



An Coimisiún
um Rialáil Fóntais
**Commission for
Regulation of Utilities**

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ESB Networks – Demand Flexibility Product Proposal

Cover Note

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Consultation on ESB Networks' Flexible Demand Product Document

The CRU has been working closely with ESB Networks DAC (ESBN) in its capacity as Distribution System Operator to develop a demand flexibility product design, appropriate for the distribution network, including the procurement of a specific congestion management product on the distribution system. The CRU is publishing an ESBN Demand Flexibility Product Proposal consultation to gather stakeholder's views on the proposed procurement. This procurement is intended to form a component of the overarching National Energy Demand Strategy (NEDS) with an aim to achieve the 2025 flexibility target whilst providing the foundations for the development of long-term, competitive flexibility markets in Ireland.

1 Background

In December 2022, the Irish government set decarbonisation and sustainability ambitions in the Climate Action Plan 2023 (CAP23), assigning specific targets on flexible electricity demand to the CRU, system operators, and industry. As detailed in the CAP23, the CRU will collaborate with system operators and industry to implement the strategy and to drive progress towards the targets of 15-20% flexible system demand by 2025 and 20-30% by 2030. To fulfil CAP23 targets, the CRU issued a Direction in Q4 of 2022 to ESBN to accelerate and expand the scope of a number of initiatives under the ESBN National Network, Local Connections (NNLC) programme with the goal of facilitating greater demand flexibility on the electricity system.

Following this Direction, the CRU published a package of four Call for Evidence papers in June 2023 to initiate the CRU National Energy Demand Strategy (NEDS) and included ESBN Scenarios for 15-20% Flexible System Demand - National Network, Local Connections (NNLC) programme paper¹. Following a thorough review of responses to the Call for Evidence papers, the CRU is currently developing the NEDS Consultation paper with three proposed objectives:

1. Coordinate measures aimed at ensuring overall electricity and gas demand is consistent with Ireland's sectoral emissions ceiling.
2. Deliver demand 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.
3. Support the delivery of Ireland's transition to reach net zero emissions by 2050.

It is expected the NEDS Consultation Paper will be published soon and within the strategy, a key focus area will be Demand Flexibility and Response. The NEDS' ambition is to coordinate, alongside relevant government departments and public bodies, actions across all energy

¹ [CRU – Energy Demand Strategy](#)

stakeholders, including domestic customers, industrial customers, large energy users, and system operators. Aligned to CAP23 and the NEDS, the ESNB Demand Flexibility Product Proposal initiates a programme for the procurement of a specific product for medium duration congestion management in addition to other flexibility programmes to deliver up to a total of 1 GW of flexible demand by 2025.

Based on a current view of the energy technology market, as indicated in the consulted “15-20% Flexible System Demand” paper, storage may be best placed to deliver this medium duration congestion management requirement. The CRU considers the proposal to fall within the intended scope of flexible demand as per the Climate Action Plan target and any technology meeting the technical specifications set out may be eligible to secure a contract.

2 Flexibility Objectives

Ireland is forecasted to experience higher levels of electricity demand alongside significant growth in renewable energy generation capacity in the next decade, meaning generation will become increasingly dependent on environmental factors, making it necessary for Ireland’s electrical demand to be flexible. In parallel with this, the rapid shift from fossil fuels to electric heat and transport mandated in the Climate Action Plan, along with growth in housing and economic activity in Ireland over the coming years, is expected to result in rapid electricity demand growth. Flexibility markets will enable the efficient integration of Ireland’s substantial and growing renewable energy generation output, and to ensure that the capacity needed to meet demand growth is available in a timely and efficient manner, whilst also driving carbon abatement.

There has been growth in the volume of system flexibility in Ireland in recent years, particularly through the growth in Demand Side Units and short-duration energy storage. Flexibility can provide significant value to system operators, supporting them in their capacity to balance the system in real-time, manage network capacity or congestion, and maintain system stability, alongside many other uses. The delivery of the NEDS is dependent on enabling investment and developing flexibility markets both in the near-term and over a longer timescale. As such, the CRU recognises its role in facilitating investment for technologies where there is a clear benefit to customers, the economy, and the electricity system.

The CRU aims to facilitate an enduring regime that procures demand flexibility through flexibility markets, balancing services and wholesale market arbitrage that provides economic price signals that incentivise greater demand flexibility across all cohorts of demand. To reach 2025 and 2030 targets set by CAP23, the CRU is supporting ESNB, by publishing the Demand Flexibility Product Proposal for public consultation. Following a review of the responses to this consultation, the CRU intends to make a decision on the proposed product design in early 2024, enabling ESNB progress to procurement of this product, subject to the feedback received in response to this consultation.

