National Network, Local Connections Advisory Council Meeting 7

19 June 2024

Agenda

1. Welcome & housekeeping
2. Apologies and new joiners to the council
3. Actions update from December meeting
4. DMSO transition
5. Progress updates on In-Flight Initiatives
6. Coffee break
7. Flexibility Multi Year Plan Update
8. Demand Flexibility Product (Storage) Update
9. Round table discussion
10. Lunch

Teresa Fallon
ESB Networks DMSO Design Lead (Chair)

Alan Keegan
ESB Networks JSOP and R&S Lead

Eilis McFarlane
ESB Networks Demand Flexibility Policy Analyst

Paddy Mulvey
ESB Networks Flexibility Operations Team Lead

Brian Fitzgerald
ESB Networks Customer SMR

Welcome


WELCOME
EIRGRID
IEVOA
codema
Dublin's Energy Agency
SMS
MULLINGAR
Sustainable
Energy
Community
DRAI
DCU
IESA
IRISH ENERGY STORAGE ASSOCIATION
energy
storage
IRELAND
Cork
City Council
Comhairle Cathrach Chorcaí
Northern Ireland
Electricity
Networks
ISEA
Irish Solar Energy Association
VIOTAS
Pioneering Gridware Technology
WIND ENERGY IRELAND
NSAI
ATU
CRU
An Coimisiún um Rialáil Fóntais
Commission for
Regulation of Utilities
An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications
seai
SUSTAINABLE
ENERGY AUTHORITY
OF IRELAND
EAI
ELECTRICITY
ASSOCIATION
OF IRELAND

Housekeeping

Please mute your microphone and turn on your camera during the meeting

If joining us virtually, please raise your hand or drop questions into the chat function

Presentations and meeting minutes will be published in the NN,LC stakeholder hub and made available to the general public

Please note over the course of the year there may be open procurement processes so there may be aspects of the programme we will not be in a position to discuss.

Stakeholder forum link : (Our Advisory Council (esbnetworks.ie))

Actions Update

Item	Topic	Detail	Status	Progress
1	Pricing Approach	NN, LC Programme to confirm whether the pricing analysis paper that was submitted to the CRU can be shared with members of the Advisory Council.	Closed	Unfortunately, we cannot share the pricing analysis paper with the advisory council as it may provide insight to prospective customers and about how ESBN approaches the pricing of such schemes, which is not provided to the wider market.
2	Supplier Representation	Invite suppliers to nominate a representative to the Advisory Council.	Closed	Supplier representatives to the Advisory Council have been selected.

DMSO Transition

- The new DMSO organisational structure
- What does it mean for you?
- Regulatory and Stakeholder Hub

DMSO Transition and 'Why are we changing?'

DMSO Purpose

The new DMSO organisational structure aims to establish an efficient, effective and unified Distribution Markets and System Operation function within ESB Networks that can best serve customers and industry stakeholders. The overall purpose being to facilitate the transition to a high-renewable, low-carbon energy system with customers at the centre while delivering operational excellence and security of supply

Overview

The Distribution Markets and System Operation (DMSO) brings together the current teams from NN,LC, Smart Metering, Network Operations and Retail Market Services.

Goal

The goal of the DMSO is to facilitate the implementation of the initiatives stemming from the Clean Energy Package which will support Ireland's Climate Action Plan.
These will radically impact distribution network operations and planning, introduce flexible demand markets and make a shift towards renewable energy system with a focus on customers.
Our challenge is to do all of this efficiently while also maintaining operational excellence and ensuring a secure energy supply.

Why are we changing?

Benefits:

- Leveraging the skills and capabilities from across our DMSO design, build and run teams to ensure a holistic approach is adopted to delivering on our climate action targets and our regulatory requirements.
- Identifying synergies across our teams to ensure a clear and consistent message for our external stakeholders.
- Ensuring we are efficient and effective in delivering for our customers and our external stakeholders.

New DMSO Structure

DMSO Structure

Distribution Markets and System Operation
Pat Eccles

DMSO Design	Operations Solutions Delivery	Business Solutions Delivery	Network Operations	RMS
Teresa Fallon	*Michael Hynes*	*Carmel O Connor*	*Trevor Lucy*	*Paul Harrington*
The key role of the DMSO Design pillar is to develop integrated designs for ESB Networks DMSO organisation.	***The role of the Operations Support Delivery team is to provide the technology, processes, and resource capability to support and enable the successful delivery of the 15-20% flexibility and carbon abatement targets in line with CAP.***	***The role of the Business Solutions Delivery team is to manage and oversee various aspects of the NSMP in addition to new DMSO requirements ensuring successful delivery and continuous improvement.***	***Integral to the day-to-day operation of the electricity network, the Network Operations team manages the central control and operation of the distribution electricity network in safe manner, in order to maintain continuity of supply to ESBN's 2.4m customers.***	***The Retail Market Services team supports the transformation of the RoI retail electricity market through operational excellence and the implementation of the NSMP and other carbon reduction initiatives in a cost efficient, digital, safe and sound manner.***

Design → *Build* → *Run*

What does it mean for you?

