



NETWORKS

Environmental Performance Report 2025

Issue date: 26th June 2026

Issued by: Environment, ESB Networks

DOC-030626-IMF



Contents

Executive Summary	3
Introduction	6
ESB Networks – Who we are	8
Delivering a Low Carbon Future	19
Climate Action and Sustainability	40
Minimising Our Impact on the Environment	46

1

Executive Summary



Executive Summary

Welcome to ESB Networks' Annual Environmental Performance Report, 2025. This report provides insights into the environmental and sustainability aspects of our business. These aspects are dealt with in detail in the body of the report, but the following are some of the highlights.

Renewable Energy Connections

2025 was another very successful year for the connection of renewable energy. By the end of 2025, ESB Networks had enabled over 6.8 GW of utility scale renewable energy, including 5,065 MW of wind energy, 1,346 MW of utility scale solar, and additional capacity from other renewable sources. Approximately 1,043 MW of non-utility scale roof top, mini, micro, and small scale solar has been connected, bringing the total combined solar generation at the end of 2025 to 2,389 MW. Two energy storage projects were also connected to the transmission system in 2025 totalling 83 MW, resulting in a total energy (battery and pumped hydro) storage capacity of 1,132 MW on the network by the end of 2025.

Climate Action Plan Implementation

In the Climate Action Plan (CAP 2025), ESB Networks was assigned as the lead for one action relating to the development of consumer-led flexible demand processes which has been completed, and is joint lead for a further action regarding the development of a data sharing framework for Low Carbon Technologies (LCTs) connected to the electricity grid, which is still under development.

Beat the Peak

In 2025 Beat the Peak Domestic ended the year with over 40,000 participants. ESB Networks ran 32 energy events, recording 217,789 actions along the way. 190 MWh of energy was shifted in 2025. The Beat the Peak Business initiative delivered 6,181 MWh of demand down services to ESB Networks.

Smart Metering Project

In 2025, 186,467 smart meters were installed by almost 200 installers across the country. By the end of December 2025, 2.081 million smart meters were successfully installed. This means that over 2 million customers now have access to smart tariffs and services.



By the end of
December 2025
**2.081
million**
smart meters were
successfully installed

Biodiversity

A number of key actions outlined in ESB Networks' ['Networks for Nature'](#) Biodiversity Strategy have been addressed during 2025, with work to continue in 2026.

The biodiversity enhancement of the retired Foxford 38kV substation was completed during 2025. To help staff identify invasive species, ESB Networks have distributed over 500 invasive species guides nationwide. There is also a digital version of this guide available to staff.

Sustainability

In ESB Networks we place sustainability at the heart of everything we do as detailed in our Networks for Net Zero Strategy.

ESB Networks has adopted and integrated three of the United Nations Sustainable Development Goals (SDGs) where we can make a real tangible difference, namely:



SDG 7 Ensure access to affordable, reliable, sustainable and modern energy for all.



SDG 9 Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.



SDG 13 Take urgent action to combat climate change and its impacts.

We made further progress on these goals during 2025, as detailed in the body of the report.

Electrification

Electrification of heat, transport, and industry is central to Ireland's decarbonisation goals, and the distribution system will play a critical enabling role. Growing climate targets, housing demand, and population increases are driving significant pressure on network capacity, requiring major investment across upcoming regulatory cycles. ESB Networks is scaling delivery capability, adopting new construction methods, and providing interim capacity solutions where possible. Tools such as capacity heat maps support customer transparency.

Throughout 2025, we have continued to deliver on the electrification commitments set out in our Networks for Net Zero Strategy, with major progress in both e-transport and e-heat initiatives.

Circular Economy

ESB Networks is moving from a traditional linear model of Take > Make > Use > Dispose toward a circular economy approach that keeps materials in use for as long as possible. For example, ESB Networks carry out mandatory testing for the purpose of re-use of all retired oil filled equipment, thus contributing to our circular approach to recycle suitable equipment where possible.

Price Review 6 (2026-2030)

CRU issued a Final determination in December 2025 in relation to Price Review 6 (2026-2030).

CRU approved a major step change in investment, up to 13.4 billion capital investment by 2030 which will continue to support ESB Networks' environmental and sustainability goals. This represents our largest investment programme to date, reflecting the essential role that the electricity network will play in achieving national policy priorities relating to housing delivery, economic development, and climate action.

Throughout 2025, ESB Networks continued to effectively manage the environmental and sustainability aspects of our business. I hope that you enjoy reading about the progress that we made in more detail in the following pages.

John Tuohy

Sustainability and Environmental Manager, ESB Networks

2

Introduction



ESB Networks DAC is the distribution system operator and has a number of licence obligations relating to the environment contained in the Distribution System Operator (DSO) licence issued by the Commission for Regulation of Utilities (CRU). ESB is the licenced Transmission Asset Owner (TAO). Condition 30 of the DSO licence and Condition 22 of the TAO licence require the respective licence holders to:

- Comply with all current and future European Union and Irish Environmental Laws, as well as directions by the CRU in respect of its duties relating to the Environment.
- Maintain an Environmental Policy setting out how it will comply with its duties and obligations under these laws and directions.
- Report annually to the CRU on its environmental performance.

ESB Networks, a business unit of ESB, manages environmental issues for the DSO and the TAO. This report has been prepared by ESB Networks on behalf of the DSO and TAO for the year ending December 2025.



3

ESB Networks – Who we are



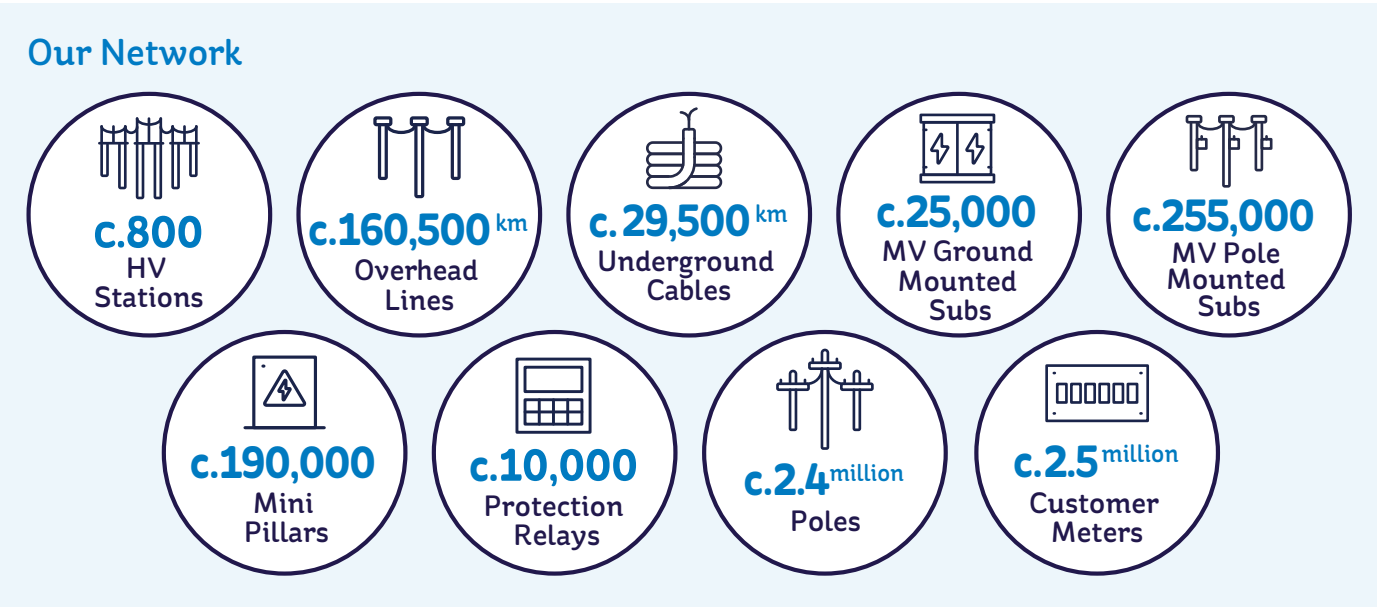
ESB Networks - Who we are

ESB Networks provides the infrastructure that transports electricity to all customers in Ireland through both the distribution and the transmission Systems. We have served Irish customers for over 99 years and have provided the electrical infrastructure on which our society has developed.

ESB Networks works to meet the needs of all Irish electricity customers, providing universal affordable access to the electricity system and delivering and managing the performance of a system of over 160,000 km of overhead networks, 29,500 km of underground cables, over 800 high voltage substations, significant amounts of connected generation (including renewable generation connected to the distribution and transmission systems) and 2.5 million demand customers.

We carry out all the functions relating to the electricity distribution system. This includes asset management, planning, construction, maintenance, and operation of the high, medium, and low voltage distribution networks. We also deliver a range of services to the Republic of Ireland (RoI) Retail Electricity Market servicing over 2.5 million customers. We manage relationships with market participants and provide data in a timely and accurate fashion on a daily basis. ESB Networks supports the wider Irish market through the ring-fenced Meter Registration System Operator (MRSO) and Retail Market Design Service (RMDS) and supports the wholesale Single Electricity Market through the provision of aggregated meter data.

ESB Networks builds and maintains the high voltage transmission system. By the end of 2025, ESB Networks had facilitated the connection of over 6.8 GW of utility-scale renewable energy generation to the distribution and transmission systems.



ESB Networks places customer service at the centre of our operations, providing services to all electricity customers regardless of their supplier. Our staff throughout the country strive for excellence in all interactions with customers, while also supporting them in participating in the energy market and transitioning towards low carbon technologies.

To ensure that our day-to-day activities are managed sustainably, the ESB Networks' Sustainability and Environmental team, and senior leadership provide support to various groups and teams across the business with environmental responsibilities. We draw on specialist knowledge from key areas such as procurement, environment and construction to achieve this enduring role.

Our Values

WE'RE
COURAGEOUS

Each of us is prepared to challenge the way we've always done things, stand up for what we feel is right and try better ways of working.

WE'RE
CARING

We're putting customers' current and future needs at the heart of what we do and we keep ourselves and others safe and healthy.

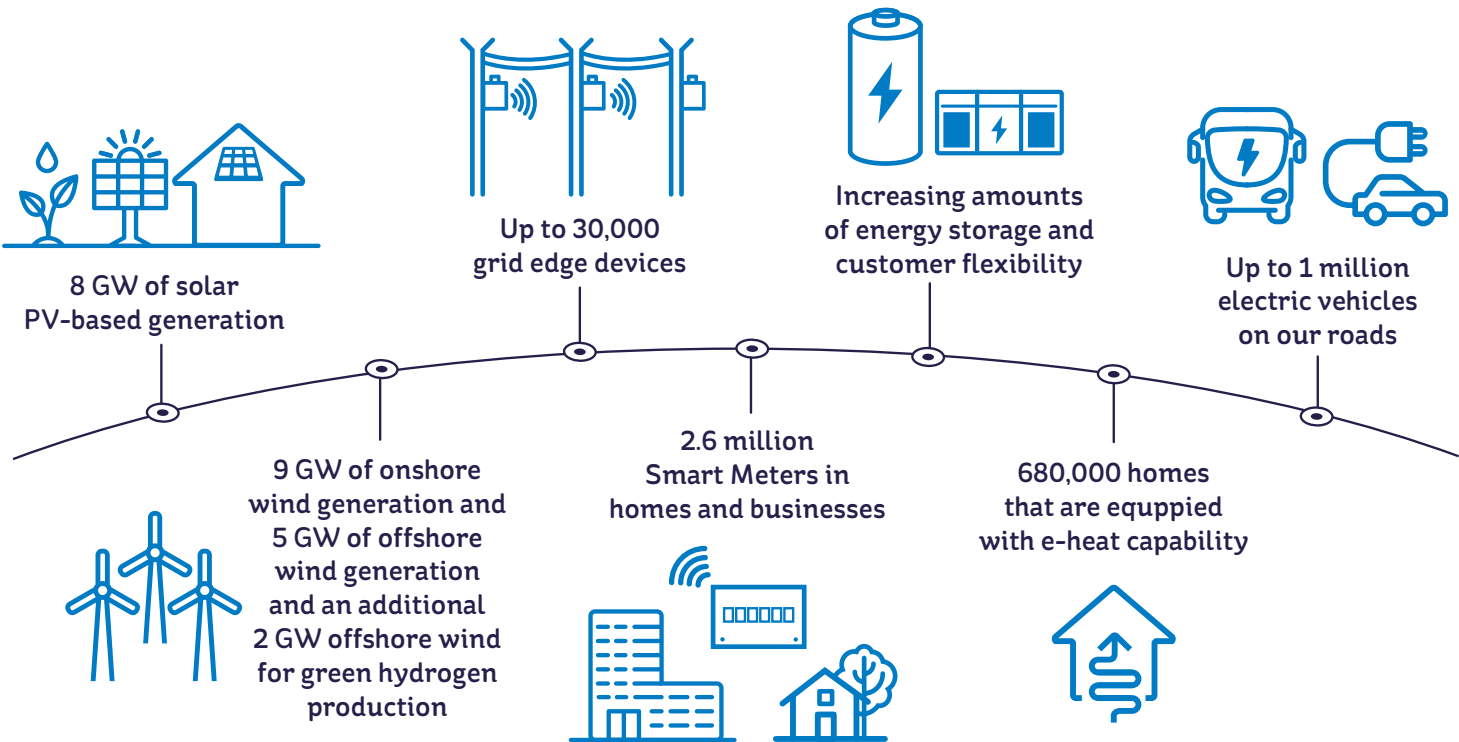
WE'RE
DRIVEN

We bring passion and persistence to what we do every day, innovating and collaborating to meet the challenges and opportunities ahead.

