National Network, Local Connections Advisory Council Meeting 9

Tuesday 25th February 2025

Agenda

1. Welcome and Housekeeping
2. Actions Update
3. Flexibility Multi-Year Plan 2025-2029 Update
4. PR6 Submission
5. Progress Update On In-Flight Initiatives

Coffee break

6. Demand Flexibility Product Update
7. Lighthouse Project
8. New Joiners and Leavers
9. Roundtable
10. AOB

Lunch

Speakers

Teresa Fallon
ESB Networks DMSO Design Lead

Alan Keegan
ESB Networks JSOP and R&S Hub Lead

Paddy Mulvey
ESB Networks Flexibility Operations Manager

Gerry Noone
ESB Networks Flexibility Business Development Manager

Carol Murphy
ESB Networks Customer & Strategy Manager

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Welcome

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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))

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Actions Update

Item	Title	Detail	Status	Progress Update
AC8.1	Flexibility Services Locational Research	• Request that members provide ideas on how we can stimulate market appetite for flexibility products or service in the 8 areas of congestion (Finglas, Glasmore, Grange Castle, Inchicore, Midleton, Tullamore, Portlaoise, Fermoy)	Closed	No further feedback received post-AC meeting.
AC8.2	Capacity Maps	• Investigate why NW Capacity maps are no longer made available by ESB Networks and if they can't be re-instated, could ESBN put it in our plans to create a map of geographical boundaries	Closed	Updated information now available on the ESB Networks website. Link here : Availability Capacity Map; Networks capacity map

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Flexibility Multi-Year Plan 2025 – 2029: Update

- 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

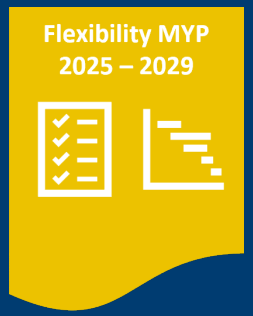
Consultation
(9th July 2024 – 26th August)

Balanced Scorecard:
CRU publishes Balanced Scorecard with proposed ESB Networks Actions for 2025 (13th January 2025) attached here

1 → 2 → 3 → 4 → 5

Call for Input:
Develop Proposals

Multi-Year Plans: Feedback reflected in MYPs and Issued to CRU
(30th Sept 2024)



Multi-Year Plan Delivery:
ESB Networks execute MYPs throughout 2025

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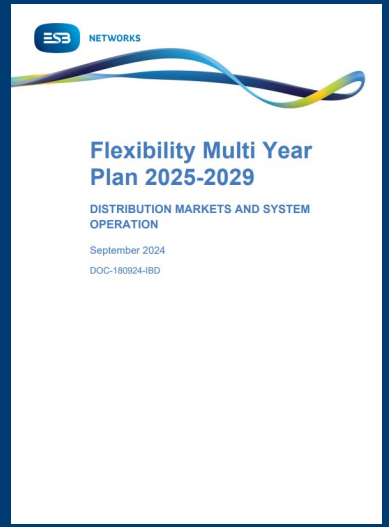
Flexibility Multi-Year Plan: 2025 Initiatives

The agreed and published CRU Balanced Scorecard details **the proposed actions for ESBN to undertake throughout 2025**, categorised in three main objectives: (1) Non-Wire Alternatives, (2) New Products & Services, and (3) Transparency & Reporting.

Non-Wire Alternatives

- Pilot End-to-End Behind the Meter Architecture
- Tender for locational summer flexibility to assist with outage management
- Review further potential options for DSO demand flexibility products
- Procurement of a Flexibility Market System
- Plan to Optimise Electric Vehicles (EV) fleet charging
- Initiative to Deliver Network Capacity in a localised Area via a Non-Wire Solution
- Route to market for community-based flexibility participation
- Initiatives to Build Awareness, Education and Engagement with Demand-Side Flexibility for customers



ESB Networks Flexibility Multi-Year Plan 2025-2029

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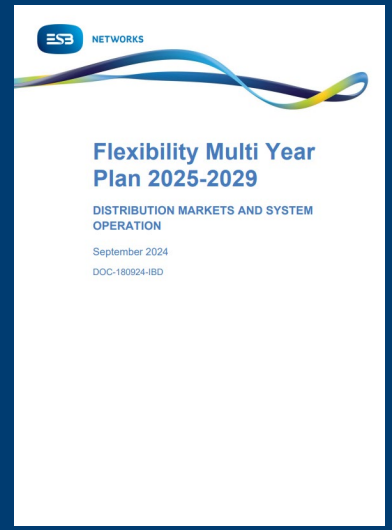
Flexibility Multi-Year Plan: 2025 Initiatives

New Products & Services

- Launch procurement process for Demand Flexibility Product
- Commence operations on Extra Large Energy Users (XLEU) product
- Issue Offers for MVP Timed Connections (for Demand)
- Develop an MVP and Issue first offers for a Flexible Demand Connection
- Explore demand up flexibility products
- Beat the Peak Business
- Complete learnings from FlexCharging EV Initiative
- Develop a New EV initiative
- Facilitate distribution customers to participate in TSO markets
- Commence implementation of required capabilities for visibility, controllability and forecasting of Distributed Energy Resources (DER)