People

- There will be minimal impact to our external stakeholders.
- The same teams will continue to support established forums and existing work programs.
- A new Regulatory & Stakeholder hub has been established which merges the two, respective teams carrying out this function on both the NN, LC programme and the NSMP.
- There will be no change to our existing ringfenced functions (RMDS and MRSO) within the DMSO Run pillar.

Regulatory and Stakeholder (R&S) Hub

- The R&S will coordinate engagement with all external stakeholders on behalf of the DMSO.
- It is a resource for information and engagement on DMSO activities.
- The hub manages interactions with our external stakeholders and will build upon the experience of the Smart Metering Programme & NN,LC.

Progress update on DMSO In-Flight Initiatives

- Dynamic Instruction Sets
- Continuous Voltage Regulation (CVR)
- Flexible Connections
- Flex Charging
- Beak the Peak
- DSO Community Toolkit

Dynamic Instruction Sets (DIS)

- The intention of DIS was to introduce dynamic instruction sets thereby unlocking demand down capacity
- Prior to the introduction of DIS, instruction sets have been issued annually based on technical studies of the expected worst-case conditions over the course of the upcoming year. This resulted in many sites being prohibited from participating in the market for 6 months of the year (from April to September). The first window of took place between April 2023 and September 2023 unlocking 678.9 MWh. The second window is now live and will run from April 2024 to September 2024, with 156.346 MWh unlocked year to date.
- DIS uses weather and generation forecasting to improve the current process and increase Individual Demand Sites' ability to provide services to the TSO. Over the course of the two windows, updates are sent daily (Monday to Sunday) to DSUs. These updates supersede the standard annual instruction sets sent to the DSUs in March/April.

Key information

Two operating windows: Apr Sep 2023 and Apr Sep 2024

Sites have been selected via the existing annual study process

1st window assessed IDSs on a daily basis

2nd window assesses IDSs on an hourly basis during the day

Almost 680 MWh of capacity was released during the first window, and 156 MWh during the second window (to date)

CVR

CVR is an approach to reduce electricity demand and consumption by reducing supply voltage. A SCADA based application has been developed for CVR which allows for remote turn on/off transformer groups for pre-defined events and windows. This initiative is the first step in enhancing ESBN's voltage management capabilities. Improved voltage management can facilitate connection of DERs to the system and delivery of optimal voltages to customers.

Load Reduction
(normal operation & Voltage reduction while keeping within standards results in a reduction in overall demand)

Ability to target a greater impact by maximising the voltage reduction and targeting a larger number of transformers

Long Term Road Map Capabilities

CVR is a key stepping stone towards VoltVar optimisation (VVO) and advanced capabilities.
This project provides insight into technical and operational readiness to deliver.
Enhanced voltage control also allows for greater integration of renewables.

Customer

CVR delivers Energy savings for customers

Regulatory Obligation

CVR can provide an ability to respond to and contribute toward new regulations as they arise similar to EU regulation 2022/1854 which arrived in October 2022

Data Driven Decision Making

The CVR capability has required consolidation and analysis across a variety of data sources such as GIS, SLR, Sincal models, SCADA, Smart meter data, Weather, and the creation of monitoring/dashboard functionality to ensure impact on customer's is minimised

Flexible Generation Connections

Background

In order to facilitate the renewable targets in the Climate Action Plan ESBN are looking to maximise the amount of green generation sources on the system.

Due to substation connection constraints, flexibility mechanisms are being applied to facilitate Flexible connections using non-firm access as part of a pilot