WE'RE
TRUSTED

We each play our part, taking ownership of our responsibilities, seeing the job through and protecting our own health and safety, as well as others'.

ESB Networks' vision for our network by 2030 is seen below:



PR6 Investment Programme

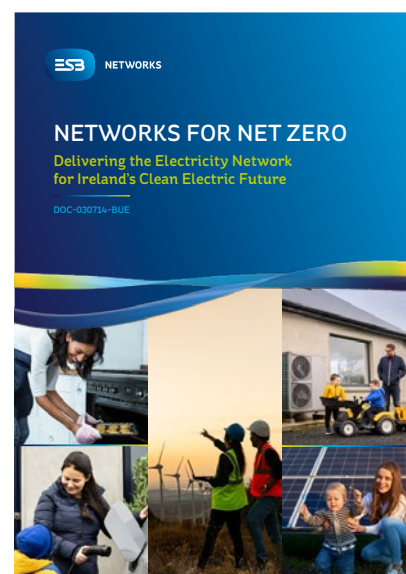
Every five years, ESB Networks is required to submit a business plan to the Commission for the Regulation of Utilities (CRU) for approval, outlining the investments we propose to make in the electricity network to fulfil our licence obligations as Distribution Systems Operator (DSO), Distribution Asset Owner (DAO), and onshore Transmission Asset Owner (TAO). This is a key part of the regulatory process which serves to protect customers by controlling the revenues that ESB Networks can recover from electricity consumers through their bills.

CRU issued a Final determination in December 2025 in relation to Price Review 6 (2026-2030).

ESB Networks Price Review (PR) 6 Business Plan includes our largest investment programme to date, reflecting the essential role that the electricity network will play in achieving national policy priorities relating to housing delivery, economic development, and climate action. This unprecedented level of investment must deliver measurable value to customers, communities, and the wider economy. Through the implementation of our Networks for Net Zero Strategy, and in close partnership with policy makers, regulators, and industry leaders, we are building a future-ready network that supports Ireland's transition to a low-carbon economy.

Our Networks for Net Zero Strategy

Our [Networks for Net Zero Strategy](#) sets out ESB Networks' role in enabling the delivery of the Government's Climate Action Plan and supports the decarbonisation of electricity by 2040, which will enable the achievement of Ireland's net zero ambition no later than 2050. It is based on our role in transforming the electricity distribution network to empower customers to decarbonise their energy consumption; and in our role as onshore Transmission Asset Owner (TAO) in delivering the electricity transmission programme. As we implement this Strategy, we will ensure that we have a safe, reliable and efficient network with the required capacity, flexibility and resilience for the electricity system for 2040.



We have identified three strategic objectives, which are core to delivery of our Strategy:

1. Decarbonised Electricity

This objective reflects our commitment to support Ireland in achieving net zero through enabling the connection of renewable generation to decarbonise electricity. At ESB Networks, distribution system operation at all voltage levels is core to what we do today. The energy transition and the roll out of new technologies means that the way we manage the network will change materially in the future. Thus, as the electricity system transitions towards a smarter, sustainable model, the operation and management of these new resources will require a digital network that is flexible and smart.

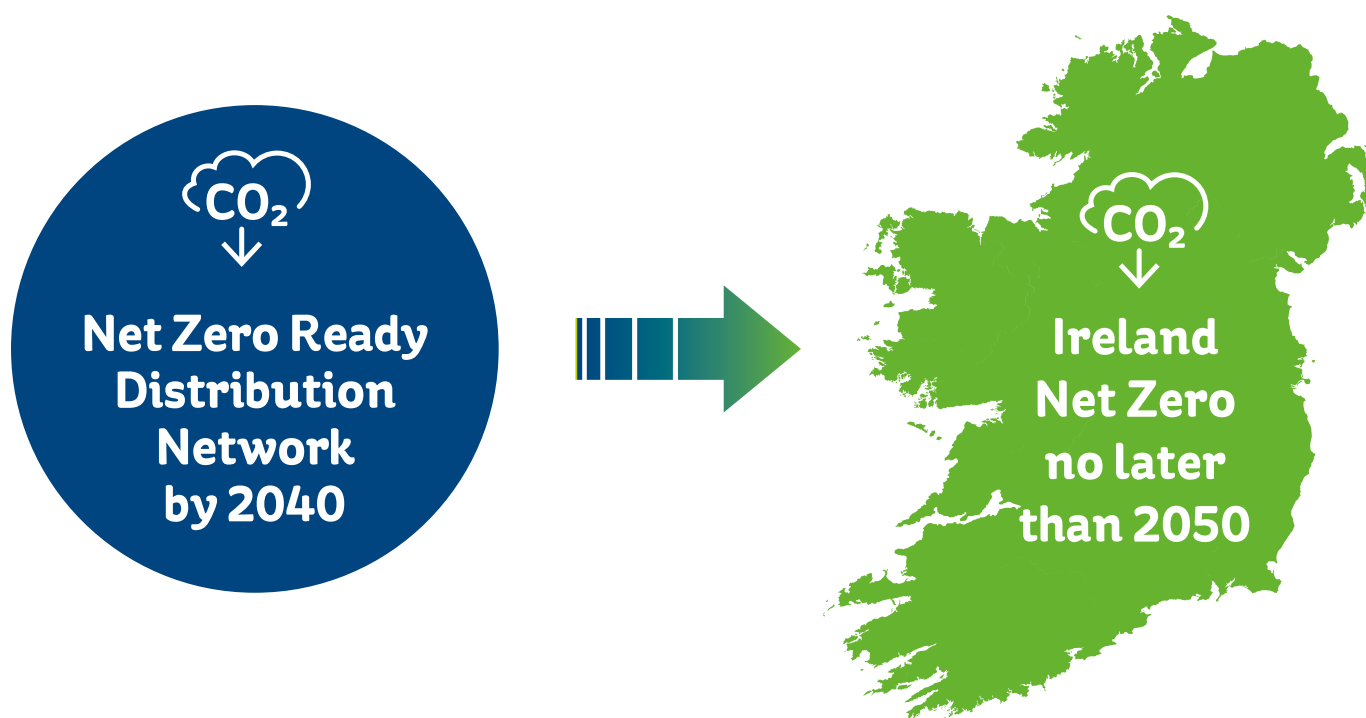
We have introduced a 'Build Once for 2040' concept that will ensure that the distribution network, and supporting services such as demand management, are designed and developed to meet the anticipated needs of customers in 2040 and to deliver a clean electric future. This will eliminate the need for repeated, costly and resource intensive interventions on the network. Essentially, where possible, we will deploy solutions today which are scalable to meet the needs of customers and stakeholders in 2040.

2. Resilient Infrastructure

This objective recognises that the transition to a low-carbon future powered by clean electricity requires a network that is resilient to the impacts of climate change and disruptive events such as storms and cyber threats. It also recognises we need to build capacity to connect the renewable generation that will generate the clean electricity to our network. In addition, we need to provide network capacity for the demand associated with significant population growth, new housing developments, economic growth, as well as a significant increase in demand due to electrification of heat, transport and industry.

3. Empowered Customers

This objective reflects our commitment to working alongside customers and communities, supporting them to achieve net zero. We will use data and digital technologies to deliver convenient and personalised customer experiences. We will also develop insight-driven services to meet diverse and evolving customer needs. ESB Networks will put in place solutions for our networks customers to enable the electrification of heat and transport. We will make it easy for customers and communities to participate in markets for flexibility and make active choices in their use of energy.



We know that change is happening at pace, and we are evolving our business processes, systems, and ways of working in anticipation of future network requirements. In anticipation of the changes ahead, and informed by the inputs above, we have structured our Strategy around three key strategic objectives on which we will focus our efforts.

Our Strategy is further underpinned by a suite of four foundational capabilities which will be critical to ensuring we are positioned to execute and deliver on our ambition. These foundational capabilities are:

- **Our People**
- **Digital and Data Driven**
- **Financially Strong**
- **Sustainable and Socially Responsible.**

These objectives and capabilities are illustrated in the following graphic:

ESB Networks’ targets for 2030 are:



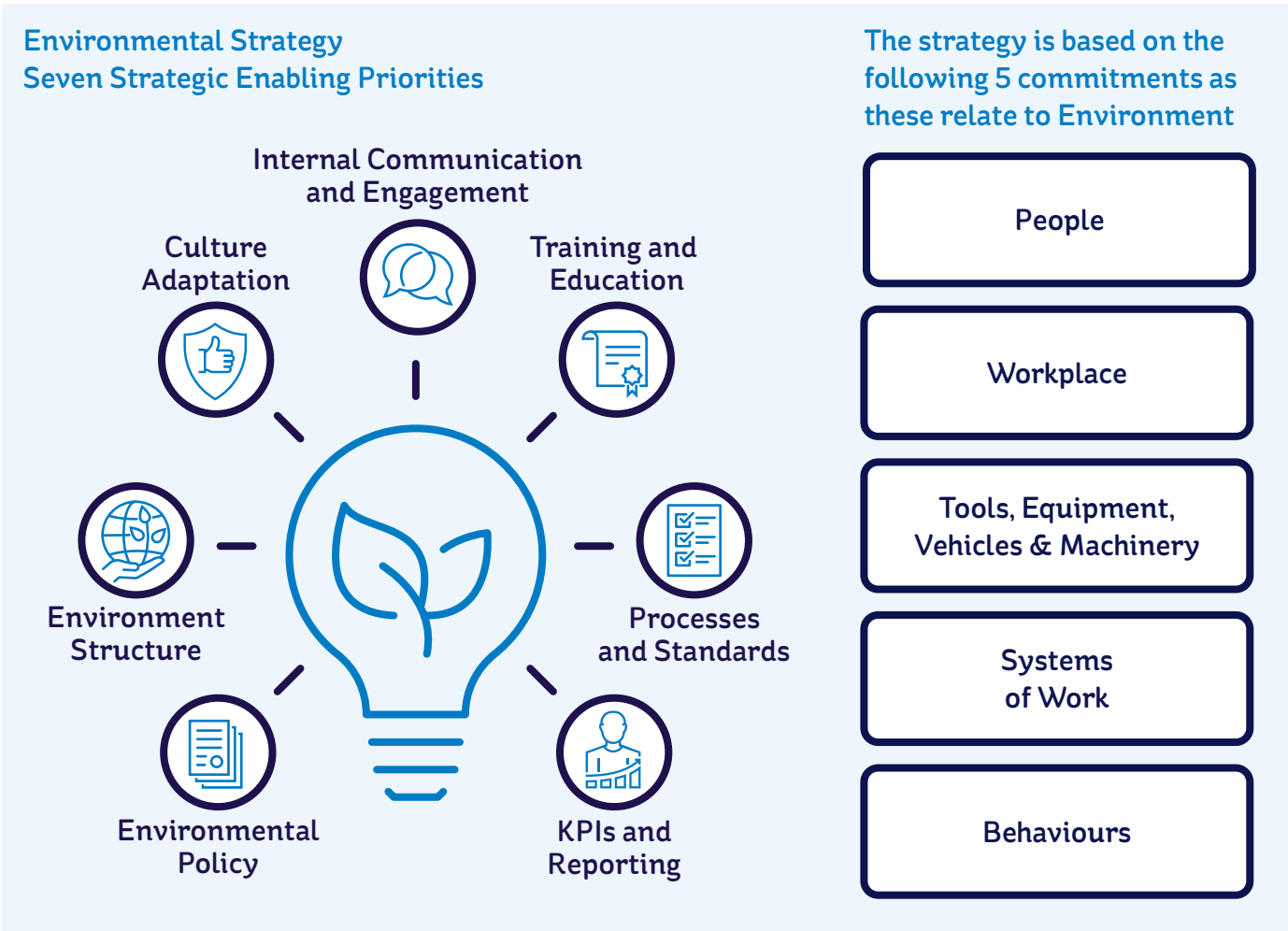
ESB Networks’ Internal Environmental Strategy - 2021 to 2025

We continued to roll out ESB Networks’ internal Environmental Strategy – 2021 to 2025 across ESB Networks during 2025. This strategy is based on 5 commitments as they relate to the environment.