ESB Networks Flexibility Multi-Year Plan 2025-2029

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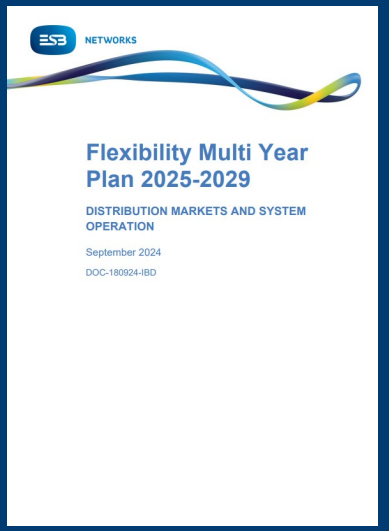
Flexibility Multi-Year Plan: 2025 Initiatives

Transparency & Reporting

- Finalisation of proposals for mandatory flex readiness standards for DER connection to the Irish distribution system
- Publish a technical assessment of how the available smart EV charging and V2G (vehicle-to-grid) capacity can be maximised through network operations
- Engage across relevant parties to develop propositions for smart charging services, including an exploratory investigation of V2G services. Establish working group to explore barriers and enablers. Publish programme of work
- Publish Multi-Year Flexibility Needs Statements (Network Scenario Headroom Report)
- TSO/DSO Coordination: particular focus on the joint operating model
- Standard market regulatory reporting



ESB Networks Flexibility Multi-Year Plan 2025-2029

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Transforming the Distribution System Operator (DSO) Role

Guided by changing role of the DSO for flexibility services and products as laid out in.

- The EU Clean Energy Package
- Ireland's Climate Action Plans
- CRU's National Energy Demand Strategy

Our PR6 investment priorities reflect the ability to **leverage smart metering capability delivered in PR5**, our continued commitment to **safely and efficiently operating the network**, and the need to **create a more flexible & resilient network**.

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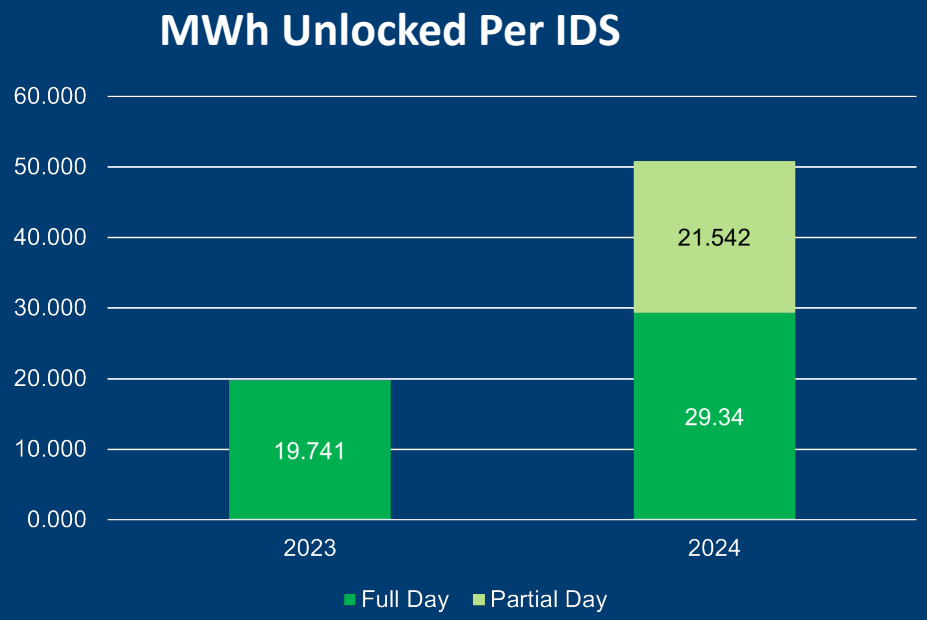
Pilot 2 – Dynamic Instructions Set

Background

The intention of Pilot 2 was to introduce dynamic instruction sets thereby unlocking demand down capacity. Pilot 2 uses generation forecasting and outage monitoring to increase Individual Demand Sites' ability to provide services to the TSO.

- Pilot 2 was live from the beginning of April until the end of September in 2023 and 2024
- Sites have been selected via the existing annual study process
- 5 DSUs took part in the pilot in 2024
- Enhanced EirGrid collaboration for 2025.
- The pilot is due to go live in April 2025 and enhancement are currently underway. They include:
  - New list of IDS
  - Whitelist option for MV Outages (require Ops Analyst input)
  - Change to Abnormal Feeding Thresholds

559.685 MWh
(11 IDSs)



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* Full Green refers to amount of capacity unlocked when an IDS was considered available for an entire day. With enhancements to Pilot 2 in 2024, ESBN was able to advise DSUs of hours within a day where capacity could be unlocked, which in turn improved the performance per IDS. This is represented in graph by Partial Green.

Flexible Generation Connections (Pilot 4)

Background

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

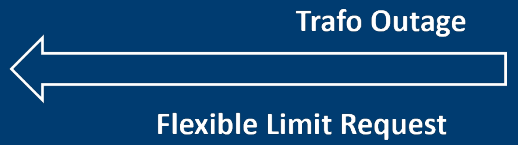
This initiative intends to avoid the initial need for deep connection works or significant shallow works to allow renewable projects to connect (whenever possible) through flexible connection offer rules such as Firm & Non-Firm Access to be used during periods of high generation and low demand, and/or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

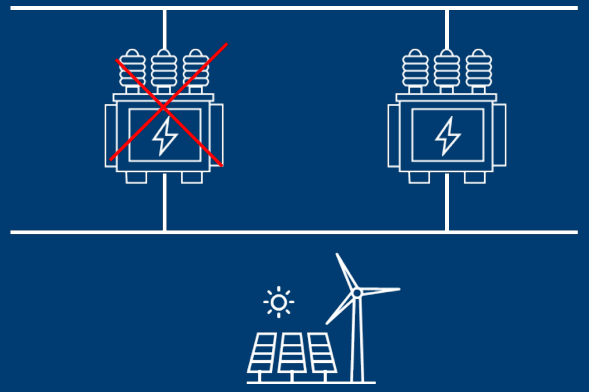
What are the Drivers and Benefits of Flexible Connections

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

Number of Participants	Total Battery Capacity [MWh]	Total Charging [MWh]	Charging Inside Schedule [kWh]	Charging Outside Schedule [kWh]	Charging During Peak [kWh]	Average Charging Rate [kWh]
174	11.9	205.4	162,845	42,524	5,935	1.31

The ESB Networks Flex Charging initiative, supported by FlexCharging (an American Startup), is a research project aimed at understanding how flexible electric vehicle charging can help reduce electricity consumption during peak times.