Objectives

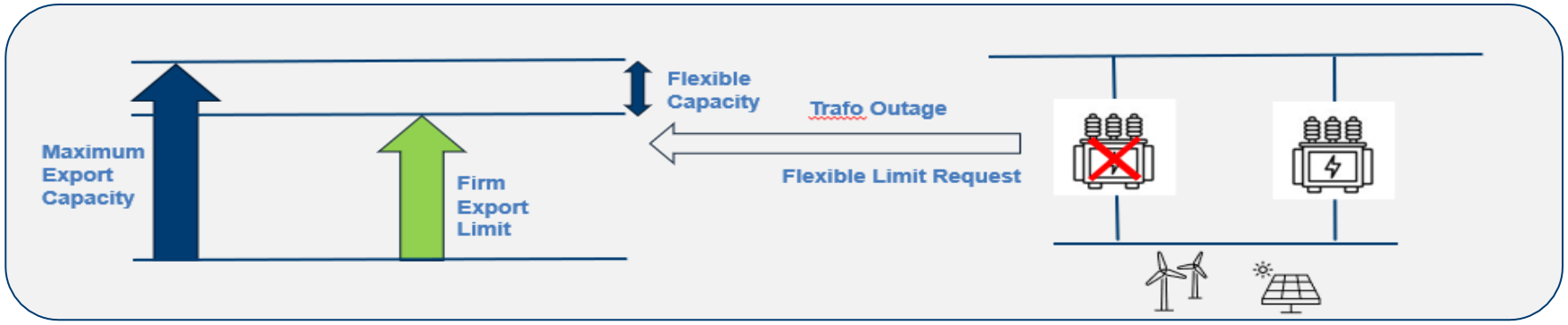
This initiative intends to avoid the initial need for deep connection works or significant shallow works to allow renewable projects to connect (whenever possible) through flexible connection offer rules such as Firm & Non-Firm Access to be used during periods of high generation and low demand, and/or under contingency operating conditions/network outages to facilitate connections.

What are the Drivers and Benefits of Flexible Connections

Climate Action Plan Targets – 2030 Accelerate Renewable Energy Generation

Allow generator to connect faster without waiting for deep reinforcements

Develop understanding of the impact of flexible connections on generation customers



Flex Charging

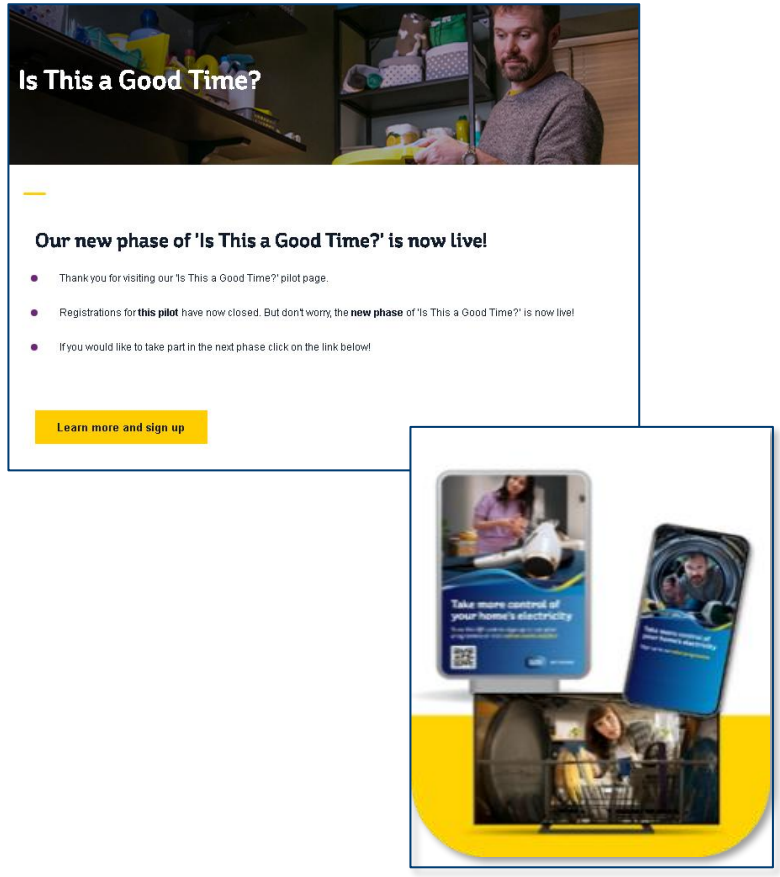
- FlexCharging research study currently in its recruitment phase before go live at end of June
- There are currently 123 Electric Vehicle owner's recruited to take part in the study
- A study will be done on these MPRNs to help to identify charging schedules that do not cause any network issues
- ESBN communicates these schedules to FlexCharging and FlexCharging then manages the charging of the EV owners on those specified dates and times

Status | Is this a Good Time?