It ensures that individuals who are environmentally accountable are employed in an environmentally sound workplace (which includes asset integrity). Employees operate tools, equipment, vehicles, and machinery that are compliant with environmental standards, follow documented systems of work that prioritise the environment, and exhibit environmentally responsible conduct as the standard.

In 2025, ESB Networks continued to focus on achieving the objectives of this Strategy, which were developed by a cross section of ESB Networks’ staff. Some key achievements include delivery of environmental and sustainability awareness training and monthly core briefings that have been rolled out to staff across ESB Networks. During 2025, almost 600 participants completed environmental and sustainability awareness training courses.

Targeted internal systems of work and documentation were updated to ensure environmental and sustainability considerations are included at key stages of work by our staff and our contractors.



Stakeholder Engagement

Engaging with stakeholders is essential to ESB Networks' ability to deliver a reliable, inclusive, and future-focused electricity network. As the energy landscape evolves, driven by decarbonisation, digitalisation, and decentralisation, stakeholder input helps us understand diverse needs, anticipate challenges, and co-create solutions that are both practical and equitable. Meaningful engagement builds trust, strengthens transparency, and ensures that our decisions reflect the interests of those we serve, including customers, communities, industry partners, and policymakers. It also enables us to identify opportunities, manage risks, and align our actions with national energy goals and societal expectations. In short, stakeholder engagement is not just a responsibility, it is a strategic enabler of our mission to power a cleaner, more resilient energy future for all.

Engaging with our customers and stakeholders is central to the delivery of our Networks for Net Zero Strategy and PR6 Investment Programme. Stakeholder input leads to better, more informed decisions. By listening to those impacted by our work, such as customers, community groups, suppliers, and charities, we gain valuable insights that help us design and deliver plans that are fair, practical, and aligned with real-world needs.



Our stakeholders are the individuals, groups of individuals, communities or organisations that affect, or could be affected by, our activities, products or services and associated performance. Given our central role in the electricity industry connecting over 2.5 million homes, farms, communities, and businesses around the country, we have a very broad range of stakeholders. Since considerable changes are taking place within the energy sector at an unprecedented scale, we are fully aware that who we engage with is constantly changing. We undertake an annual mapping exercise of our stakeholders to identify new groups in consideration of changing priorities and the segmentation wheel below is a working example of how we are looking to improve the granularity of our stakeholder mapping through further subgrouping/segmentation. This will enable us to be even more purpose driven in how we conduct our engagement activities and help to ensure that we are driving inclusive engagement by not leaving any stakeholder group behind.



Our engagement performance 2025

The Networks for Net Zero Strategy and PR6 Investment Programme will underpin an energy transition that will enable electricity customers to adopt new technologies, products, and services in the decades ahead, changing how they generate, store, and consume electricity.

We recognise that the transition to a net zero future will have a significant impact on our customers' day-to-day lives and success will not be achieved without ongoing active customer and stakeholder participation, engagement, and support.

Our annual stakeholder publications, such as [ESB Networks' Stakeholder Engagement Strategy & Plan](#) for 2025 set out our approach to stakeholder engagement, our engagement priorities and activities and provides stakeholders with pathways to engage with us.

We invite all our stakeholders to continue to engage with us through these pathways.

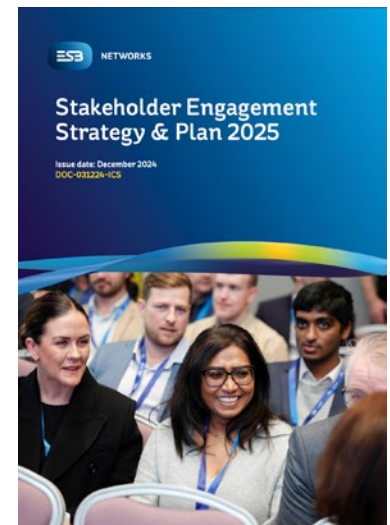
Our most recent publication [ESB Networks' Stakeholder Engagement Report 2025](#) describes how ESB Networks collaborated and engaged with our stakeholders over the course of 2025. Stakeholder engagement is critical in supporting the delivery of our Networks for Net Zero Strategy targets and ambitions. We demonstrate how we are committed to continually improving our engagement performance, how engagement is integral to our day-to-day operations and is at the heart of everything we do at ESB Networks.

For instance, in relation to our environmental priorities for 2025, we recognise that our activities have environmental impacts and that we have a responsibility to manage these impacts in a manner that provides a high level of protection for the natural environment, while also contributing to the sustainable development of our economy.

In 2025 we engaged with relevant stakeholder groups including the Local Authorities, Environmental Protection Agency (EPA), Waterways Ireland, Inland Fisheries, National Parks & Wildlife Services, Uisce Eireann, Transport Infrastructure Ireland, EirGrid and Business for Biodiversity Ireland. We continued to enhance the 'Climate Action, Sustainability and the Environment' section of our website to ensure that ESB Networks is open and transparent in communicating its environmental performance. The environmental webpages received approximately 1,500 views in 2025.

We reported to CRU on our Environmental Performance and published our 2024 Annual Environmental Performance report on our website, demonstrating our commitment to transparency.

During 2025, ESB Networks' EMS underwent a Recertification audit by an external Certification Body, against the requirements of the ISO 14001:2015 (Environmental Management) standard. No non-conformances were identified and ESB Networks continues to be certified to the ISO 14001 standard. We also continue to attend and support working groups with external stakeholders in relation to environmental topics, such as biodiversity.



4

Delivering a Low Carbon Future

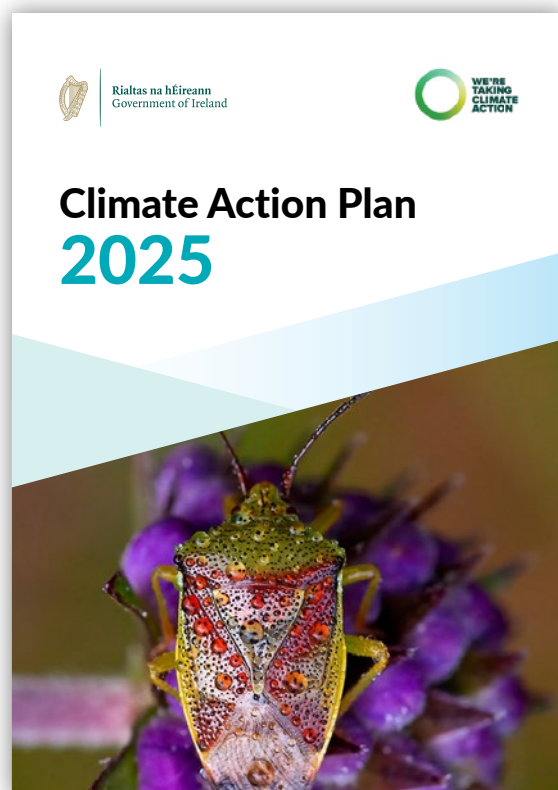


ESB Networks and the Climate Action Plan

The Climate Action Plan sets out the key actions required to achieve Ireland's carbon reduction ambitions by 2030 and to reach net zero emissions no later than 2050. It must also deliver the legally binding, economy-wide Carbon Budgets and Sectoral Emissions Ceilings, which were approved by the Government in 2022. The ceiling for the electricity sector is particularly challenging, with a 75% reduction required by 2030.

The Climate Action Plan is further supported by policies and action plans such as the National Energy Demand Strategy, the Energy Storage Policy Framework, and the Electricity and Gas Sectoral Adaptation Plan, to which ESB Networks is a key contributor. These policies and actions are enabling significant change in the electricity sector, facilitating a zero-carbon future.

ESB Networks continues to implement its lead actions from the Climate Action Plan. Additionally, we have supported the progress and delivery of many other actions through significant engagement with various stakeholders, including the Department of Climate, Energy & the Environment (DCEE), the CRU, and EirGrid. In the Climate Action Plan 2025, ESB Networks was assigned as the lead for one action relating to the development of consumer-led flexible demand processes, which has been completed, and as joint lead for a further action regarding the development of a data sharing framework for Low Carbon Technologies (LCTs) connected to the electricity grid, which is still under development. For more information, see: [Climate Action Plan 2025](#).



Connecting Renewable Energy

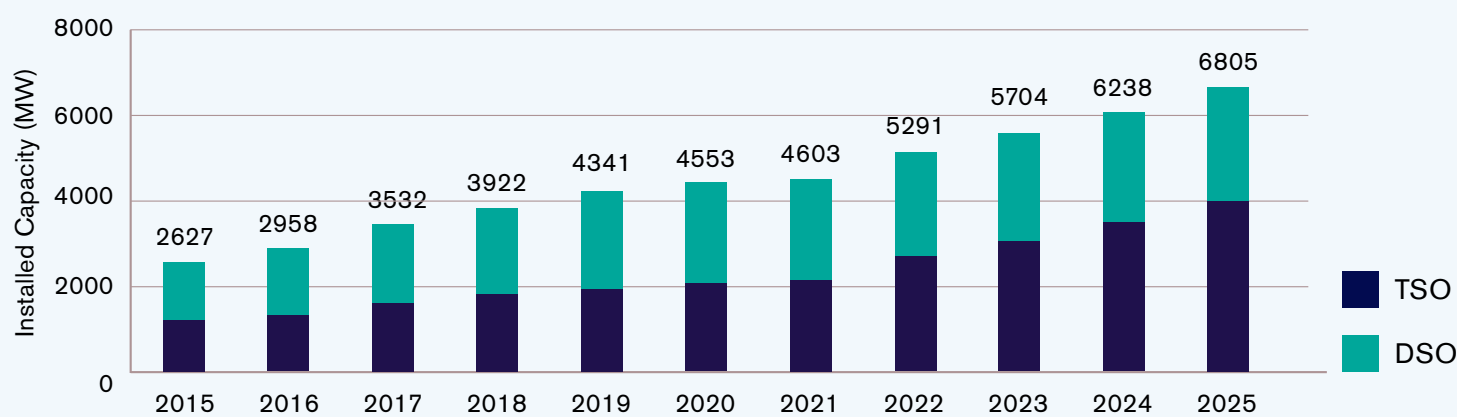
ESB Networks’ mission is to play a leading role in Ireland’s transition to a low carbon economy and to provide secure, sustainable, reliable electricity in an affordable manner for all customers. With the Government’s Climate Action Plan having ambitious targets for increased penetration of renewable energy by 2030, ESB Networks has continued its key role of connecting renewable generation to our Network to help decarbonise electricity.

ESB Networks performed strongly in 2025, having connected 573 MW of utility scale Wind & Solar to the network. By the end of 2025, ESB Networks had enabled the connection of 6,805 MW of Utility Scale Renewable Energy. This comprises 5,065 MW of wind energy generation, 1,346 MW of utility scale solar, with the remaining capacity coming from other renewable sources, such as Hydro, Combined Heat & Power (CHP) and Biomass. 2,696 MW are connected at Distribution (DSO) level with 4,108 MW connected at Transmission (TSO) level (see Figure 1).

In addition to the 1,346 MW of utility scale solar, approximately 1,043 MW of non-utility scale roof top, mini, micro, and small-scale solar has been connected, bringing the total combined solar generation at the end of 2025 to 2,389 MW (see Figure 3). The 2 GW milestone of solar generation was achieved in November 2025.

In addition, ESB Networks conducted scoping, design and construction works associated with the pipeline of customer projects for connections throughout 2025. Many of these customer projects are participants in RESS-2, RESS-3, RESS-4 & RESS-5, the Government Renewable Energy Support Scheme.