The visual provides an analysis of charging activities, focusing on the impact of scheduling on energy consumption.

Schedule Analysis: Two schedules are analysed, with data spanning from July 1, 2024, to January 31, 2025.

Schedule Impact: The pie chart indicates that 20.71% of charging occurs outside the schedule, while almost 80% of charging is within schedule.

Group Analysis:

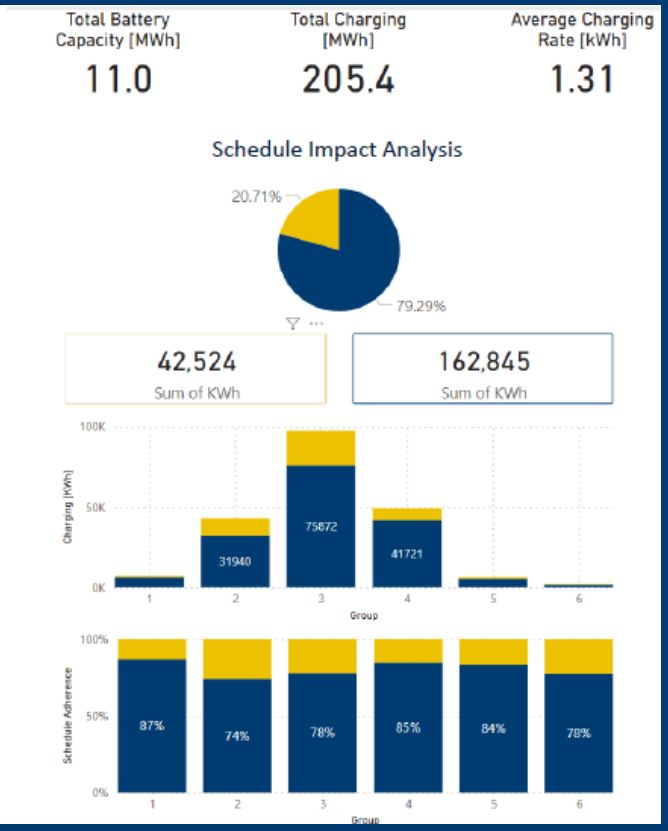
- The bar chart shows energy consumption by group, with the largest participant number in Group 3 having the highest consumption at 75,872 kWh followed by group 4 at 41,721 kWh.

Schedule Adherence:

This section delves deeper into the groups assigned to the EVs, examining how well each group adheres to their schedules. Schedule adherence is shown as a percentage, indicating how consistently each group follows their provided schedules. Most groups maintain an adherence percentage of 75% and above. The average adherence for Schedules 1 to 6 is 81%.

The percentage of scheduled adherence varies by group, with Group 1 & 4 having the highest adherence at 87% and 85% respectively, and Group 2 the lowest at 74%.

High adherence rates indicate that groups are effectively following the planned charging schedules, which helps in balancing the load on the energy grid and reducing peak demand. By analysing schedule adherence, we can identify which groups may need additional support or adjustments to their schedules to improve compliance.



Flex Charging Peak Charging Impact Analysis

The graph titled "% EV Charging during peak" illustrates the percentage of EVs charging during peak hours from July 2024 to January 2025:

July (No Schedule)
- Peak-hour charging was at its highest, starting at **4.46%** in July when there was no charging schedule in place.
- This suggests unrestricted charging behavior, leading to higher peak-hour activity.

August (Schedule 1 Introduced)
- With the introduction of **Schedule 1**, the percentage dropped significantly to **3.02%**, indicating a shift in user behavior as they adapted to the new charging structure.

September (Schedule 2)
- Under **Schedule 2**, peak-hour charging saw a dramatic reduction, reaching its lowest point at **1.35%**.