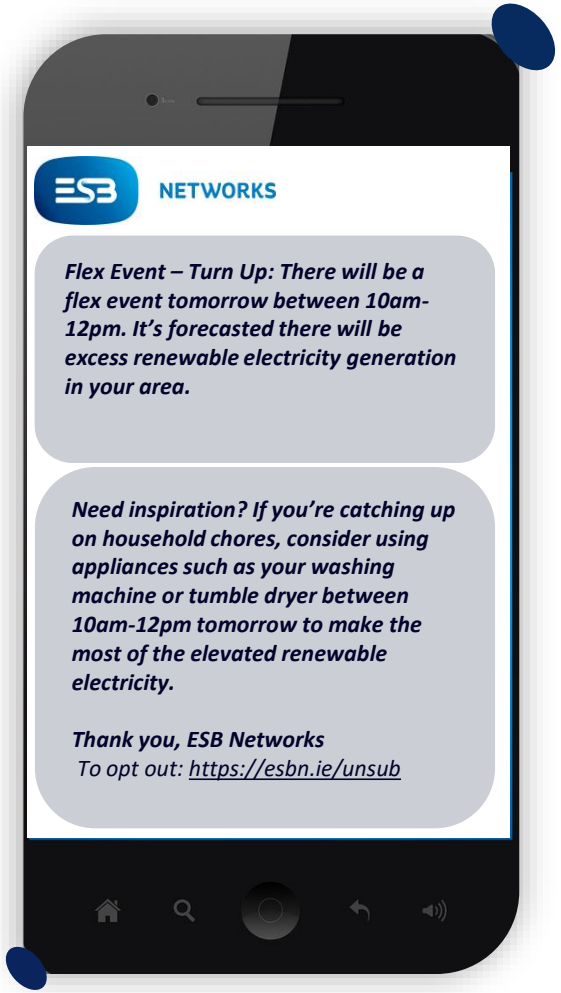
As part of the response to the Security of Supply challenge, and in supporting the 15-20% flexibility targets, Is This a Good Time (ITAGT) is a customer product to raise awareness and education around peak times, the role of weather and electricity (i.e. solar & wind generation) and in changing consumer behaviour.

The ITAGT Pilot launched in 2022 to test key messaging, rewards mechanics and MVP technical capabilities.

Over 18,500 customers signed up to the pilot, and we gained rich insights into impact of education, content and event participation.



Events | Is this a Good Time?



Tues 11th June

Flex Event - Turn Up or Flex Event – Turn Down

Audience: 3034 participants

Response rate of 20%

Action rate of 69%.

- 25% of participants stated that they did not partake because they were not able to,
- 4% stated they did not want to
- 2% indicated that they were unaware or did not receive communication.

NEXT EVENT

Wed 19th June

Flex Event - Turn Up or Flex Event – Turn Down

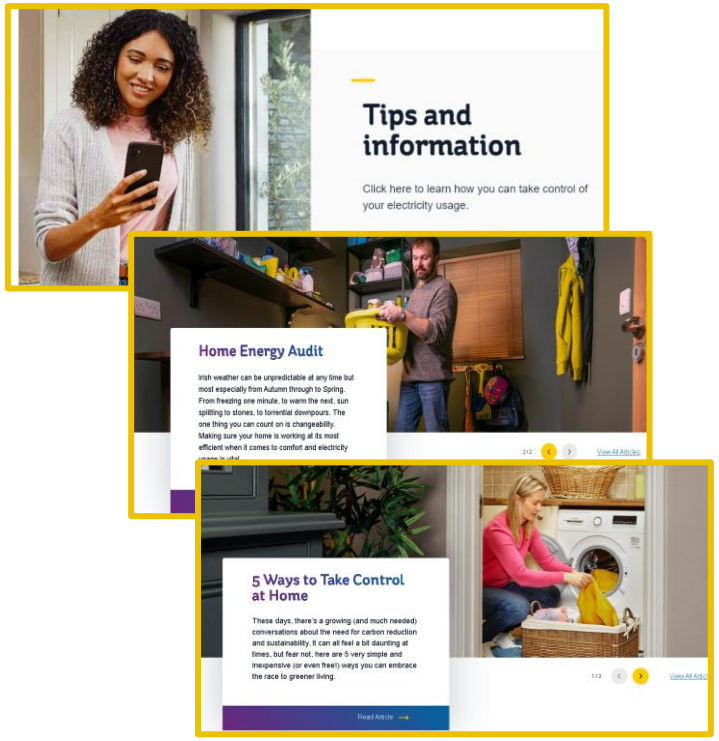
Audience: 5000 participants

- Participants notified of event on the day before (18th June)
- Test: 50% of participants will receive a reminder from 8am on 19th June (same morning as event) to see whether this results in higher response rate & action rate.