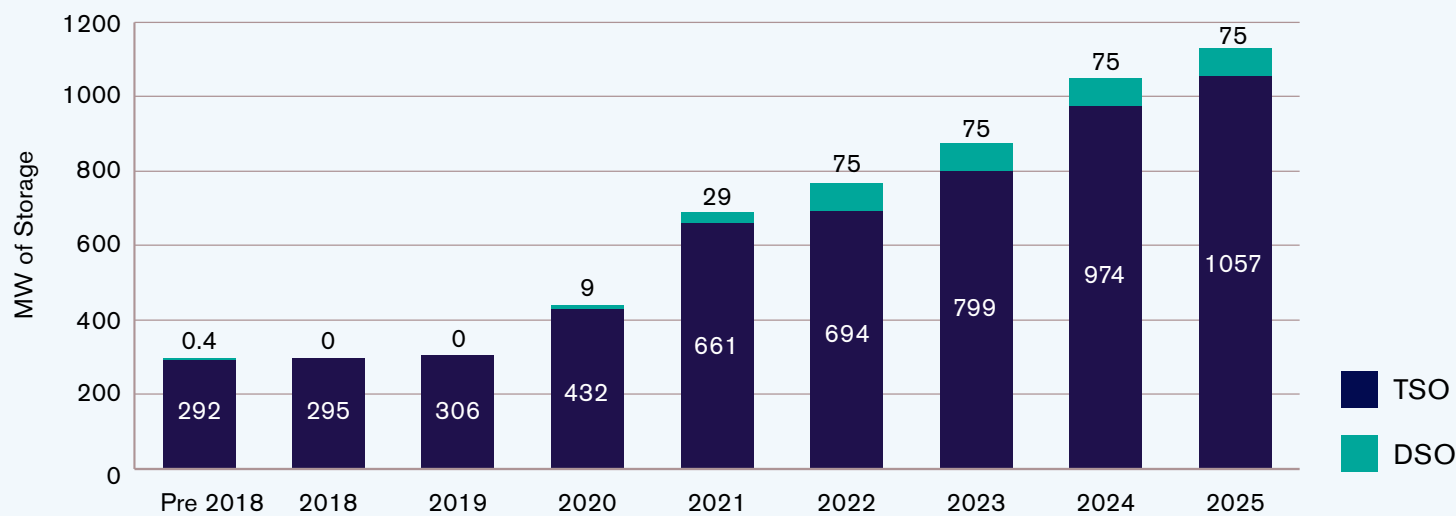
Figure 1 Renewable grid scale energy (MEC) connected to the electricity system (2015- 2025)



Please note that the decommissioning process for Derrybrien & Arklow banks offshore wind has commenced and the contributions of 84.7 MW has been removed from the 2025 totals. Bellacorrick Wind Farm, 6.45 MW, has also been reduced to 0 MW as this facility has now closed.

ESB Networks connected two energy storage projects to the transmission system in 2025 totalling 83 MW, resulting in a total energy (battery and pumped hydro) storage capacity of 1,132 MW on the network by the end of 2025 (see Figure 2). Energy storage provides system support services to the electricity system operators to enable increased penetration of renewable energy on the grid and to store renewable energy when the supply of energy exceeds demand.

Figure 2 Energy Storage (MEC) connected to the electricity system (2018 to 2025)



Key Achievements of 2025:

- Achieved 2 GW of solar connections in November, comprising an almost equal split between rooftop and utility scale installations, **reinforcing our leadership in renewable integration.**
- Energised Erkina Solar & Extension (157 MW) in October, marking **the largest solar project connected to date.**
- Commissioned the new Synchronous Condenser at Shannonbridge in August, enhancing system stability and grid resilience, which **enables future renewables connections.**
- Connected Ballymakailly 115.2 MW thermal generator in Q1 2025, the **largest DSO generator connection to date.**
- Delivered Bullstown Solar as the first modular MV Embedded Generation Interface Protection (EGIP) connection, **setting a new standard for future renewable network integration.**

Microgeneration

ESB Networks is committed to facilitating the rapidly increasing level of Microgeneration connections to the distribution network. Customers who wish to install microgeneration and export excess electricity onto the electricity network are referred to as prosumers. As Distribution System Operator (DSO), ESB Networks has an important role to play in facilitating this transformation. We aim to support our customers along each stage of the process as they adopt small-scale low carbon technologies and make the transition towards being active participants in the energy system. To date, ESB Networks has facilitated 168,700 microgeneration connection applications to the electricity network providing 727 MW of clean renewable energy. With over 47,000 of these connections registering in 2025 alone, ESB Networks has been successfully processing and registering an average of 900 applications per week (See: [Connecting Microgeneration - ESB Networks](#) for more details). These connections are in addition to the grid-scale renewable energy figures shown above.

Mini-Generation

In December 2021, ESB Networks announced the launch of its new simplified Mini-Generation application process for larger customers generating up to 50 kW (e.g. farms; business properties; community buildings; etc.). This equates to, for example, between 18 and 150 typical solar panels. (See [Connecting Minigeneration - ESB Networks](#) for more details). The new Mini-Generation process was initially launched on a pilot basis in line with Ireland's 2030 Climate Action Plan and has now successfully transitioned through to an enduring process. The streamlined process ensures that it is even simpler for our customers who generate their own renewable electricity to export their excess electricity to the local network and therefore play a more active part in connecting Ireland to a clean electric future. Shortly after the launch by ESB Networks of the Mini-Generation pilot, the Irish Government also introduced the Microgeneration Support Scheme (MSS) and Clean Export Guarantee (CEG) which enables these customers to be remunerated for exporting their excess electricity.

Mini-Generation Connections

- Streamlined process for customers with renewable generators of up to 50 kW;
- By the end of 2025 over 6,000 applications have been received which will enable over 140MW of renewable generation; and
- So far 2,900 Mini-Generation customers have fully completed their installations connecting over 74 MW of generation to the system.

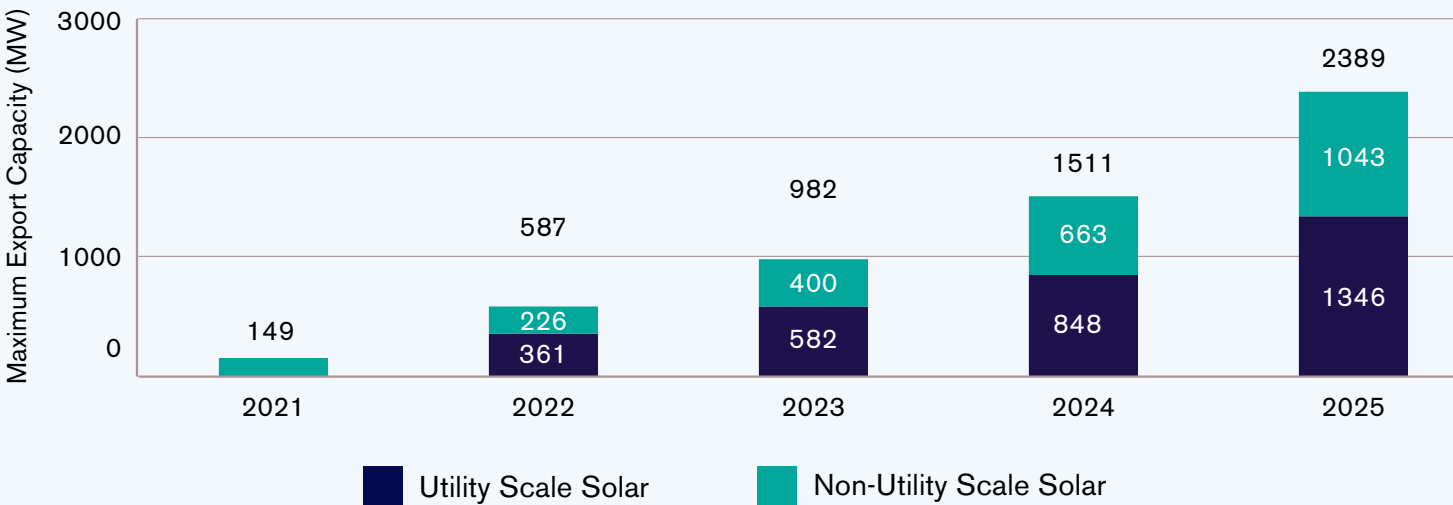
Small Scale Generation

On 30th September 2022 ESB Networks launched its new simplified Small-Scale Generation (SSG) application process for larger sites generating up to 200 kW. (See [Connecting Small Scale Generation - ESB Networks](#) for more details). The new process was initially launched on a pilot basis in line with Ireland's 2030 Climate Action Plan and has now successfully transitioned through to an enduring process ensuring it is even simpler for our customers who generate their own renewable electricity to export their excess electricity to the local network and therefore play a more active part in connecting Ireland to a clean electric future. The Irish Government introduced a Small-scale Renewable Energy Support Scheme (SRESS) in 2023 enabling customers of this size to be remunerated for exporting their excess electricity.

Small Scale Generation Connections

- Streamlined process for customers exporting up to 200 kW;
- By the end of 2025 a total of 780 applications have been received which will enable over 85 MW of renewable generation; and
- So far 440 Small Scale Generation customers have fully completed their installations connecting over 53 MW of generation to the system.

Figure 3 Combined Utility and Non-Utility Scale Renewable Solar Generation – 2021-2025



As outlined above, there has been a significant increase in the volume of customers submitting grid connection applications for mini-generation and small-scale generation. To ensure the safe, secure and reliable operation of the electricity network, ESB Networks must complete a detailed network technical assessment for each application. ESB Networks are cognisant that due to the scale of connection applications received, coupled with the requirement for detailed technical network assessment, that quotation timelines can be longer than targeted for some customers. We are continuing to monitor this area closely and are actively progressing improvements to enhance these timelines and the overall customer experience.

Enduring Connection Policy (ECP)

ESB Networks successfully completed the processing of over 60% of the Enduring Connection Policy 2.5 (ECP-2.5) generator applications in 2025, with the remaining applications completed in February 2026. The application window first opened for the ECP2.5 batch in October 2024 where 48 projects were successful across each of the categories including a mix of wind, solar, battery and auto-producer customers. As ECP2.5 category A was undersubscribed, CRU reopened the window between March and April 2025 where a further 3 applications were received bringing the total batch size to 52 projects.

Electricity Connection Policy – Generation & System Services (ECP-GSS)

The CRU approved the introduction of two batches per year as part of the ECP-GSS decision with the first application window closing in September 2025. The DSO received 41 applications; the successful projects will be studied and made a connection offer between Q2 2026 and Q1 2027.

For further information on the CRU ECP-GSS decision see [CRU2034101 Electricity Connection Policy_Generation System Services Decision Paper](#).



Innovation

Innovation is at the core of ESB Networks' approach to environmental sustainability. Through our innovation programme, we identify, evaluate, and trial new approaches and solutions to build environmental capability and enable key strategic outcomes aligned with our Networks for Net Zero strategy. Over the past year, we have evaluated 115 innovation ideas, initiated 9 new projects, completed 14 projects, and progressed 15 ongoing projects. Further detail on these ongoing activities and projects is available in our [Innovation Consultation](#), published in January 2026.

Innovation in ESB Networks is not just about identifying new technologies. It is about building a culture that embraces change, creating structures to facilitate the adoption of new ideas and working in collaboration with others to share insights and co-create solutions. In 2025, we demonstrated our commitment to collaboration and shared learning through an extensive programme of external engagement which included webinars, conferences, publications, papers and knowledge exchange with industry leaders. We also worked in partnership with industry colleagues, research institutions and start-ups on a wide range of innovation projects.

ESB Networks has set a clear direction of travel through our Networks for Net Zero strategy which outlines our commitment to achieving a Net Zero-ready electricity network by 2040, based on three strategic pillars: decarbonised electricity, resilient infrastructure and empowered customers. Innovation is integral to each of these objectives. It enables us to trial and scale new approaches, strengthen operational performance, and support customers as they adopt low-carbon technologies.

Our new [Innovation Strategy](#), which was published in September 2025, sets out our approach to managing innovation in ESB Networks to optimise value for customers and accelerate change.



Innovation Projects

Biodiversity & Environmental Protection

Alternatives to creosote-treated wood poles

Scope:

ESB Networks' overhead lines asset management team continues to assess alternatives to creosote-treated wood poles as part of its approach to sustainable asset management. The project involves trialling composite poles and alternative wood treatments that are safer and more durable under Irish climatic conditions.

