this question as this development progresses.

Question 5: Comments are invited from stakeholders on the use of renewable gas credits (feeding into the Irish natural gas system) in order to facilitate the connection of gas demand to the system. Please provide reasons and rationale for any views provided.

ESB Networks is in the process of developing a range of (carbon abatement products, to incentivise large energy users to make operational and investment decisions that reduce location-specific emissions as part of local DSO balancing of flexible demand. It is intended that this could incentivise accelerated investment by XLEUs in behind-the-meter gas generation whose demand is matched by

domestically produced biogas injections (at a remote location) into the Irish gas grid. It is likely that this would only be viable subject to the availability of a robust mechanism for issuing and trading domestic green gas certificates.

The proposed approach, whereby an XLEU enters into a commitment to purchase substantial volumes of domestic biogas certificates could facilitate:

1. The stimulation of the Irish biomethane production market, by providing a "bankable" source of revenue for prospective biomethane producers, and

2. The stimulation of new business models supporting the aggregation and trade of domestic green gas certificates, to reduce the administrative and trading burden for small biogas producers and biogas certificate consumers;

3. The reduction of demand on the electricity network during peak hours, supporting carbon abatement and enabling additional electricity demand to be supported on the existing network infrastructure.

As such, as a matter of urgency, we would support the establishment of a robust and legally recognised system of green gas certification and trade in Ireland.

3.2 Demand Flexibility

Question 6: Comments are invited from respondents on enabling demand flexibility requirements as described above. Please provide reasons and rationale for any views provided.

ESB Networks acknowledges and welcomes the potential sources of demand flexibility outlined in the CRU's *Review of Large Energy Users Connection Policy Call for Evidence Paper*, including:

- Deployment of onsite generation and/or storage
- Shifting of demand in real-time to times of high renewable energy availability
- Shifting of demand by location

These sources of demand flexibility are broadly in line with the proposals and evidence set out in Section 6.3 of *Scenarios for 15-20% Flexible System Demand*. To enable this demand flexibility, ESB Networks is in the process of developing a range of (initially bespoke) carbon abatement products, to incentivise large energy users to make operational and investment decisions that reduce location-specific emissions as part of local DSO balancing of flexible demand. At the time of writing, we are engaging with XLEUs on the potential for investment in bio-gas matched gas generation, behind-the-meter storage and/or process shifting to participate in these products.

New commercial arrangements are in development to facilitate these new schemes, and ESB Networks and the TSO are progressing an operating model to ensure the coordinated scheduling and dispatch of these services.

There is substantial potential to accelerate connections policy delivery and implementation, efficiently and effectively, if the solutions for connections policy are aligned with and/or apply developments underway to incentivising flexible demand amongst extra-large energy users, as set out in Section 2.1.

Regarding the shifting of demand by location, the potential for locational benefit is greatest prior to the connection of a new LEU, by providing transparency of the expected carbon intensity of generation behind individual grid connection nodes and encouraging customers to locate in relevant parts of the network. However, there is a risk that the connection of an XLEU in a remote network location may

drive higher levels of network reinforcements especially in more remote parts of the country, notwithstanding the potential for matching with renewable generation output. Furthermore, once an LEU is connected to the system, the potential for location specific demand-renewables matching will be determined by their network location.

Question 7: Are there other sources of flexibility that can be provided?

The sources of flexibility from LEUs identified in this document – behind the meter generation or storage, and process shifting, in particular where an LEU is located proximate to renewable generation oversupply – represent the main sources of flexibility from LEUs identified to date by ESB Networks. Additional, alternative sources of flexibility – some that could be implemented at industrial and data centres sites – are discussed in Section 6.9.3 of *Scenarios for 15-20% Flexible System Demand*.

An emerging area of focus within ESB Networks' National Network, Local Connections programme is the potential for flexible demand from industrial heat installations, however this technology is more likely a fit for LEU segments including food and drink production and pharmaceutical, which are typically smaller than the larger data centres associated with XLEU connections.

Question 8: Comments are invited from respondents on the introduction of interruptible type supply contracts for gas connections. Please provide reasons and rationale for any views provided.

ESB Networks notes that both globally at scale, and on a locational basis, sudden interruption to gas supplying on-site generation could result in a step change in electrical load to be supplied to the site(s). Depending on the size and ramp-rate, this could have adverse electricity network consequences, and at a minimum would result in unexpected increases in electricity demand. These would need to be considered when drafting suitable interruption arrangements. This may require limiting the ability of customers who have had gas supply interrupted immediately switching to importing power from Distribution or Transmission systems, even if this is within customers contracted MIC. This is because it is likely that gas interruption will be required at times of high gas demand / low supply which has the potential to have knock on impact on power generation availability.

Furthermore, if future gas contracts were interruptible, there is the risk of negative interactions between these interruptions and the use of behind the meter gas to provide electricity demand flexibility. As such, we urge that a careful and nuanced approach is taken to any such development. For example, if a gas demand connection were matched with contemporaneous bio-gas injections, could supply interruption of the gas connection be avoided?