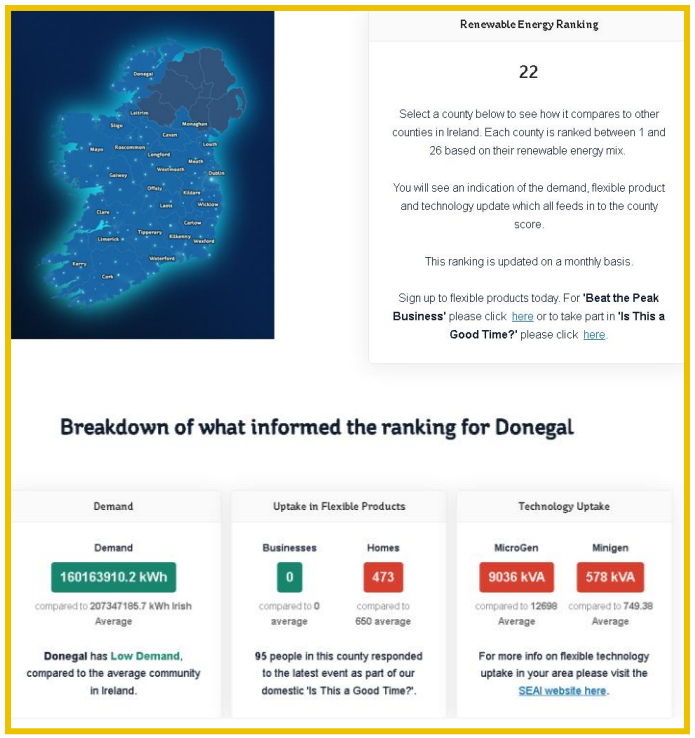
Irelands Energy Community Toolkit in collaboration with SEAI

One of the CAP 23 targets assigned to ESBN was to “publish a suite of tools and supports to increase community participation in electricity demand flexibility”. To meet this target, ESBN published an MVP of the DSO Community Toolkit in Q4 2023 which can be found here. The toolkit contains resources to support individuals and communities in engaging with flexible demand including:

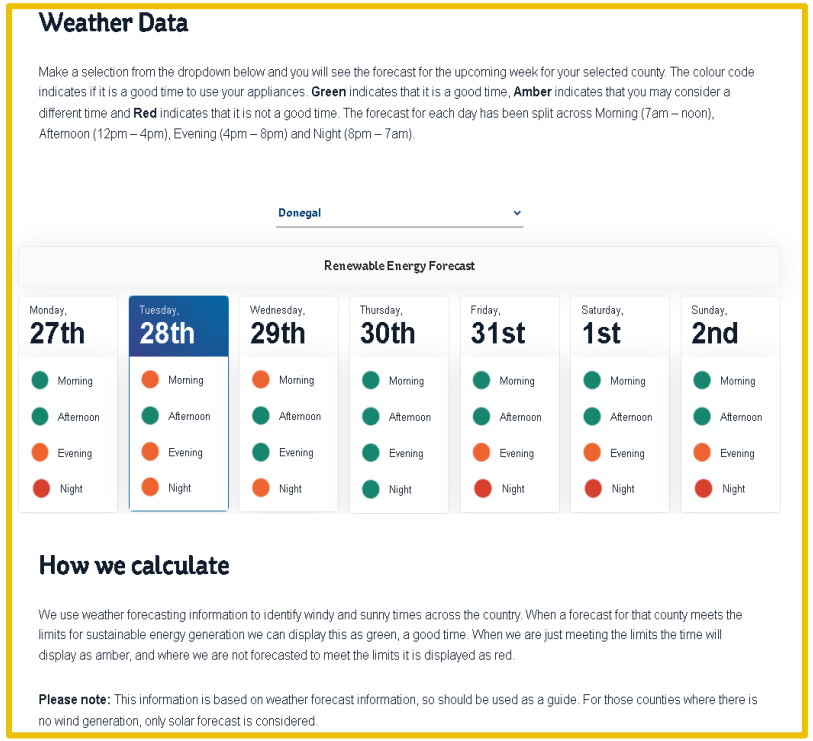
Learning



Community Data



Renewable Energy Forecast



Irelands Energy Community Toolkit – click here

Flexibility Multi Year Plan Update

- Multi-Year Plans background
- 2024 Key Milestones
- Plans for Call for Input

Multi-Year Plans - Structure

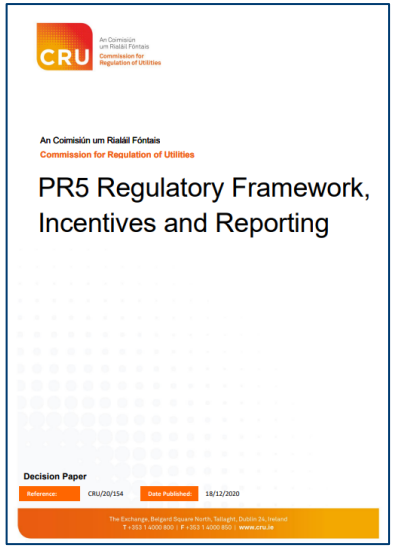
CRU20154 requires ESB Networks to "*…submit to the CRU in September each year, aligning with its consultation with stakeholders, a detailed multi-year plan covering the three following years (and the two years after at high level).*"