3 Proposal Overview

ESBN is seeking industry's views on the procurement of flexibility, primarily in the form of a demand flexibility product designed to meet the need for medium duration congestion management flexibility services on the distribution system. As detailed in the consultation, ESBN has identified the potential value of demand flexibility, in particular network locations, to manage congestion and network constraints whilst contributing to carbon abatement as an ancillary benefit. Ireland's electricity system is facing a range of challenges due to the evolving patterns of energy consumption across various users, from residential consumers to large energy users (LEUs). The increasing electrification of heating, transport, and the growth of LEUs are contributing to network congestion whilst posing a risk to system stability and hindering the ability to connect additional load to the system. This procurement intends to secure contracts with market participants for a medium duration demand flexibility product potentially up to a volume of 500 MW in Ireland, meeting a defined system need in the short term, with additional flexibility services and products to be defined and offered in the future meeting a broader range of distribution system needs. The total volume of demand flexibility to be procured in line with the 2025 target of 15-20% flexible demand, including the current ESBN proposal, is in the region of 1GW. It is expected that this will come from a range of sources, including energy storage, industrial heat, flexible transport (smart charging) and demand response from large energy users. The CRU will ensure appropriate arrangements are in place to facilitate connections to the system in a timely manner for successful participants.

At this stage, it is proposed the cost recovery mechanism for the procurement exercise will be the DUoS (Distribution Use of System) charge. This is a fee that the distribution system operator (ESBN) charges electricity suppliers for use of the electricity distribution system, this charge is usually passed onto consumers by their suppliers through their electricity bill. There are different DUoS groups which impact the amount charged to consumers and this is based on various factors including the voltage connection and the type of meter². As this procurement is centred on mitigating network congestion and ultimately the deferral of costly network reinforcements, it is proposed that DUoS charges will be the most appropriate option for cost-recovery. In the medium term, as flexibility markets mature, alternative mechanisms of cost recovery may be considered. For example, any generators benefitting from the services of procured storage capacity could be required to contribute to the cost of the service.

The CRU considers the ESBN proposal entails several risks which it will work to mitigate. The CRU recognises that a procurement process of up to 500 MW will form the largest tender on the distribution level in Ireland. ESBN should collaborate with EirGrid to draw on the range of experience of procurement through the DS3 programme.

Due to the proposed use of DUoS as the cost recovery mechanism, customers will ultimately bear the costs of the procurement. The CRU must therefore consider the risk of excessive costs in this procurement process. Accordingly, the CRU has asked ESBN to demonstrate the

² [ESB Networks – Description of Characteristics of Connection: DUoS and MCC Codes](#)

value for money of such services under a range of distribution system and market conditions. ESB Networks has worked with the CRU to develop the basis of this value case, considering value arising from carbon abatement, wholesale and capacity market activity, and locational needs. This analysis will therefore provide the CRU with not only the direct value provided to the DSO in terms of reduced or deferred network costs, but will also provide an estimate of the wider system value provided by the services. The CRU, along with its technical advisors, will carry out a detailed review of the ESNB analysis. However, the CRU currently considers that such flexibility services will provide significant ancillary benefits for the consumer, including contributing to meeting Ireland's 2030 carbon targets. The CRU also considers that it is necessary that the process proceeds quickly for Ireland to be able to meet these targets. Furthermore, the CRU will work with EirGrid to resolve existing technical barriers for revenue stacking through enabling greater participation of storage technologies in the wholesale and balancing markets and improving the efficiency of EirGrid's dispatch processes. This can support the success of the proposed procurement and ensure value for the customer.

Lastly, there is a risk that some of the successful providers in the procurement process fail to deliver the intended contribution to the flexible demand targets and the 2025 and/or 2030 targets are missed. Notwithstanding the challenge to manage and overcome these risks and dependencies, the proposal could deliver a wide range of benefits, including alleviating network congestion, which will benefit the distribution system overall.

The CRU is committed to collaborating with system operators to identify the most effective pathway towards implementing flexible system demand and ensuring competitive and efficient markets. As EirGrid and ESNB are currently developing a TSO/DSO operating model, the CRU will require that this ensures the efficient operation of flexibility, including storage, across all relevant markets. The CRU recognises the value of a whole system approach that is grounded in a collaborative partnership between the system operators and supported by the CRU to unlock efficient investment and support the integration of flexibility in Ireland.

Subject to the outcome of this consultation process, energisation of the first contracted projects could be expected by early 2027. ESNB continues to work closely with the CRU to demonstrate the clear value for a certain MW capacity and duration of demand flexibility product procured at each location, based on a suite of carbon, market and locational values, and accounting for the various risks and uncertainties arising. Furthermore, ESNB is committed to undertaking the significant volume of work that will be necessary between publication of this consultation and commencing the procurement exercise. The CRU will work with ESNB to develop a robust procurement design that efficiently enables demand flexibility in Ireland.

Next Steps

Responses to the ESNB Demand Flexibility Product Procurement will be collated and taken into consideration by both ESNB and the CRU. Following the end of the consultation period on 14 February 2024, ESNB will submit a formal recommendation on the proposed demand flexibility product for consideration by the CRU. It is intended a final decision on the procurement will be published in Q1 2024.

It is intended to share all non-confidential responses to the consultation with ESNB prior to the CRU making a decision on the proposal set out in this consultation. If you do not wish your response to be shared with ESNB please note this clearly when submitting the response.

The CRU welcomes comments from all interested parties for this Consultation to be submitted via email no later than 17:00, 14 February 2024 to flexibility@cru.ie.