Environmental Impacts:

Creosote has historically been used to extend the lifespan of wood poles; however, its use presents environmental and disposal challenges. The use of creosote in the environment is being phased out in line with EU and Irish legislation. Innovation activity in this area has focused on trialling alternative materials and treatments that maintain safety, durability and performance while reducing reliance on hazardous substances.

The identification and adoption of alternatives to creosote-treated poles supports a reduction in environmental risk associated with asset installation and maintenance. Composite poles offer enhanced durability and resistance to decay, reducing the frequency of pole replacements. This results in lower resource consumption and waste generation, contributing to more sustainable material use over the long term. The extended lifespan of composite poles reduces the need for ongoing deforestation and timber processing, supporting forest conservation efforts. This work also improves disposal options at end-of-life and supports the application of circular economy principles within ESB Networks' asset management practices.

Furthermore, this initiative ensures compliance with EU regulations and associated derogations that currently phase out creosote-treated wood by 31st October 2029, fostering the adoption of environmentally friendly materials in electricity infrastructure. By leading this transition, ESB Networks is aligning with best environmental practices, promoting innovation, and supporting the wider electricity sector's commitment to sustainability and circular economy principles.



Gridguard AI - Woodpecker Mitigation

Scope:

Woodpeckers, a protected species in Ireland, pose a growing challenge to overhead line wood poles by causing damage that leads to decay and structural failure. GridGuard AI has been cited as a digital solution designed to identify and assess woodpecker activity on overhead line poles. The technology uses artificial intelligence to analyse imagery and detect early signs of wildlife interaction with network assets, enabling targeted intervention where required.

Environmental Impacts:

By enabling earlier and more targeted responses to wildlife interaction, GridGuard AI reduces the need for reactive maintenance and premature pole replacement. This approach supports biodiversity protection, limits disturbance to habitats and reduces material waste associated with asset failure, while also contributing to improved network resilience.

The conventional approach of replacing damaged poles results in increased resource usage, manufacturing emissions, and logistical carbon footprints. By prolonging the lifespan of existing poles, this project helps reduce these environmental impacts.

The use of AI-powered monitoring and early intervention strategies allows for non-invasive and targeted solutions, reducing the need for widespread infrastructure disruption. This not only preserves the integrity of electricity infrastructure but also supports biodiversity conservation, ensuring that mitigation measures are implemented in a way that respects woodpecker populations and their natural behaviours.

Additionally, the project aligns with circular economy principles by decreasing demand for raw materials while enhancing infrastructure resilience. By optimising maintenance strategies, the initiative lowers carbon emissions associated with pole production, transportation, and disposal, contributing to a more sustainable and environmentally responsible grid management approach.



GridWrap – Asset Life Extension

Scope:

GridWrap is a composite wrap technology designed to reinforce and extend the operational life of ageing overhead line poles. The solution is currently under testing to evaluate its ability to enhance the structural integrity and potentially extend the operational life of existing assets and delay the need for full pole replacement.

Environmental Impacts:

GridWrap has the potential to reduce demand for new raw materials and limits waste generated through asset replacement. This supports circular economy principles, reduces the environmental footprint of maintenance activities and minimises land disturbance associated with pole removal and installation.



PortaSCAN – Non-Invasive Condition Assessment

Scope:

PortaSCAN is a non-invasive inspection technology currently under evaluation for assessing the internal condition of wood poles. The system enables the early detection of internal deterioration without requiring any form of destructive testing.

Environmental Impacts:

Targeted condition assessment supports more informed maintenance and replacement decisions, reducing unnecessary asset removal and material waste. By avoiding intrusive testing, PortaSCAN minimises environmental disturbance and supports more efficient use of resources across the network.



Prezerv – Visualisation of Ground Penetrating Radar Data

Scope:

Prezerv have developed a software solution to analyse the data from advanced ground penetrating radar (GPR) surveys and categorises the underground artefacts or infrastructure detected. The pilot project by ESB Networks aims to validate the technology and it is hoped this will provide benefits for the identification and visualisation of underground electricity assets. The solution provides detailed 2D and 3D representations of buried infrastructure that is supportive for planning and construction activities.

Environmental Impacts:

Improved visibility of underground assets reduces the need for exploratory excavation, helping to minimise soil disturbance and repeat groundworks. This contributes to reduced waste generation, fewer site reinstatements and a lower environmental impact during construction, reinforcement and maintenance works.

Island Decarbonisation & Sustainable Backup Power

Scope:

During 2025, ESB Networks progressed innovation projects to explore pathways to fully decarbonise the electricity systems in some constrained and remote environments. The Island Decarbonisation project is assessing technical and operational solutions to transition non-grid-connected islanded communities away from fossil-fuelled generation towards low-carbon, resilient energy systems. This work draws on collaboration with academic partners and industry to evaluate combinations of renewable generation, energy storage, demand management and network solutions that can enable secure, resilient low carbon electricity supply.

In addition, ESB Networks conducted pilots of mobile battery energy storage systems as alternatives to conventional diesel generators for network maintenance and emergency response. The projects with Allye and Power2 explored the capability of mobile battery energy storage systems to provide temporary grid supply, reduce both noise and carbon emissions, improve air quality and enhance operational resilience.

In addition, projects with Allye and Power2 explored the capability of mobile battery energy storage systems to provide temporary grid supply as an alternative to conventional diesel generators. Deployed for network maintenance and emergency response, the use of battery energy storage systems has great potential to deliver customer benefit through reduced noise and carbon emissions, and improved air quality while enhancing operational resilience.

Together, these projects demonstrate how innovative solutions can decarbonise traditionally hard-to-abate applications while maintaining system security and supporting ESB Networks' transition to a net zero electricity network.



Electrification

How ESB Networks is driving & supporting measures to accelerate electrification

We recognise the pivotal role that the electrification of heat and transport can make to lowering Ireland's greenhouse gas emissions and achieving our national targets for decarbonisation of the Irish economy for 2030 and beyond towards net zero. The distribution system will be the critical link between customers' electric vehicles and heat pumps and the zero carbon, renewables-based generation that will power them into the future. Therefore, the distribution system will be a key enabler of empowering a whole range of expanded customer needs and demands relating to the uptake of Low Carbon technologies (LCT), including the electrification of heat, transport and industry.

The introduction and progressive acceleration of housing and climate action targets, combined with rapid population growth, is driving significant additional demand for network capacity. While this can be accommodated in some areas of the network, other areas have limited capacity to support further growth without substantial investment in new infrastructure. Major investment will be required across our next three investment cycles (starting with PR6) to support the National Development Plan, Housing for All targets and the Climate Action Plan. We are scaling up our internal resources and contractor partnerships to deliver this much larger programme of work and adopting new construction methods to overcome supply chain constraints. We are also working to identify and bring forward interim solutions to meet immediate customer needs in areas of limited capacity, where it is possible to do so. ESB Networks has published a [capacity heat map](#) and [capacity workbooks](#) on our website to provide insights to customers on current and planned network capacity.

Throughout 2025, we have continued to deliver on the electrification commitments set out in our Networks for Net Zero Strategy, ensuring our commitments are progressing and advancing for all our customers. To ensure relevancy and a prioritised focus we use insights from research, customer interaction and international developments to inform our approach.

The ways we are actively delivering include:

Development and/or advancement of solutions that support the acceleration of e-transport and support our e-transport customers, for example:

- Connection Screening service provided for Electrical Vehicle (EV) charging infrastructure developers continued in 2025, providing information relating to the indicative availability of capacity at locations of interest to these customers.
- In response to a request from Zero Emissions Vehicles Ireland (ZEV), a pilot which explores the option to allow LV connections up to 300 kVA from a unit substation (which is currently limited to 200 kVA) has progressed in multiple locations, with one site live and a second to follow in early 2026.
- Working closely with Original Equipment Manufacturers (OEMs), we now have an active pilot of combined EV/PL (public lighting charging solution) with site selection complete and unit energisation this year.
- We have initiated a pilot on the option for connecting up to 69 kVA customers using whole-current metering. Energisation of pilot connection is due to take place in mid-2026.
- In response to a request from ZEV, we are in the early stages of a battery co-location pilot in a number of locations where a charge point operator will install a battery energy storage system behind the meter to supplement charging. There are comparable innovative EV charging solutions in Europe.

Developing our support of e-heat:

- To support and help drive our Net Zero strategic direction, we have been developing an ESB Networks' e-heat framework, which includes an assessment of research, pilots, policy positions, market insights, as well as development of our understanding on impacts on distribution networks and peer-organisation response to such growth in heat demand.
- Across both our Electrification and Innovation Teams, we have been actively engaged in various stakeholder events, including with governmental departments who are seeking to advance national policy related to decarbonised heat.
- An electrified heat report by Baringa was commissioned in 2025 reaffirming the known challenges to mass heat pump adaption and providing strategic insights into what can be applied to the customer landscape based on their pan European power system modelling.
- A collaboration project with DCEE allowed us to identify residential locations with heat pump adoption, some of which were selected for loading analysis using advanced transformer monitoring devices with insights to be developed and reported on after the 2026 winter peak.

As is set out in ESB Networks' Net Zero Strategy, the direction and delivery to 2030 (and achieving net zero) of priority actions is shaped and influenced by the whole business.

We have been advancing the Lower Carbon Technology (LCT) Register strategic objective. The LCT Register is a list of Low Carbon Technology devices that have been validated as conforming with the standards and the industry requirements to permit their connection to the LV electricity distribution network. The LCT Register has the purpose of streamlining our compliance assurance to support a more efficient connection application assessment process, whereby details of all LCT device models are centrally registered and validated, thus avoiding duplicate compliance assessment of the same device models for multiple connection applications.

Significantly in 2025 we achieved a step-change in the momentum and extensivity of our electrification stakeholder engagement, underscored by examples that included:

- Facilitation of electrification customer one-to-one meetings.
- Direct support of national transport agencies gaining detailed understanding and insights into their development plans and associated electricity needs to 2030. These plans include significant step change in electrification, new and enhanced transport (bus, rail, etc.) routes, as well as greater regional balance.
- Ongoing proactive engagement with ZEV1 on all relevant matters. ESB Networks supports and participates as a member of the Assurance Board, and participates in ZEV1 Progress Groups where we are active in numerous groups providing ongoing support, with presentations at a range of ZEV1-organised external stakeholder workshops, held nationally throughout the year.
- Direct support & presentation slots across fora relating to ZEV1 and Transport Infrastructure Ireland (TII), that target multiple stakeholders operating across the full value chain that includes Charge Point Operators (CPOs), Regional & Local Authorities, Government agencies, Sustainability Energy Authority of Ireland (SEAI), and wider industry.
- Ongoing senior engagements with TII, with monthly bilateral engagements that address a number of delivery objectives ongoing for TII and the newly established AFPO (Alternative Fuel Programme Office).
- Informing our strategic direction, in 2025 we participated in various international DSO emergent technologies and innovation events; we commissioned peer utility comparative analysis on the uptake and impact of LCT in other jurisdictions so we could gain learnings from other countries and best practice.



Smart Metering Project

The National Smart Metering Programme was established by the CRU and is the delivery plan for the roll out of smart meters across Ireland. ESB Networks has been tasked with the delivery of the roll out programme, which involves upgrading all of Ireland's electricity meters to smart meters. Ireland's smart meter upgrade programme is part of the national Climate Action Plan. Smart meters will support Ireland's transition to a low carbon future by enabling the development of smart grids, and supporting the electrification of heat and transport, local renewable generation, and microgeneration.

Since 2021, electricity supply companies have been offering new smart products and services, which enables the customer to shift some of their consumption to times of the day when electricity is cheaper.

During 2025, ESB Networks continued the replacement of over 2.5 million electricity meters in homes, farms, and businesses with next generation smart meters to support the transition to a low carbon electricity network. In 2025, 186,467 smart meters were installed by almost 200 installers across the country. For the first time this included 3 Phase Whole Current meters.