3.3 Real time zero carbon emissions

Question 9: Comments are invited on real time zero carbon emissions, shifting of demand in real time to times of high renewable energy availability. Please provide reasons and rationale for any views provided.

ESB Networks' development of carbon abatement products, initially targeting XLEUs, is heavily influenced by the CAP23's focus on supporting "extra-*large energy users to achieve carbon-free demand*" and "*increasing the demand flexibility of LEUs through matching of demand with usage of low-carbon energy sources*". The products being introduced by ESB Networks will differ materially from the existing DS3 system services in which LEUs can currently participate in this regard. Firstly, the focus of ESB Networks' flexible demand product development is on services contracted from LEUs being provided through low- or no- carbon sources of flexible demand (as identified in earlier responses in this document). Secondly, whereas in general DS3 services incentivise demand to be available to

deliver the reserve providing characteristics of generation (i.e., infrequently dispatched, and relatively short duration responses), the products introduced will focus on the delivery of sustained responses which materially reshape demand, to a time when system congestion is less likely and/or renewables-based generation is more abundant.

As such, the products ESB Network is developing should enable real time net zero emissions from XLEUs. We believe that the products currently being developed to incentivise carbon abatement of existing or contracted XLEU demand could be extended to facilitate new net zero demand connections or demand increases for XLEUs.

The timing of having Net Zero emissions requires careful consideration by CRU in the development of regulatory policy changes and rulesets. A key part of that that consideration is the size of the customers' connection and so the customer type and volume of those customers and their ability to meet any new requirements including for example flexibility i.e. putting in place a workable solution for all customers.

Given their high level of energy demand, and an openness to investment which has been indicated to date, the participation of XLEUs in products of this nature – including to achieve net zero emissions from the time of connection – could have a material impact on overall capacity management and carbon emissions. This is as set out in Section 2.1. Our understanding is that regulatory policy changes and rulesets will in the first instance apply to XLEUs i.e. DG10 and transmission connections.

3.4 Definition of an LEU

Question 10: Comments are invited from respondents on what they consider to be an appropriate definition of an LEU for electricity and gas for the purposes of this review. Please provide reasons and rationale for any views provided.

ESB Networks considers that it is vitally important that measures that are contemplated by this call for evidence are focussed on the intended customer cohort, accounting for the impacts and costs of any new requirements applying to LEUs/XLEUs and their ability to meet same i.e. a workable policy.

The term Large Energy User (LEU) is used in various contexts and may be understood to mean different things to different stakeholders. ESB Networks is aware of one published definition of LEU which is contained in the Eirgrid's Statement of Charges. This defines LEUs as "*A Large Energy User (LEU) is generally a user that is connected at a voltage of 10kV or greater. An LEU is defined as a User in either DUoS (Distribution Use of System) tariff group DG7 or DG8 or DG9 or is connected to the 110kV network or is connected directly to the transmission system"* (source- EirGrid- Statement of Charges- Frequently Asked Questions v1.0.)

ESBN's view is that this definition is reasonable for DG7, DG8 and DG9 and given that it is part of the basis of TUoS charging, it may not be efficient to redefine LEU for the purposes of any new obligations.

ESBN notes however that the number of current and potential customers that will be affected if this definition of LEU is used as the basis for any new obligations will be considerably larger than if these new obligations are limited to XLEUs (DG10 and transmission connected). This is discussed further in our answer to the next question.

For clarification purposes, ESB Networks recommends that the CRU formally define LEUs as any customer between DG7 and DG9 and that XLEUs are defined as DG10, and transmission connected.

Question 11: Comments are invited from respondents on whether this review should only apply to Extra Large Energy Users (XLEUs) in relation to electricity. Please provide reasons and rationale for any views provided.

ESBN is supportive of the proposal to limit the application of new provisions to the XLEU category. The efficacy of applying any new provisions to smaller LEUs is discussed below.

A key part of the development of regulatory policy changes and rulesets is consideration of the size of the customers connection and so the customer type and volume of those customers and their ability to meet any new requirements, including for example flexibility i.e. putting in place a workable solution for all customers.

Given their high level of energy demand, and an openness to investment which has been indicated to date, the participation of XLEUs in products of this nature – including to achieve net zero emissions from the time of connection – could have a material impact on overall capacity management and carbon emissions.

Smaller LEUs (for example a 10kV connected customer) may be subject to far higher commercial constraints than those that apply to an XLEU and by their nature may be less flexible/less capable of meeting new more onerous requirements. The Irish economy is dominated by micro, small and medium enterprises, many of which would meet the definition of LEU as set out above. Typically, these enterprises operate to tight margins and may not have high levels of capital available. Our primary concern is that the introduction of new obligations may not be proportionate for application to all LEUs and may have avoidable economic impacts. Our view is that the objectives of any such obligations might be met in a more proportionate and constructive manner through the introduction of incentivised flexible demand products which LEUs can participate in on a voluntary basis.

The feasibility of assessing and monitoring all LEUs under this definition should be considered as this will impact on the costs associated with the offer process and will inevitably increase the amount of time that is required to complete the creation of an offer. It is possible that customers (some of whom while being categorised as LEUs may be relatively small) will be required to incur extra costs to compile the information to allow ESBN to make the required assessment.