Each MYP identifies milestones that we feel should be incentivised by CRU – these are outlined in the Incentivised Milestones / Proposed Scorecard sections of each MYP

CRU then decides, by year-end, on the milestones, deliverable targets and weightings for the following year.

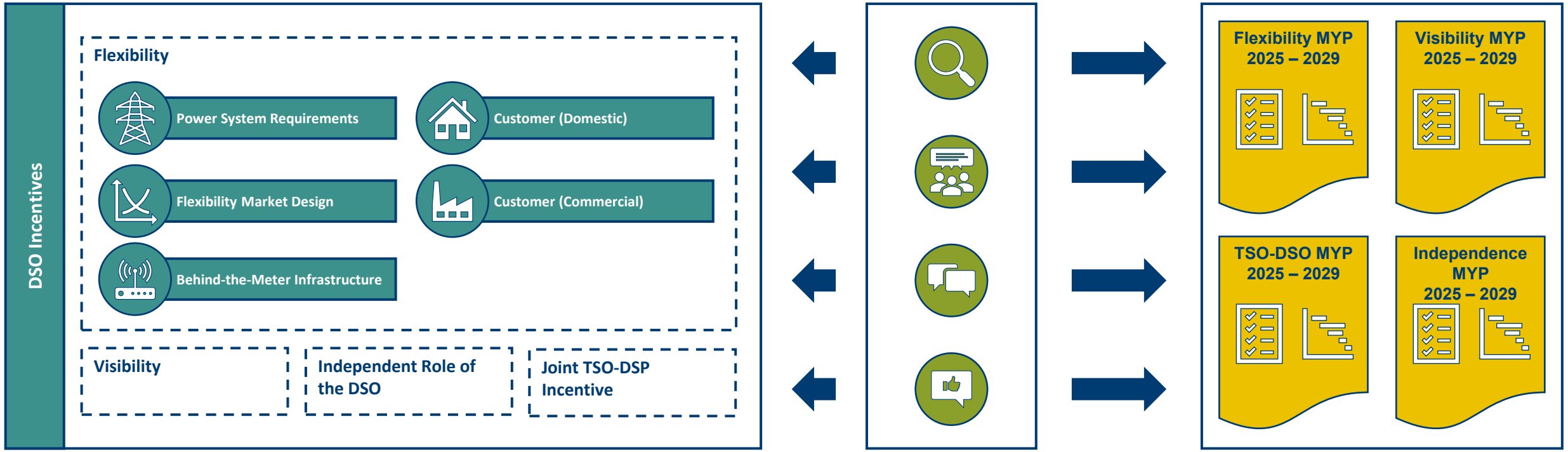
Multi-Year Plans (MYPs) submitted to CRU for 2024 - 2029:

- Flexibility
- Visibility
- DSO-TSO
- Independent Role of the DSO



CRU20154

Calls for Input | What are our inputs? What can you add? How can you steer?



1 → 2 → 3

Calls for Input: Develop Proposals

Calls for Input Consultation: Seek Feedback

Multi-Year Plans: Reflect Feedback in MYPs

2024 Key Milestones – Non-Wire Alternatives

Milestone	Description
Behind-the-Meter Infrastructure: Flexibility-Ready Standards Development	ESB Networks is planning to implement standard requirements for 'flexibility ready' smart inverters and electric vehicle chargers to support distributed energy resources. The project involves creating technical specifications, including communication protocols and standards, to ensure that this infrastructure can effectively integrate with the Irish distribution system.
All eligible pipeline HV or MV reinforcement schemes to be tested for a flexible solution, with rolling tenders established	In 2024, standard eligibility criteria will be introduced to assess high voltage (HV) and medium voltage (MV) reinforcement schemes for potential flexible demand solutions as an alternative to network reinforcement. To facilitate these solutions, rolling procurement processes will be implemented for the pre-qualification of flexibility service providers, along with more frequent competitive calls.