The upgrade to smart meters is bringing many benefits to customers, the environment, and the economy. The following has been delivered as part of the programme in support of our journey to a low carbon future:

- The programme continued to safely install smart meters, across every county in Ireland during 2025. By the end of December 2025, 2.081 million smart meters were successfully installed. This means that over 2 million customers now have access to smart tariffs and services.
- ESB Networks delivered the IT upgrades required to support the delivery of smart services and tariffs by electricity supply companies. Since 2021, these products have been providing customers with more information on their energy usage, allowing them to move some of their consumption to times of the day when electricity is cheaper and away from peak periods where more carbon intensive electricity generation is required.
- Smart meters are being remotely read and as of the end of 2025, our Smart Metering Operations Centre had issued more than 32 million billing reads to suppliers. This has resulted in a significant reduction in estimated bills and improved billing information for customers with smart meters.
- ESB Networks began installing smart 3 Phase Whole Current Meters in August 2025 with 19,500 installed by year end.
- The ESB Networks' Online Account enables customers to access their smart meter data. By the end of 2025, there were over 1.5 million views of consumption data. The ESB Networks' Online Account, including 'My Energy Consumption' is a key delivery in the strategy of empowering customers and providing consumption insights toward the goal of net zero. A number of price comparison websites utilise the kWh downloadable file to provide customers with detailed supplier tariff information enabling customers to select the supplier with the best offering for their needs.
- Throughout 2025, ESB Networks' Smart Metering Programme ran a range of localised and national media awareness campaigns across radio, print and social media. As the rollout progressed in 2025, customer communications evolved to focus on informing customers as to the advantages of smart metering, such as improved energy efficiency, cost savings, no more estimated bills, and enhanced control over their energy usage.
- The Programme has also led industry forums and working groups ensuring alignment with supplier systems and process development and provided on-going support for supplier queries during 2025.



Distribution Markets & System Operation (DMSO): Enabling Flexibility

The decarbonisation of Irish society requires a fundamental transformation in how energy is generated, managed and consumed. Delivering this transition at the right pace and at the lowest possible cost depends on effectively connecting renewable generation with how energy is used, stored and flexed across the system. Each customer – households, farms, communities and businesses – is central to this change.

To support this transformation, ESB Networks established the Distribution Markets and System Operation (DMSO) function in 2024. DMSO is responsible for enabling flexibility services and markets and facilitating customer participation in flexibility. Through its design and delivery activities, DMSO supports the development of flexible demand and demand response solutions, ensuring that customers can play an active role in supporting a secure, efficient and low-carbon energy system. This work aligns with national energy and climate objectives and places flexible demand at the centre of system planning and operation. The CRU Decision paper on National Energy Demand Strategy (NEDS), published in 2024, identified work done by the DMSO as a key element of the strategy, especially within Area 2 i.e. Demand flexibility and Response. Through collaboration with industry stakeholders, the DMSO supports the delivery of Climate Action Plan targets, particularly those related to flexible demand.

ESB Networks published its Net Zero Strategy in January 2023 with a clear commitment to Ireland's climate action policies and ambitions. Significant investment in flexibility will be key to delivering on this commitment.

Flexible demand is critical to enabling rapid growth in electricity demand and distributed renewable generation in a secure, efficient and cost-effective manner. By aligning demand with renewable generation, the DMSO supports low-carbon growth, reduces emissions and creates new opportunities for customers to actively participate in Ireland's energy transition – all while ensuring a safe, secure and reliable electricity system.



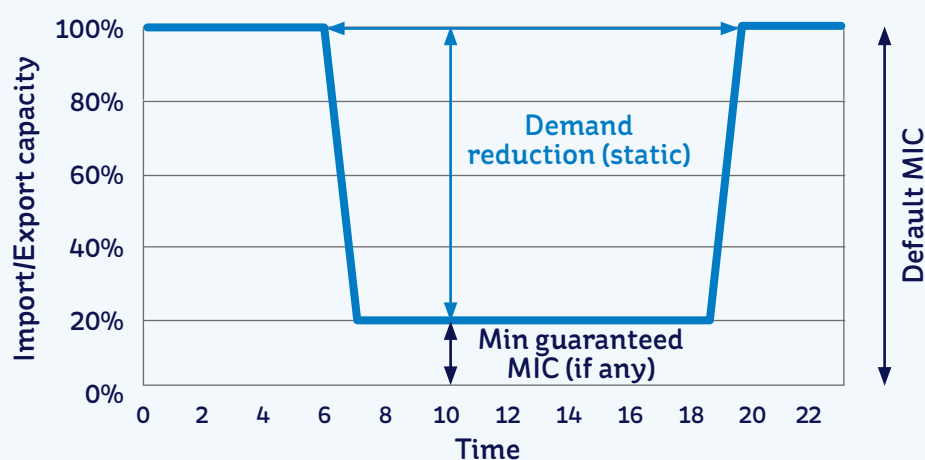
DMSO in 2025

Some of the flexible demand initiatives delivered in 2025 by the DMSO Programme are as follows:

- Beat the Peak initiatives, which aims to empower customers and commercial assets to take control of their energy usage with both Domestic & Business campaigns.
 - In 2025 Beat the Peak Domestic (Is This a Good Time?) ended the year with over 40,000 participants. We ran 32 energy events throughout the year, recording 217,789 actions along the way. 190 MWh of energy was shifted in 2025. Over the year we sought to further enhance the programme and launched a customer dashboard giving participants an overview of the energy events they have participated in and the rewards they have earned. We also introduced a Refer a Friend programme to further drive talkability and registrations. We also launched year 2 of our schools' education programme, Weather Watch, which aims to teach students about the connection between weather conditions and the generation of renewable electricity.
 - The Beat the Peak Business initiative went live on e-tenders and there have been significant expressions of interest to date. The scheme was open for applications until September 2025. This delivered 6,181 MWh of demand down services to ESB Networks.
- The Distribution Markets and System Operation (DMSO) Community Toolkit, which is a climate action target, was published in December 2023. The DMSO Community Toolkit contains resources created to support customers and communities in engaging with Flexible Demand. It provides 26 counties with tools to compare and contrast their renewable energy journey with other communities. In 2025, 3 new initiatives were launched as part of the DMSO Community Toolkit, an enhanced Renewable Energy Forecast where users can see the forecast of renewable energy available in their county, an energy appliance calculator and an energy quiz.
- Pilot 4, which focused on connecting generation to the distribution system on a flexible basis, thereby facilitating earlier and cheaper connections operated in 2025. To facilitate this, an operating protocol was agreed between ESB Networks and EirGrid for control of the generation and to augment the DSO operational processes previously agreed. For the one site currently online, 483 MWh has been delivered from the flexible capacity element.
- In 2025, DMSO Design made significant progress in the principles and processes required to implement Flexible Connections for demand customers. These connections are aimed at allowing customers – who wish to connect to the distribution system in an area where the system is congested – avail of an earlier connection on the basis that they will be flexible in their demand for electricity. Progress was made in two aspects of the initiative:
 - **Timed Connections** where the level of demand which can be availed of by the customer varies based on fixed time windows. In 2025 the first timed connection offer was issued and accepted
 - **Dynamic Flexible Connections** where the level of demand which can be availed of by the customer will vary on a more real time basis (day ahead) based on existing network configuration, forecast local load and forecast generation. This initiative is operationally more complex than a timed connection – both for ESB Networks and the customer – but has the potential to offer increased access to energy over the course of the year. The figure below gives a visual representation of the difference between timed and dynamic flexible connections.

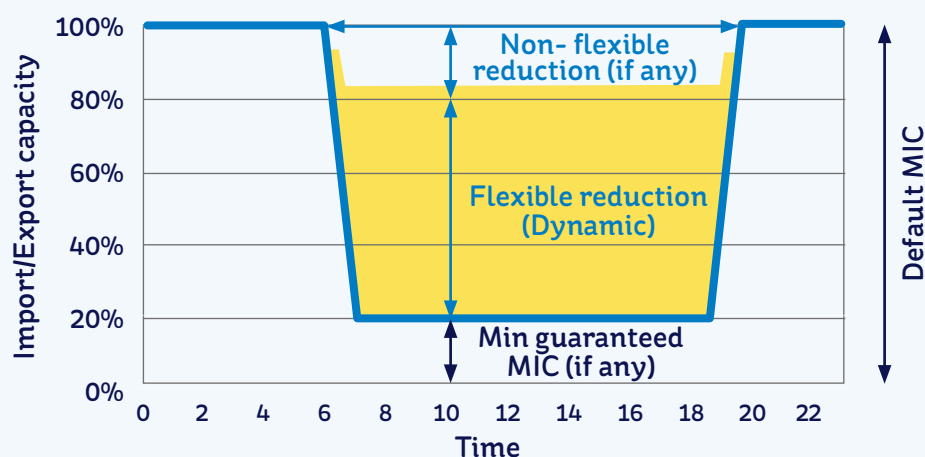
Timed Connections

Fixed period with lower capacity available either for a specific time of the day and/or for a specific portion of the year.



Dynamic Flexible Connections

Benefiting from a real-time dynamic forecast of network headroom based on network load, local generation and network configuration, the customer dynamically adjusts its usage.



At the beginning of 2024, agreement was reached between the two system operators - ESB Networks and EirGrid - on a high-level design for the future TSO-DSO Operating Model. This high-level design set out the vision and principles of the Operating Model, ensuring that the system operators have a coherent approach to optimising the electricity system as a whole and delivering efficient solutions for the electricity consumer. Throughout 2025, ESB Networks and EirGrid worked closely together to develop the detailed design of the Operating Model, building on the high-level design agreed in 2024.

- An improved process was developed to update EirGrid on the uptake of micro- and mini-generation at a Bulk Supply Point (BSP) level on a quarterly basis. These updates will assist EirGrid in forecasting of overall generation and net demand on the transmission system and are part of the work in train to improve data exchange and information sharing.
- Other work delivered and ongoing with EirGrid includes:
 - Recommendations relating to the control and visibility of micro, mini, and small-scale generation (<200kW per installation) with a view to ensuring that any potential problems that could be caused by this generation is mitigated at an early stage.
 - Working to facilitate DSO connected generation provide reactive power services to EirGrid to support the reduction in conventional generation on the system and improve system security.

- The CRU published a consultation document from ESB Networks titled “Demand Flexibility Product Proposal” in late 2023. This consultation sought views from industry on ESB Networks’ proposed plan to procure up to 500MW of medium-term flexibility products. A second public consultation was published in October 2024 which aimed to further involve industry stakeholders on detailed design aspects of the proposed product before procurement began. A Call for Tender was launched in September 2025. The Demand Flexibility Product (DFP) is a key component of the overarching National Energy Demand Strategy (NEDS) and will play an important role in achieving Ireland’s CAP targets.
- An initiative called “Pilot 2”, which issues dynamic instruction sets to Demand Side Units to enable participation in TSO markets, continued operating in 2025, with 1,204 MWh of capacity unlocked by Pilot 2 operations. As a result of this initiative, participants will be updated daily by ESB Networks and will only be prevented from participating on a given day if network conditions require it, rather than for the entirety of the summer as done previously. This Pilot was enhanced and continued operating in 2025 with a 115% increase on 2024’s performance (679 MWh of capacity was unlocked). More enhancements are being implemented for this to operate in 2026.
- Flex Charging is a proof-of-concept initiative arising out of the Free Electrons competitive programme. Flex Charging manages EV charging using in build vehicle telematics. There were 174 EVs participating in the proof of concept with a total battery capacity of 11.9MWh. The proof of concept concluded in June 2025. 76% of charging during this trial occurred inside scheduled time. A follow-on initiative is being planned to roll out in 2026.

Engagement

Throughout 2025, engagement with external stakeholders remained a key element of the delivery of flexibility and distribution system operation initiatives. This engagement was undertaken through a combination of structured governance forums, targeted consultations, and broader industry-facing activities, ensuring that programme development continued to be informed by stakeholder insight and operational experience.



In addition, ongoing engagement with our Advisory Council formed a central element of stakeholder interaction during 2025, with three Advisory Council meetings held across the year. These sessions provided a structured forum for strategic discussion, progress updates, and feedback on key areas of work, supporting ongoing alignment between programme development and stakeholder expectations.

In parallel, targeted external consultations were undertaken in relation to specific initiatives, including the development of Demand Flexibility Product (DFP) call for tender in September 2025.

Wider stakeholder engagement was also supported through a programme of webinars and industry-facing events. For example, in December 2025 the Joint System Operator Programme (JSOP) - Operating Model Detailed Design Webinar provided stakeholders with updated insight into the evolving DSO–TSO Operating Model, including progress across key design areas and a “day-in-the-life” view of future operations. The session also recapped on earlier engagement, outlined upcoming plans, and offered a structured forum for questions and discussion, supporting industry understanding and alignment.

Consistent with previous years, DMSO engagement was also maintained through participation in a number of industry conferences and events during 2025.

5

Climate Action and Sustainability



Overall Carbon Emissions

ESB Networks carbon emissions can be categorised into three different scopes:

Scope 1 – These are direct emissions from ESB Networks owned or controlled sources. This includes our vehicle fleet, SF6 emissions from switchgear, perfluorocarbon tracer (used to detect cable leaks), diesel generators, and from buildings heated by gas.