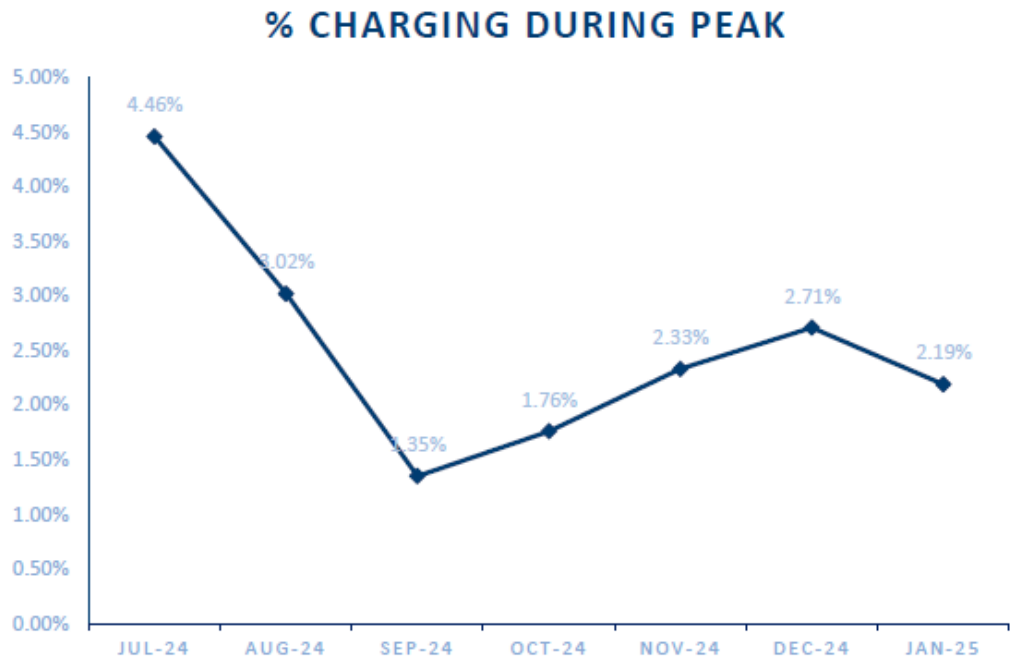
October (Schedule 3)
- The percentage began to recover slightly, rising to **1.76%**, possibly due to slight adjustments or increased EV usage aligning with **Schedule 3**.

November (Schedule 4)
- Under **Schedule 4**, the upward trend continued, with peak-hour charging increasing to **2.33%**.

December (Schedule 5)
- By December, with the implementation of **Schedule 5**, peak-hour charging rose further to **2.71%**, suggesting a stabilization in charging behavior under the revised schedule.

January (Schedule 6)
- In January 2025, we can again see a slight decline in peak charging, falling from 2.71% to 2.19%

Peak Charging Percentage Change



The data demonstrates the impact of charging schedules on peak hour behavior. The introduction of schedule charging resulted in a sharp decline in peak-hour charging between July 2024 – January 2025.

CVR

What is CVR?

- Reduction of demand by lowering voltages

What has ESB done?

- Successful CVR implementation
- Voltage Management Tool (SCADA)
- Monitoring Solutions
- Impact Estimation

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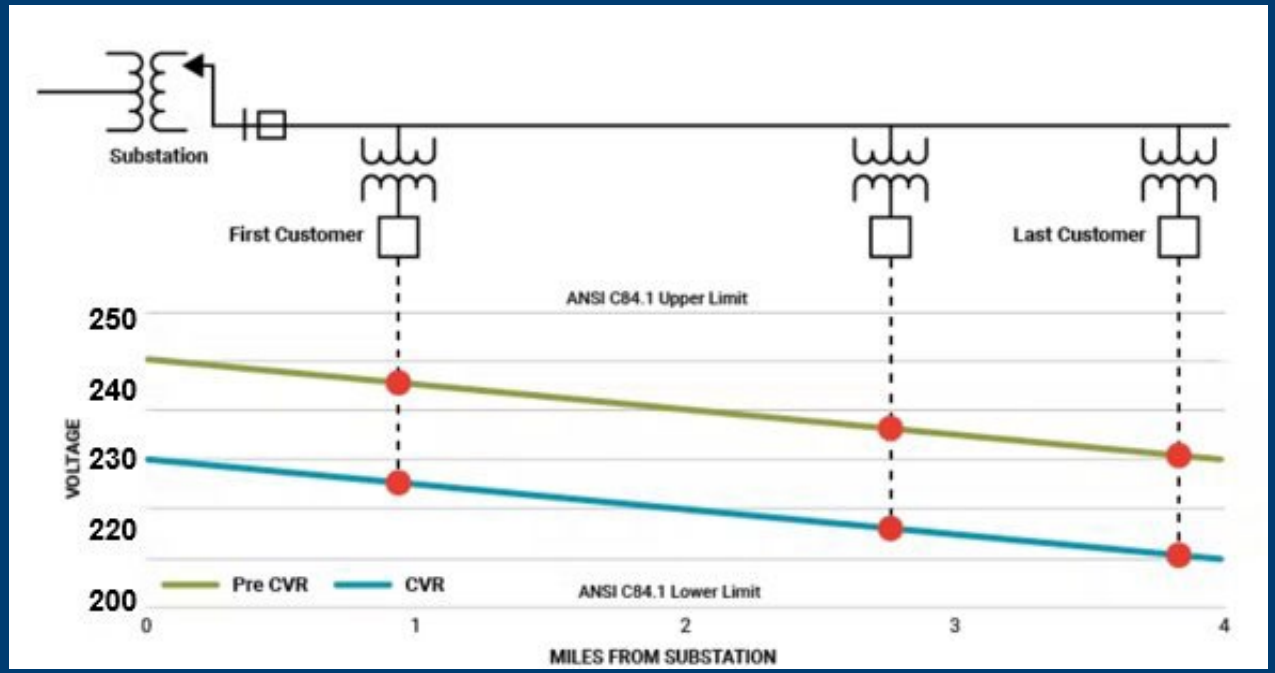
Daily load reduction of 0.936MW. 11 transformers delivered 27 MWh of reduction over 5 weeks.



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

Long Term Road Map Capabilities

Customer

Regulatory Obligation

Data Driven Decision Making

Beat the Peak Business

Total contracted Flexible Capacity (MWs)	The total contracted flexible capacity across all Service Assets onboarded.	0.019MW	5.019MW	12.58MW
BTP-B Peak Events	Number of events	0	0	1
MWhs Reduced	Average Reduction over 16:30 to 19:00.	-	-	1,135

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In Flight: Is This a Good Time?