2024 Key Milestones – New Products & Services

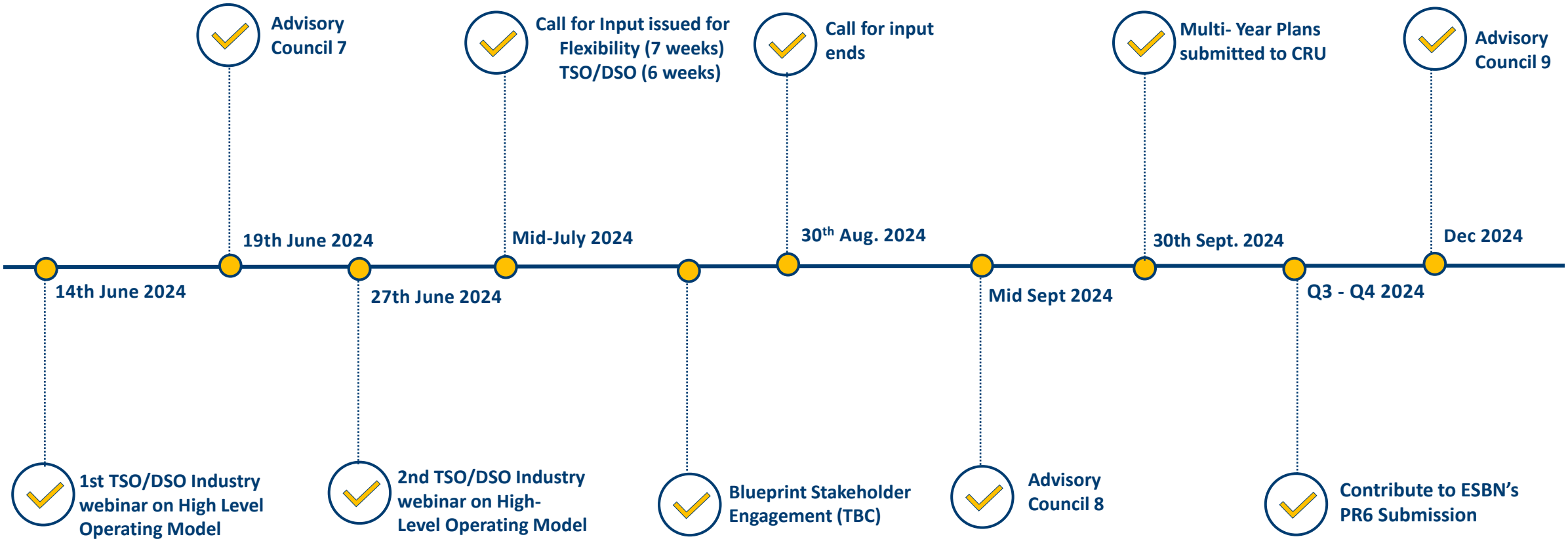
Milestone	Description
Introduce new kinds of Flexible Connection	One of the objectives of flexibility is to provide an alternative or complementary solution to network reinforcement. This includes opportunities for flexible demand, storage or flexible generation to secure a quicker or more cost-effective connection by voluntarily providing some level of flexibility. This milestone relates to the issuing of the first flexible demand and storage flexible connections building on the issuing of the first flexible generation connection offer in 2023.
Locational Medium-Duration flexibility Product Launch	Storage or other forms of more investment intensive flexible demand offer a high value form of location-specific flexible demand, so ESB Networks is working with the CRU to provide a viable route to market route to market. This milestone is for the launch to market of a product which provides the necessary market conditions for the development of assets to deliver these services, pending CRU approval of proposals developed and consulted in late 2023
XLEU Carbon Abatement Product Launch	There is the potential for significant carbon abatement if extra-large energy users (XLEUs) participate in flexible demand products to shift existing demand and deliver low or no carbon demand growth. The milestone is for the design and launch to market of a carbon abatement product(s) co-created with XLEUs to achieve this. At the time of writing the MYP, it was expected this will initially target XLEUs matching flexibility they provide locally with domestic green gas injections
Commence Sector Coupling Product Development	The role, and importance, of sector coupling to deliver climate action is increasingly clear, as transport and heating demands move to electricity, electricity demands of water management grow, and the potential for coupling electricity and gas flexibility grows with growing opportunities for biogas and hydrogen. This milestone is for ESB Networks to begin the work needed to ensure systematic identification of future cross sector opportunities and product development accordingly.
Commercial & Industrial heat Product Launch	The role, and importance, of sector coupling to deliver climate action is increasingly clear, particularly regarding heating demands. Through this consultation process and the CRU's EDS call for input, it has become clear that the short to medium term potential for flexible demand from commercial and industrial heat must be targeted. As such, this milestone relates to the design of a flexible demand product for commercial customers who have or are considering investment in industrial heat electric heat solutions on site.
New Domestic & Commercial Product Launch(es)	ESB Networks' rollout of flexible demand products and work to create the conditions where new flexible demand products are rolled out and grown in the competitive market, as delivered through the NN,LC programme, has adopted an adaptive discovery led approach. As such, this milestone relates to our launch of additional products (in addition to or replacing any of the product launches identified on a standalone basis in this table) in an adaptive manner, to maximise the impact and benefits of our work rolling out flexible demand on a continuous basis.