Scope 2 – These are typically indirect emissions from the generation of purchased energy, such as electricity used in ESB Networks buildings. However, as ESB Networks is an electrical utility, this also includes transmission and distribution losses from the network.

Scope 3 – These emissions are all indirect emissions (not included in scope 2) that occur in the value chain of ESB Networks, including both upstream and downstream emissions. This includes waste, capital goods, business travel, employee commuting, working from home and the upstream emissions of purchased fuels.

ESB Networks annual carbon footprint for 2025 is detailed in the table below:

Table 1 ESB Networks annual carbon footprint for 2025

Scope	Category	Tonnes of CO ₂ Equivalent (2024)	Tonnes of CO ₂ Equivalent (2025)
Scope 1	Vehicle Fleet - Direct Emissions	13,275	13,301
	SF6 Gas	3,059	3,051
	PFC*	4.3	3.2
	Generator Emissions	981	1,495
	Building Emissions - Heating Gas*	208	128
Scope 2	Building Emissions - Electricity**	4,434	3,422
	Transmission and Distribution Losses	553,974	471,896
Scope 3	Waste*	148	191
	Capital Goods***	266,355	334,284
	Business Travel	3,132	2,844
	Upstream Emissions for Purchased Fuels	3,248	3,503
	Upstream Emissions of Gas Consumption in Buildings*	34	21
	Employee Commuting	1,855	1,751
	Working From Home*	647	611
Total CO2 Equivalent (tonnes)		851,352	836,501

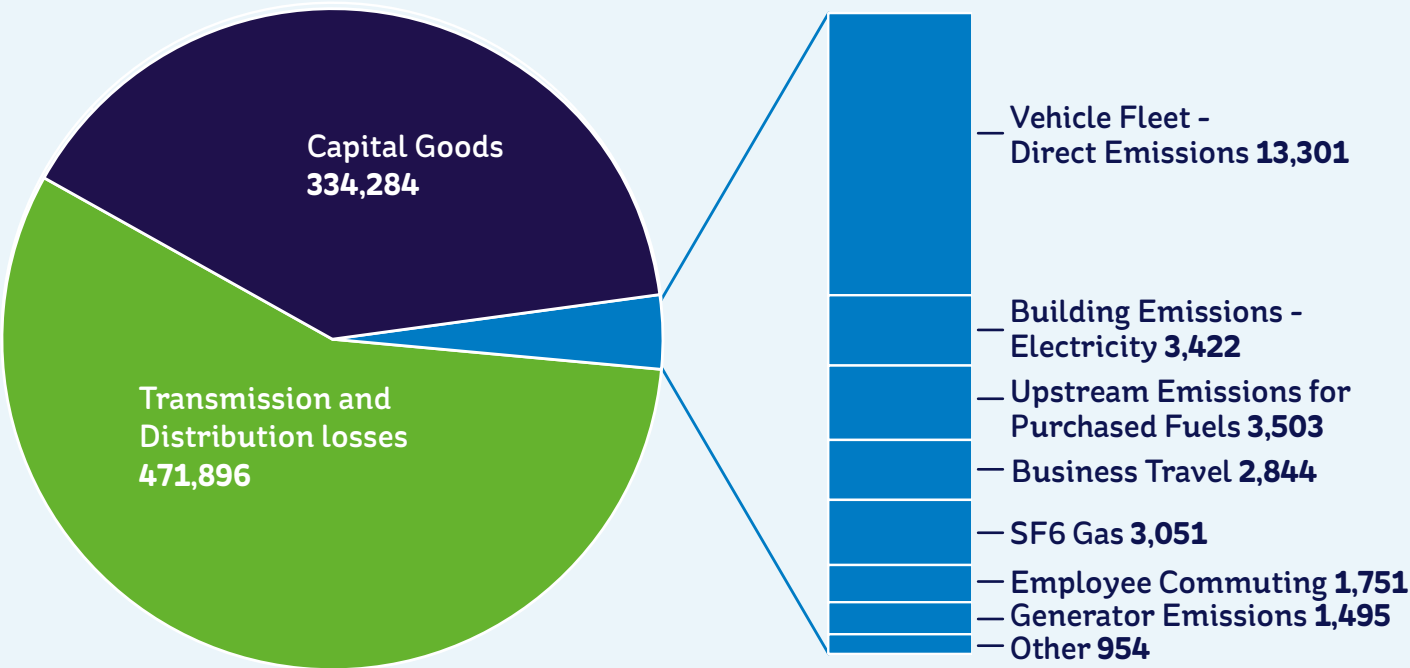
*All of these categories will be represented by the 'Other' Category in Figure 4.

**2024 figure has been amended due to a revision following the publication of the 2024 Environmental Performance Report. The SEAI electricity supply (generation) emissions factor is now used to calculate this figure. The reason for using this factor is that the consumption factor, which was used previously, includes T&D losses, which we account for separately in Scope 2.

***2024 has been amended as the basis for preparation or calculation methodology has changed. ESB Networks has moved from the Quantis Procurement basis to the EXIOBASE basis to improve the accuracy and robustness of capital goods emissions reporting.

Carbon emissions are very dependent on the intensity of electricity generation. As we connect more renewable sources to the grid, this will result in reductions in carbon emissions in future years, and thus a continuous downward trend.

Breakdown of ESB Networks' 2025 Carbon Footprint
Figure 4 – ESB Networks' CO2 Emissions 2025 (Tonnes of CO2 Equivalent 2025)



Sustainability Reporting

Sustainability is often defined as 'meeting the needs of the present without compromising the ability of future generations to meet their own needs'. In ESB Networks, we have a long track record of meeting the needs of our customers and society. In line with our Networks for Net Zero Strategy, we are placing sustainability at the heart of everything we do.

The UN Sustainable Development Goals (SDGs) provide a global blueprint to achieve a better and more sustainable future for all by 2030. They act as a call to action for countries, organisations and individuals to align their actions around common goals that matter to people and the planet. ESB Networks has adopted and integrated three of the SDGs where we can make a real tangible difference, namely:



ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL



BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION



TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS



The Corporate Sustainability Reporting Directive (CSRD), in line with the European Green Deal is a crucial part of the EU's broader goal to promote sustainable business practices and reduce environmental impact. It aims to enhance and standardise sustainability reporting across the EU.

The CSRD mandates annual reporting on environmental, social and governance (E, S, G) practices having undertaken a Double Materiality Assessment (DMA). Double materiality requires companies to consider both impact materiality and financial materiality in both its own operations and its value chain. An impact, risk or opportunity (IRO) is deemed to be material if it meets the DMA criteria from either an impact perspective, or the financial perspective, or both. Independent limited assurance is required on the disclosures made in the annual CSRD report.

ESB Networks will contribute relevant information as part of ESB CSRD reporting requirements.

ESB Networks' Sustainability Working Group

ESB Networks' new Sustainability Working Group has been formed with the first introductory meeting complete. The group is made up of 10 members who are spread nationwide and includes staff working from a variety of areas across the business who bring new ideas and a different perspective on Sustainability.

Schools Pilot on Sustainability

ESB Networks' Sustainability has kickstarted a pilot in collaboration with the DMSO on Weather Watch to include Sustainability and Biodiversity as additional topics for Transition Year students. Weather Watch was designed to equip students with the knowledge of how we can build a clean electric future and includes tools to get involved in making that change, empowering them to help drive our journey toward a net-zero future.



The project will be based on innovative ideas around sustainability and biodiversity enhancements that could be carried out at their local retired substation which, in most cases, is in close proximity to the school. Three schools have been selected for this pilot, and it is anticipated it will be started during Q1 of 2026. The current locations chosen are Mullingar, Gorey and Athlone.

Distribution Losses/20kV Conversion Project

In the 1990s, ESB Networks began a program to convert its 10 kV network to 20 kV based on studies at the time which indicated that this was the most cost-effective and efficient way to address voltage and capacity issues on the rural MV network.

One of the primary benefits of converting the electricity network to 20kV is that the thermal capacity is increased by a factor of two and voltage drop performance is increased by a factor of four. Voltage drop is the limiting criteria that determines circuit capacity of ESB Networks' typical rural networks. Consequently, circuit capacity is effectively increased by a factor of four. In effect, 20 kV is a vital enabler of demand growth that is anticipated as a result of low carbon government initiatives in relation to e-Heat and e-Transport. In addition, as conversion to 20 kV reduces losses by a factor of 4, the reduction in Carbon Footprint that can be achieved by extending this programme is highly significant. The conversion programme continued in 2025, with 427 kilometres of the network converted to 20kV. To date, ESB Networks has converted 54% of the 10kV network to 20kV.



Storm Éowyn

On January 24th, 2025, following a nationwide Red Warning alert, Storm Éowyn caused unprecedented damage to Ireland's electricity network. With record-breaking gusts of 184 km/h, the storm triggered over 10,000 faults and impacted 768,000 customers at the peak.

In the immediate aftermath of Storm Éowyn, ESB Networks developed a focused Winter Resilience Plan for 2025/2026, prioritising short term actions in the areas most severely impacted by the storm to strengthen readiness for the following winter period. Following this initial response, a comprehensive storm review was undertaken, analysing storm preparedness, asset performance, response activities, and customer communications. The formal [Storm Éowyn Report](#), including its recommended actions, was subsequently published in October 2025. In parallel with these efforts, ESB Networks initiated a review of overhead line design standards for severe wind conditions to ensure the network continues to meet evolving resilience requirements. The [report](#) was published in March 2026. Additionally, an international review of resilience practices following major weather events commenced in summer 2025 to review international best practice and inform long term resilience planning. This report will be published in Q2 2026.



6

Minimising Our Impact on the Environment



ESB Networks is dedicated to conducting its operations in a way that enables us to take pride in our environmental performance. We acknowledge that our activities can have an impact on the environment and understand our duty to manage these impacts in a manner that prevents pollution and ensures a high level of protection for the natural environment.

ESB Networks' Policy Statement on the Environment

[ESB Networks' Policy Statement on the Environment](#) approved by the Managing Director, ESB Networks, commits us to:

- Conduct our activities and those undertaken on our behalf in an environmentally responsible manner and in compliance with all legal and other requirements, company policies and standards related to our environmental aspects.
- Develop and maintain an effective environmental management system.
- Implement the environmental aspects of the Networks for Net Zero Strategy.
- Protect the environment and prevent pollution by identifying, managing and regularly reviewing the environmental aspects and impacts associated with our business activities, services and processes.
- Review our environmental programme regularly to ensure continual improvement in environmental performance and to provide a framework for setting and reviewing environmental objectives and targets.
- Act responsibly in our use of natural resources.
- Consider environmental matters in all planning and decision making.
- Make continuous efforts to maximise the energy efficiency of our networks, buildings and fleet.
- Minimise the production of all wastes as far as practicable, promptly recover all litter found at ESB Networks locations and dispose of all residual wastes in a safe and responsible manner.
- Record and respond swiftly to all environmental incidents and complaints.
- Promote environmental and sustainability awareness among our staff, contractors and suppliers and embed these values in our investment and expenditure decisions.
- Provide the necessary training and support to staff on environmental matters relating to our business activities.
- Make this Policy Statement available to all our staff, contractors and interested stakeholders.

Environmental Management System

Since 2010, ESB Networks has been using an Environmental Management System (EMS), which has received external certification for compliance with the ISO 14001 Standard. The EMS presents a structure that enables ESB Networks to methodically recognise, evaluate, prioritise, and handle environmental hazards connected with its business activities. The EMS encompasses all of ESB Networks' operations, services, and processes linked with managing the electricity network on behalf of the Electricity Supply Board.

During 2025, ESB Networks' EMS underwent a Recertification audit by an external Certification Body, against the requirements of the ISO 14001:2015 standard. This Recertification Audit sampled a large range of activities within the scope of ESB Networks' certification, including:

- Environmental Management Systems
- Underground Fluid-Filled Cables
- SF6 Gas Management
- Smart Metering
- Depots
- Garages
- Construction Crews
- Management of Woodpoles
- HV Stations
- Working in Environmentally Sensitive Areas
- Managing Environmental Incidents
- Waste Management
- Managing Contractors

No non-conformances were identified by the External Auditors in 2025. ESB Networks continues to be certified to the ISO 14001 standard.

Environmental Monitoring and Associated Improvement Works

In line with our EMS, ESB Networks continues to identify and respond to environmental matters across the business, undertaking environmental monitoring and associated improvement works where appropriate.