27,000 Active Participants

30 Energy Events

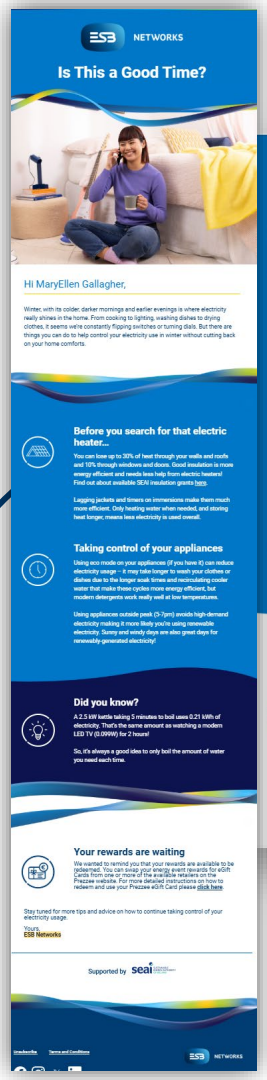
109,113 Actions

104 MWh **Electricity Shifted***

Equivalent to powering **9,038 homes** for a day!

Stats shown are from*Nov 23' - Jan 25'

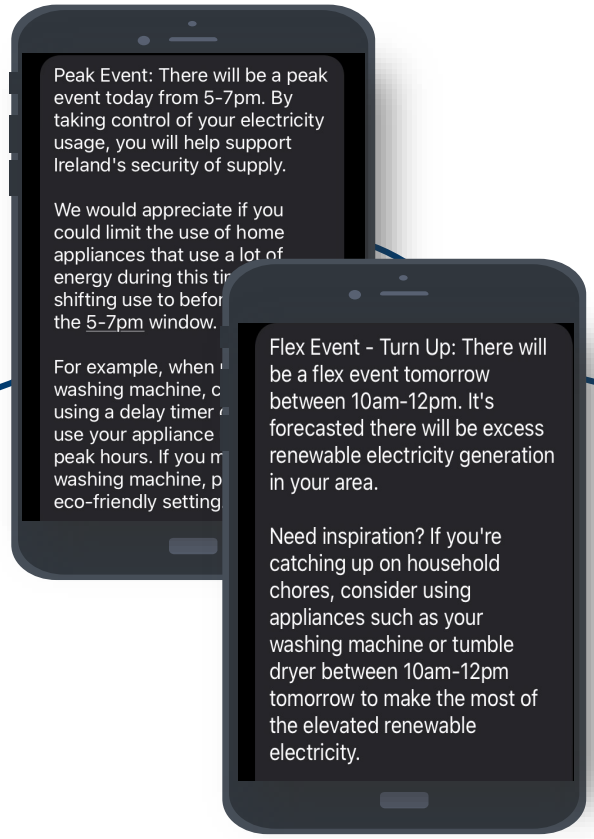
ITAGT Customer Communications Journey updates



Monthly Educational Comms

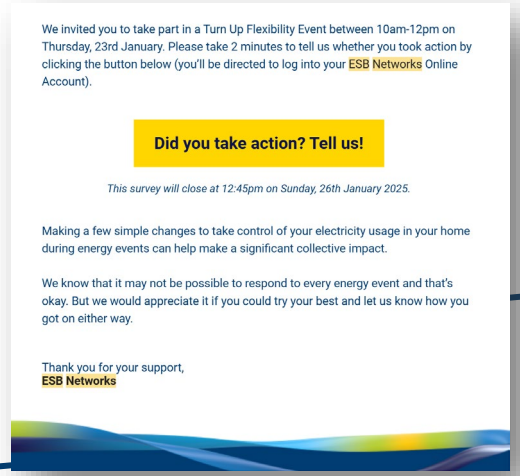
Receive Energy Events:

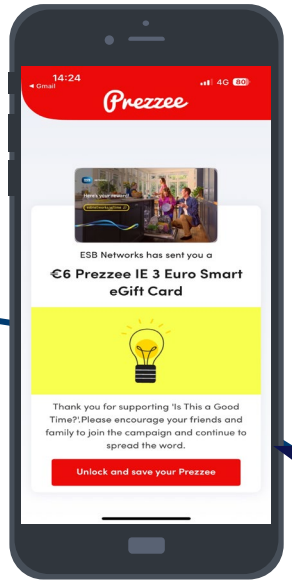
- Peak Events
- Flex Up Events
- Flex Down Events



Customers will receive contextualised hints and tops to increase knowledge and encourage action

Complete Energy Event Survey: Outlines if they could participate



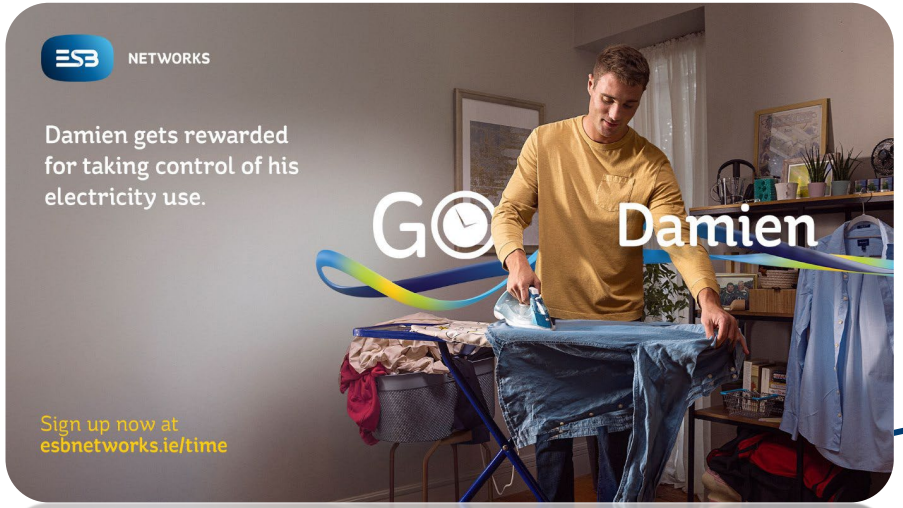


Get rewarded:
If they could participate, customer gets rewarded with a digital gift card