On this basis, ESB Networks agrees in general with the approach suggested in the Call for Evidence, the focus of any measures should be limited to the XLEU cohort as these will have a far greater impact on the system, and lower risk of unintended adverse impacts. Per above, ESB Networks recommends that the CRU formally define LEUs as any customer between DG7 and DG9 and that XLEUs are defined as DG10 or transmission connected.

This could be further refined to take account of customer location, demand profile and possibly a de-minimis level of MIC.

Question 12: Comments are invited for gas LEU definition of those with a peak hourly demand greater than 50MW thermal input and a connection pressure of 16 barg or above. Please provide rationale for any views provided.

ESB Networks cannot reply specifically to gas LEU policy. ESB Networks can only comment on gas use as it applies to an electricity demand management response.

3.5 Islanded Connections on the Gas Network

Question 13: Comments are invited from respondents on the treatment of 'islanded' LEUs. Please provide reasons and rationale for any views provided.

By way of technical clarification, ESB Networks would note that it is assumed that in such cases, the generation is located on the LEU site and is not parallelable with the ESBN distribution network.

Electricity generation and demand, as well as gas generation and demand, should increasingly be considered as related to each other, and as sources of flexibility on the energy system as a whole. In this context, ESB Networks' strong view is that islanded LEUs as described would significantly forfeit the potential for flexible electricity and gas demand, and carbon abatement achieved by leveraging the synergies of a cross vectoral approach of this nature.

Question 14: Should the connection of LEUs to the natural gas network focus on security and decarbonisation as per the Government Policy Statement on Security of Electricity Supply. Please provide reasons and rationale for any views provided.

ESB Networks, as Distribution System Operator, notes and understands how gas security of supply is intimately linked to electricity security of supply. As such, ESB Networks' proposals with regard to the coupling of electricity and gas through XLEU flexible demand would be on the basis of matching any gas consumption associated with electricity demand flexibility with the injection of domestically produced biogas into the gas grid. Solutions of this nature would be at worst net neutral in terms of gas security of supply, and net positive in terms of gas decarbonation. Furthermore, given the impact of these proposals on stimulating the Irish market for biogas production, we believe it likely that the net impact of these proposals would be positive both for security of supply (introducing new indigenous sources) and decarbonisation.

3.6 General questions

Question 15: Please suggest any alternative approaches not captured above that could help in meeting the challenges outlined.

At this time, we have no alternative approaches to those already outlined in the consultation and this response, however it is an area that we are focused on and will continue to explore alternatives and will engage with CRU and other stakeholders as alternatives are proposed and as policy develops.

Question 16: Should provisions apply to all LEUs connections, or are there any exceptions that should apply? Please provide reasons and rationale for any views provided.

ESBN's view is that provisions should apply only to the X-LEU sector. While it is possible that there could be specific types of customers within this sector that merit specific consideration (e.g., those customers providing essential services – e.g., electric transport of large electric vehicle charging services) – the bar for availing of any exemptions should be high, given the over-riding importance of the objectives of the proposed provisions.

ESBN's approach to the introduction of flexible demand is discovery led i.e. to the extent that a given solution works well for a given customer or industry segment, we believe it is important to replicate what works well. As such, subject to the successful introduction of provisions for XLEUs, policy changes which demonstrate societal and customer benefits and are proportionate / technologically feasible for LEUs could potentially to be extended to LEUs also. Again, and even more importantly for LEUs, consideration would need to be given to the type of customer when considering any policy changes to ensure they are workable.

Question 17: Please suggest any incentives which could be applied to new LEU connections in facilitating some of the measures described above. Please provide reasons and rationale for any views provided.

ESB Networks is in the process of introducing proposals to incentivise LEU connections to increase their demand flexibility and their potential for net zero carbon demand growth. We have prioritised the development of proposals in response to the priorities identified in Climate Action Plan 2023 and based on direction from the CRU. The evidence available to us indicates that this makes sense; in addition to their large electricity demand, industrial customers (including data centre operators) often have an appetite to invest in storage (or other flexible technologies behind the meter); high volumes of carbon can be abated if these operators of large energy user sites make the investments and/or operational decisions to shift large proportions of their site demands for multi-hour durations, from periods of high-carbon intensity (typically peak times) to periods of high renewables output (in their network location, in particular). The right incentives are needed and are in development, as set out earlier in this document.

An accelerated connection process for new LEUs with net zero carbon demand growth (i.e., demand which is matched fully by coincident renewable generation, including through the use of storage, process shifting, biogas matching etc) from the time of connection could incentivise industrial and data centre operators to make the investments and/or operational decisions outlined above.

4. Conclusion

ESB Networks is supportive of the CRU's Call for Evidence on this topic and considers it a timely point to carry out such a review. The growth of LEUs in the context of Ireland's climate action targets continues to be an area of scrutiny for both policymakers and the public, and all efforts to mitigate the associated carbon emission impact of this growth are to be welcomed. It is ESB Network's view that any new directives that occur as an output of this consultation should apply to XLEUs only, at least initially. ESB Networks remains committed to further defining and shaping policy as events progress.