2024 Key Milestones – Transparency & Reporting

Milestone	Description
Development & Industry Adoption of Markets Blueprint	ESB Networks recognises the need to reflect the breadth of power system, retail market, flexibility market, technology and consumer/behavioural developments needed over the coming decade, in an efficient and integrated/strategic manner that supports progress but emphasises the role of discovery and adaptation over the course of its delivery. Aligned to the Price Review 6 submission – and based on extensive involvement of industry and key stakeholders, this milestone relates to the publication of a future markets blueprint, setting out the phased introduction of new products and services in market sandbox, flexibility market and retail markets over the coming decade.
Development & Industry Adoption of DSO-Market Participants Transition Model	ESB Networks aims to collaborate closely with various market players to support and stimulate the smart energy and flexible demand services market by addressing current barriers and market failures. This includes providing education, awareness, and innovative products and services, as well as incentives and price structures to mitigate the risks of product innovation in a market with uncertain returns. A transition model will be developed with market participants to identify and mitigate market failures, collaborate on product introductions, and set thresholds for customer engagement that, once reached, could phase out direct DSO services in alignment with regulatory and energy policies.
Launch DSO Platform	The milestone involves the introduction of a DSO Platform designed to serve as a comprehensive resource for information, services, and support from the DSO and companies offering flexible demand services to Irish businesses and those with operations in Ireland. The platform's goal is to empower all electricity customers to become active participants in the energy market by providing easy-to-use tools and resources, including data on electricity system operations and draft flexibility contracts with sample specifications and market rules.
Review and update of standard products for flexibility (based on 2021 – 2022 experience and stakeholder consultation)	Since 2021, iterative product design and competitions have provided insights into customer and market participant responses, leading to ongoing adaptations in product offerings. In 2024, a comprehensive report will be prepared to review the products launched, detailing the updates and developments made with each successive launch for market transparency.

Key Industry Stakeholder Engagements – H2 2024

Over the coming months, key engagement will centre around the Flexibility and TSO/DSO Call for Input and the DMSO Strategy Blueprint

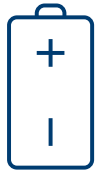


Demand Flexibility (Storage) Update

- Direction of travel for upcoming months

Demand Flexibility Product | ESB Networks

What are we doing?



ESB Networks are developing a flexibility product will provide **medium term demand flexibility**, which is the ability to deliver demand reduction, demand shifting or inject power.

Flexibility must be at or near full contracted capacity, for a **minimum of 4 hours each day**, on the majority of business days over a minimum of 3-6 months across the year.

We expect approximately 109MW will be sourced in the initial procurement rounds for demand specific locations.

Why are we doing it?

Provide route to market for demand flexibility service providers

Primary purpose of the product is congestion management on the distribution network.

Reduce demand locations on the distribution network where the network need is required for this flexibility service.

Provide schedules for charging and discharging to FSPs based on network needs

Demand Flexibility Product | Next Steps

→ Second **Demand Flexibility Consultation** to provide additional information of the product to customers. The consultation is to include overview of the following:

- Proposed sharing factor, including economic case for sharing factor
- Incentives regime, including proposed principles governing it for both energisation and delivery
- Day in the life of an asset (i.e. scheduling and revenue stacking)
  - Including scheduling notice period
- Proposed dates and associated timeline

Second Consultation developed and published → **Commence procurement process (QSQ followed by RFT)** → **Tender evaluation and signing of contracts**

→ **Procurement will include**:

- **Qualification system questionnaire:**
  High-level questionnaire for perspective participants in the market. Required to be completed before RFT
- **Request for Tender:**
  Detailed assessment for perspective market participants.

→ **Tender evaluation** and contracts

Roundtable

- Open discussion and questions

Questions to Advisory Council

1. Are there any initiatives that we are not doing that you think the DMSO should be considering?
2. How can we increase participation in initiatives?
3. Could AC members support our understanding of non-domestic energy use? E.g. based on supplier led energy efficiency services and support

Thank you!

Contact us at engagement@esbnetworks.ie