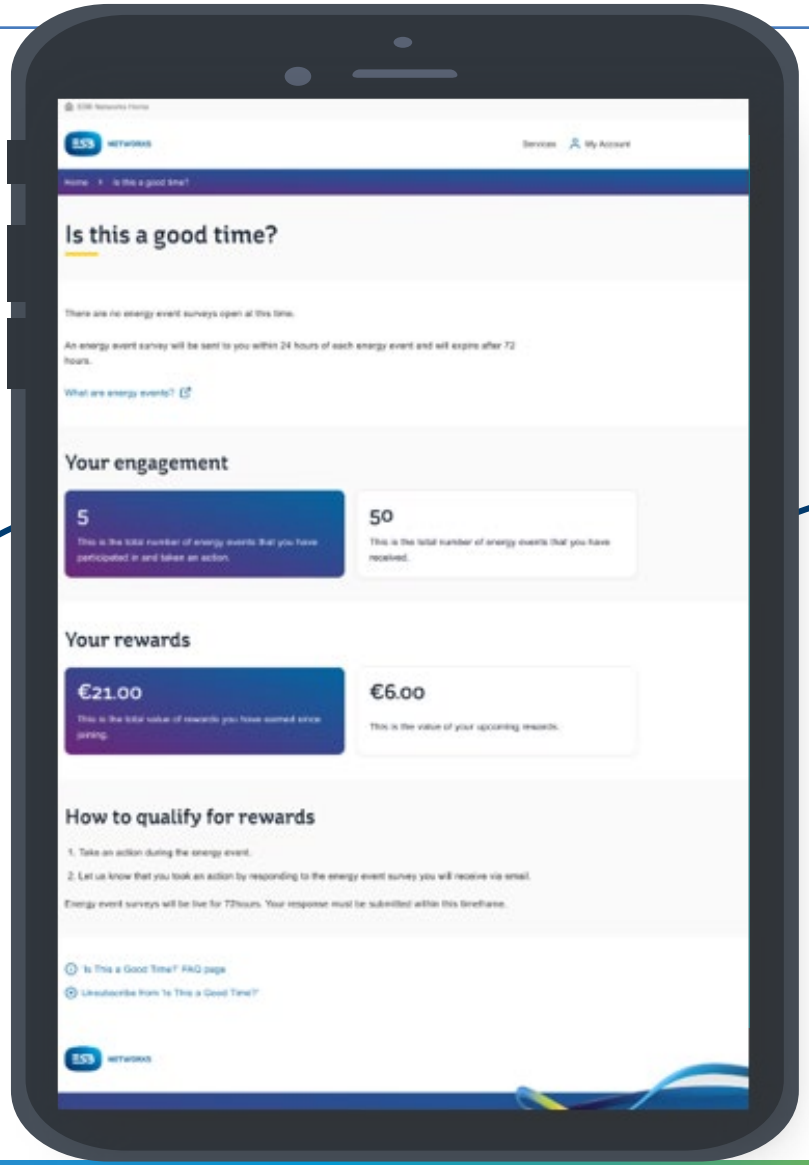
Underpinned by Research, Measurement & insights (ITAGT participant survey, focus groups, quarterly attitudinal tracker etc.)

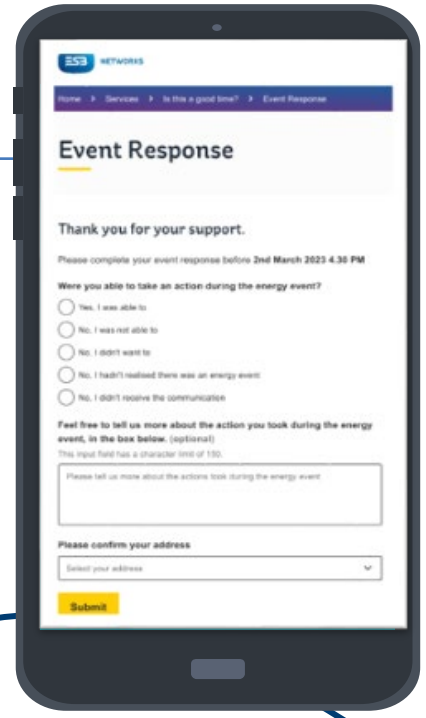
ITAGT Customer Journey: Upcoming Enhancements

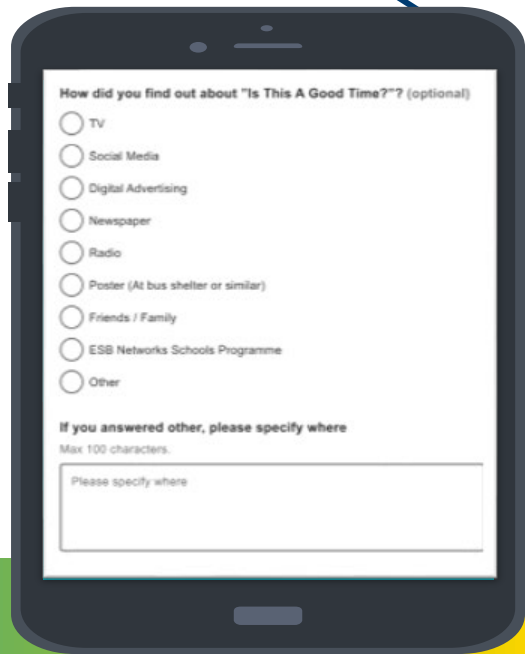
Recruitment
Key message – rewards.
Radio. Social, Ad Pause .



Customer dashboard/ Onboarding & Events







ITAGT Supplier Collaboration Assets

September 24

Initial engagement with Energia

October 24

Initial engagement with SSE

November 24

Energia Assets Developed

January 25

All Supplier Webinar

January 25

SSE Assets Developed

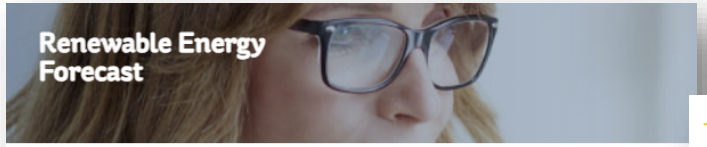
February 25

Initial engagement with Pinergy

February 22

Pinergy Assets Developed

Coming Soon – Community Tools



Community Toolkit > Renewable Energy Forecast

This week's renewable energy forecast

When it is windy, or sunny it means that renewable energy can be generated, this can reduce the consumption of electricity generated from fossil fuels. By looking to the weather forecast, we can identify times where it may be better to utilise your electricity heavy appliances to make the most of renewable energy. We know it isn't always possible to change when you use your appliances, but for those jobs that can, we hope this is a helpful tool. This is especially true for household with solar PV panels installed. Read this weeks forecast for Ireland and understand when is a good time to use electricity.

Weather Data

Make a selection from the dropdown below and you will see the forecast for the upcoming week for your selected county. The colour code indicates if it is a good time to use your appliances. **Green** indicates that it is a good time, **Amber** indicates that you may consider a different time and **Red** indicates that it is not a good time. The forecast for each day has been split across Morning (7am – noon), Afternoon (12pm – 4pm), Evening (4pm – 8pm) and Night (8pm – 7am).

Meath

Renewable Energy Forecast

Monday, 24th	Tuesday, 25th	Wednesday, 26th	Thursday, 27th	Friday, 28th	Saturday, 1st	Sunday, 2nd
Morning	Morning	Morning	Morning	Morning	Morning	Morning
Afternoon	Afternoon	Afternoon	Afternoon	Afternoon	Afternoon	Afternoon
Evening	Evening	Evening	Evening	Evening	Evening	Evening
Night	Night	Night	Night	Night	Night	Night

How we calculate

We use weather forecasting information to identify windy and sunny times across the country. When a forecast for that county meets the limits for sustainable energy generation we can display this as green, a good time. When we are just meeting the limits the time will display as amber, and where we are not forecasted to meet the limits it is displayed as red.

Please note: This information is based on weather forecast information, so should be used as a guide. For those counties where there is no wind generation, only solar forecast is considered.

Learn how your community compares to others across the country

- Across the country, homes, businesses and organisations are taking steps towards a more sustainable future when it comes to electricity.
- Here you will find some key statistics on how each community is playing their part. From the drop down menu below, select the county you wish to view. You will find information on each counties demand, generation and participation in flexibility initiatives with ESB Networks. You will also find information on the anticipated flexibility targets for each county in the coming years.
- Watch this page over the coming months as we update the information and track how your county is doing, and compare it to others.

Renewable Energy Ranking

20

Select a county below to see how it compares to other counties in Ireland. Each county is ranked between 1 and 26 based on their renewable energy mix.

You will see an indication of the demand, flexible product and technology update which all feeds in to the county score.

This ranking is updated on a monthly basis.

Sign up to flexible products today. For **'Beat the Peak Business'** please click here or to take part in **'Is This a Good Time?'** please click here.

Cavan

Breakdown of what informed the ranking for Cavan

Demand	Uptake in Flexible Products		Technology Uptake	
Demand	Businesses	Homes	MicroGen	Minigen
98326411 kWh	0	353	6912 kVA	596 kVA
compared to 158589078 kWh Irish Average	compared to 0 average	compared to 1088 average	compared to 18358 Average	compared to 1386 Average
Cavan has Low Demand, compared to the average community in Ireland.	92 people in this county responded to the latest national event as part of our domestic 'Is This a Good Time?'.		For more info on flexible technology uptake in your area please visit the SEAI website here.	

Renewable Energy Forecast Alerts

Allows users to sign up for customised alerts for their specific area. **Users will receive notifications via their mobile devices** providing them with a forecast of renewable energy availability for their selected county/counties.

Flexibility Quiz

Gamification tool to engage customers by **assessing their behaviour regarding energy consumption** & offer insight in behaviour change to 'take control' of home appliances and how/when use electricity

Take Control of your appliances !

Customer models the **energy consumption of their household appliances** by inputting their appliances and typical behaviours & will be offered insight into 'what if' I improve the appliance rating of my home appliances or 'what if' I change how/when I use my appliance.

Three initiatives have been defined, in conjunction with the SEAI and Sustainable Energy Communities for the next phase of the DMSO Community Toolkit.

Coming Soon to 90 Secondary Schools

Coffee Break

Demand Flexibility Product | Update

QSQ

The QSQ for the Demand Flexibility Product was published in early December 2024 and will remain open until the end of March 2025.

- It is published on eTenders alongside all relevant documentation.
- It includes high-level questions for potential participants
- This is mandatory prerequisite for the CfT

Second Public Consultation

A second consultation paper for the Demand Flexibility Product was published last October and closed in early December.

- It detailed scenarios about how a Demand Flexibility Product asset could participate across markets allowing revenues to be stacked.
- Rationale and analysis for the proposed payment mechanism for the product, amongst other details.

2nd Recommendations Paper

Since December, ESB Networks have been reviewing and considering each of the responses to the second public consultation, and developing positions on each of the question topics consulted on. Fifteen responses were received in total.

Contracts and CfT

A call for tender and a contract for the DFP are currently being drafted by ESB Networks. These documents consider the detailed characteristics of the product and the agreements that will be in place between ESB Networks and flexibility service providers in operating DFP assets.

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Biomethane Lighthouse Project

- Introduction
- Plan
- Lessons Learned / Next Steps

Introduction

As per the National Energy Demand Strategy, ESBN has been designated the 'Responsible Body' for the Biomethane Lighthouse, specific NEDS action outlined below

Action ID	Area	Description	Responsible Body	Supporting Body	Completion Date
2.12	Area 2	**Biomethane lighthouse** Publish plan to deliver biomethane lighthouse project, including indication of anticipated biomethane volumes and further details (e.g. imported or domestic, if via Guarantees of Origin, etc.) to deliver flexibility.	ESBN	(CRU, GNI, Biomethane Implementation Group (BIG))	Q4 2024

Biomethane Strategy action

Pillar	No.	Name	Detail	Owner	Key Stakeholder	Delivery Date
Pillar 2: Demand	2d	Extra Large Energy Users	Assess ESB Networks Lighthouse Project with Data Centre	SEAI	ESB Networks, CRU, SEAI	Q2 2024

Lessons Learned

Customer Engagement

- Overall positive reactive & recognition as to the benefits & role of renewable gas within the commercial sector.
- Large Datacentres, particularly engaged and exploring its potential, but indicated a strong preference for participation in such schemes to be linked to future capacity
- Pace of transition is a factor for customer interest and commitment (linked to Biomethane availability below)
- Interest in leveraging biomethane to enable flexibility supported across the ecosystem as demonstrated by GNI and Flogas

Supply & Liquidity

- Market is dominated by international imports with uncertainty around price direction of indigenous production.
- Maturing of DECC's Biomethane Strategy will add certainty to possible production supports for new AD plants. A tipping point will aid the pace of transition.
- Duration of contracts; Demand Flexibility contract and Gas Procurement Agreement traditionally have very different durations, increasing the risk for the end customer.
- Amended the Flexible Payment envelope of money from zero € to a rate designed to be OPEX neutral to the end customer. But this did still not attract a customer thus given current maturity level of market in Ireland flexible payments alone may not be sufficient to achieve the Lighthouse.

Next Steps

- ESB Networks (DMSO) expression of Interest comes at an early stage in the adaption of Biomethane. Given this we plan to continue to offer a route to market for early adaptors through the Expression of Interest which will remain open
- DMSO will continue to sit on the DECC Biomethane Implementation Group to promote the use by the XLEU segment
- Alignment with any potential onsite generation initiatives for XLEUs

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New Joiners and Leavers

Carol Murphy

Thank you!

Lindsay Sharpe
DMSO Customer & Strategy Lead
Welcome

Adrienne Behan
ESB Networks Lead for JSOP
Welcome

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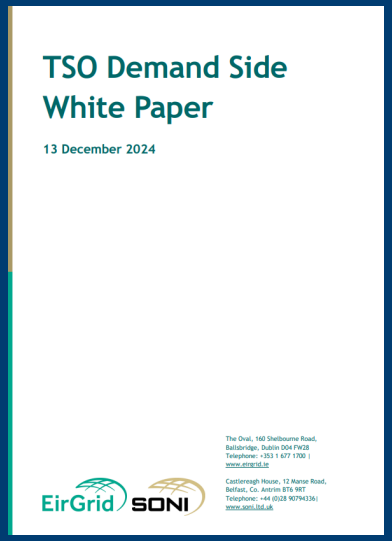
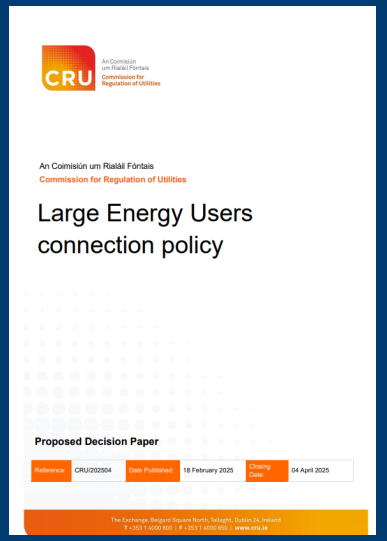
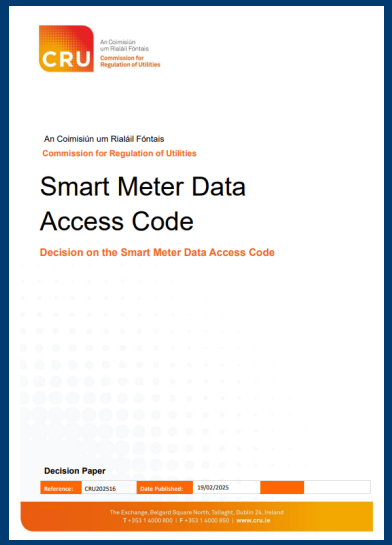
Roundtable Discussion

Open discussion and questions?

Some recent publications, consultations, decisions, etc. under consideration:







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Any other business?

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Thank you!

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