- During 2025 regular ground water and surface water monitoring continued at ESB Networks' national wood pole storage facility in Killeel, Co Kildare. Following completion of a site specific environmental Detailed Quantitative Risk Assessment (DQRA), initial remediation of a section of the site was completed in late 2024. Plans for further remediation works on the remainder of the site progressed in 2025 and these works are expected to commence on site in 2026.
- During 2025, ESB Networks continued to work on reducing the number of remaining 'in scope' units on our system which have been classed as being Polychlorinated Biphenyls (PCB) suspect. We are utilising ESB Networks' electrical outage programme to facilitate this. There was engagement with the Environment Protection Agency (EPA) in relation to ESB Networks' PCB Management Plan requirements.

- In addition to bunding all new transformer installations in HV substations, during 2025, ESB Networks retrofitted bunding to 18 existing transformers and installed 42 separators to European Norm 858 and Class 1 performance.
- ESB Networks' Oil Storage and Transportation Improvement Project continued in 2025. Three new mobile bunded oil bowzers were procured for HV Station maintenance programmes in Limerick, Enniscorthy and Letterkenny. Mobile oil spill containment kits and consumables were provided as and when required.

Property & Fleet – Improving Energy Efficiency

ESB Networks continued to work on improving the energy efficiency of our buildings. The aim is to bring all buildings up to a rating of at least BER B and 40% of buildings to a BER A standard by 2030. The following work was completed during 2025:

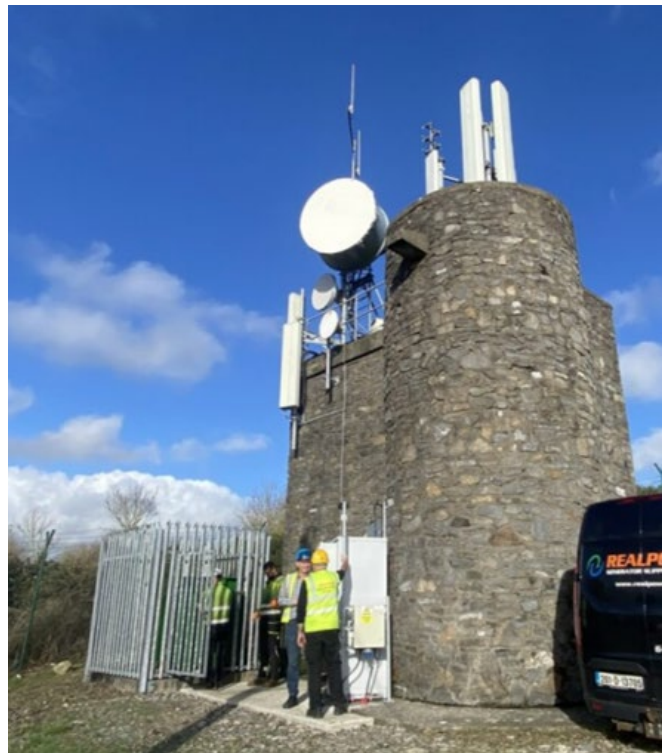
- BER A rating achieved at buildings in Naas, Navan, Tuam, Ennis and Dunmanway.
- BER B rating achieved in Cavan, Tralee, Inchicore and Finglas.
- Wilton fabric upgrade project completed in late 2025.
- Leopardstown Phase 2 building upgraded to BER A3 from B1 following solar PV installation.
- Athlone upgrade works completed in 2025 and awaiting BER certification.
- Planning received for Solar PV in Wilton; panels to be installed in early 2026.

ESB Networks are also working on improving the energy efficiency of our transport fleet with the aim having 50% of our fleet electrified by 2030. In 2025, 50 electric vans were purchased. In addition, a new framework for EVs was awarded in 2025 – Stellantis Group (Opel, Fiat and Peugeot).

Clean Fuel for the Future of Networks Telecoms

ESB Networks Telecoms is taking the first step towards a greener future by replacing diesel with Hydrotreated Vegetable Oil (HVO) in one of its generators. Derived from vegetable oils, HVO offers up to 90% reduction in greenhouse gas emissions compared to conventional diesel. Additionally, as a biodegradable and non-toxic fuel source, it is considered a safer alternative – posing a significantly lower environmental risk in the event of a leak or accidental spill. Crucially, HVO requires no modifications to existing engines or generators, and it is fully interchangeable with conventional diesel, ensuring flexibility and reliability in telecoms operations.

In November 2025, Networks Telecoms successfully completed a landmark trial at the Carbury Hill site, replacing traditional diesel fuel with HVO – a cleaner, renewable alternative. This pilot initiative, led by ESB Networks Telecoms team, demonstrates our commitment to exploring sustainable alternatives and reducing environmental impact. Plans are already underway to transition more generators to HVO, reinforcing our dedication to innovative and eco-friendly solutions.



Sustainable Construction

In keeping with ESB Networks' Net Zero Strategy, sustainability is a key consideration in the design and construction stage of all our projects.

ESB Networks has remained committed to achieving timely and cost-effective project delivery, despite the demanding landscape of project planning and consenting. To this end, ESB Networks has made continuous improvements and adapted to the challenges of the environment to ensure successful project implementation.

At the planning and design stage for each Capex project, multi-disciplinary teams work together to develop projects and site-appropriate construction methodologies in order to deliver connections to customers, while protecting the wider environment. Detailed design packs, capturing the requirements (e.g. planning consents) are provided to our external contractors who are increasingly important to project delivery. Project support through document review processes (e.g. inputs to Construction Environment Management Plans, Traffic Management Plans, Resource & Waste Management Plans, etc.) is key to ensuring delivery in line with planning permission condition requirements. Oversight of construction projects is achieved through the appointment of specialists such as Environmental Coordinators, Project Ecologists, Ecological Clerks of Works, Project Archaeologists where appropriate as well as through the implementation of our environmental audit program.

The Waste Enforcement Regional Lead Authorities (WERLA) oversees enforcement of waste regulations and is responsible for ensuring the appropriate handling of construction and demolition waste at a national level. When requested, ESB Networks provided WERLA with data on their construction undertakings that could produce construction and demolition waste. This information is then passed on by WERLA to waste enforcement officers from local authorities throughout the country, who conduct inspections to verify that waste and materials are being properly managed at construction sites. This effort is part of a strategic approach to managing construction and demolition waste in the state.



Sustainable construction increasingly centres on a life cycle approach, ensuring that environmental impacts are considered from material extraction through to end of life. This is framed through sustainability by design, embedding environmental considerations into engineering solutions, project delivery, and day to day processes to support the company's ambition of achieving Net Zero by 2040. A key tool enabling this shift is Life Cycle Assessment (LCA), which evaluates material procurement, manufacturing, transportation, construction, operational impacts, and eventual reuse or disposal. By understanding these stages, ESB Networks can better identify where carbon is generated and how design decisions influence long term environmental performance.

The baseline LCAs carried out for standard 110 kV and 38 kV substations highlight that embodied carbon, particularly in concrete, steel, and cladding, is a major contributor to total project emissions, making these materials prime targets for low carbon alternatives.

While challenges remain, such as inconsistent or outdated data, rapidly evolving materials, and the need for specialised expertise, ESB Networks is already building in house capability and using these insights to influence future designs. The work identifies carbon “hotspots,” reveals opportunities for improvement, and reinforces the importance of integrating lessons learned into new design standards. This iterative, data driven approach ensures that sustainable construction becomes a practical, measurable, and continuously improving part of infrastructure delivery across the network.

ESB Networks is also advancing sustainable construction through the transition from traditional creosote treated wood poles to Fibre Reinforced Polymer (FRP) composite poles, which offer several environmental and operational advantages. These Jerol composite poles are chemically inert, do not rot, present no chemical hazard, and have an anticipated lifespan of more than 80 years, significantly reducing long term material consumption and waste compared to wood poles. Their lighter weight—typically 33–44% less than an equivalent wood pole—reduces transportation emissions, while their durability and high electrical insulation value enhance network resilience and public safety in the event of vehicle impact or mechanical stress. Because composite poles can be used like for like in approved overhead line applications and are fully compatible with ESB Networks' design standards, they provide a practical and low carbon alternative that supports the company's broader sustainability and circular design goals.



Biodiversity

ESB Networks continues to remain focused on the importance of biodiversity in the Irish landscape, and to ensure its activities are managed in a sustainable manner in relation to wildlife and habitat protection. The [‘Networks for Nature’ Biodiversity Strategy](#), developed in 2024 has identified key actions, some of which have been tackled during 2025 with work to continue in 2026.

Some of the key actions addressed during 2025 are outlined below:

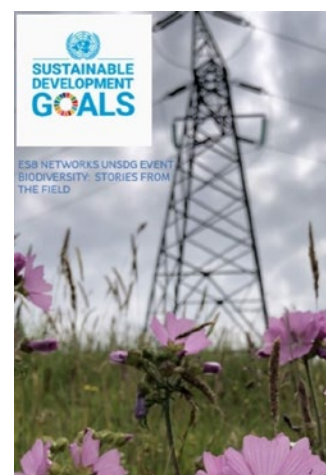
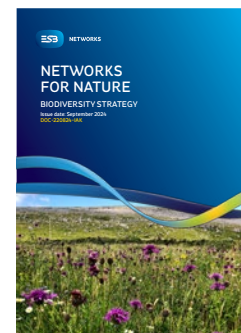
- Assessed ESB Networks’ primary biodiversity impacts in line with CSRD criteria.
- Worked towards further embedding ‘No Net Loss’ of biodiversity into operations, protect ecological features and offset unavoidable habitat loss.
- Explored the effectiveness of a practical landscaping guide for asset locations focusing on habitat management and creation.
- Investigated the use of QGIS and ArcGISPro to promote data-driven biodiversity action using GIS tools, datasets, and third-party services for impact identification, solution development, monitoring, and reporting.
- Established a framework of invasive species specialist contractors to prepare biosecurity protocols, management plans, and secure licenses for transport/disposal.
- Collated invasive species locations across ESB Networks

A number of ESB Networks’ documents are in place to advise staff on biodiversity matters and communicate their requirements for legislative compliance.

To support the All-Ireland Pollinator Plan (AIPP), ESB Networks has developed an extensive list of our properties where opportunities have been identified for more pollinator-friendly management plans. ESB Networks has expanded its trials regarding pro-pollinator landscape management at its properties.

Following on from the successful 2024 calls for ‘No Mow May’, this initiative was extended to 2025. The ongoing management of the long-flowering meadow in the training field of the National Training Centre in Portlaoise continued through 2025.

ESB Networks continues to work collaboratively with ESB Enterprise Services and our Facilities Management Contractors.



Staff Engagement

During the month of September, ESB Networks organised a session as part of United Nations Sustainability Development Goals (UNSDG) week. This featured first-hand experiences from Brian O'Toole of Wildacres.ie, an Environmental Social Enterprise dedicated to biodiversity restoration, protection, monitoring, and education. This talk focused on the following UNSDG's: Climate Action (13), Sustainable Cities and Communities (11), Life on Land (15) and Life below Water (14) which provided staff with real insight through photos and videos from Wildacres which was accompanied by practical guidance on how this was achieved.

Biodiversity Enhancements

The biodiversity enhancement of the retired Foxford 38kV substation was completed during 2025. This enhancement adds to ESB Networks' biodiversity net gain, supporting pollinators and local wildlife. It also creates a more welcoming space for the community, blending infrastructure with nature.

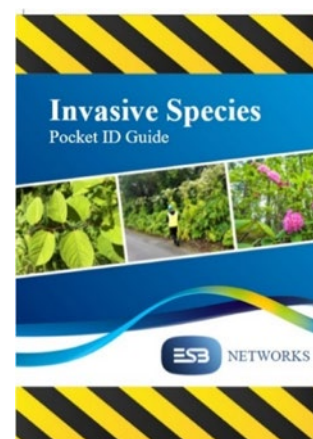
What we did:

- Reused onsite materials to build bare-earth banks for solitary bees.
- Created an area of deadwood to provide microhabitats for insects.
- Reused the gravel on the old site for walkways, reducing waste.
- Gave the building a fresh look with new paint and a restored front wall.
- Planted native trees and hedges sourced locally.



Invasive Species

Due to the nature and nationwide extent of ESB Networks' activities, there is a potential for unintentionally assisting the spread of unwanted invasive species to new sites across the country. This may occur through the transportation of species and or seeds in soil, in/on equipment and vehicles, and on clothing and footwear that has been used in areas where invasive species have become established. To help staff identify invasive species, we have distributed over 500 invasive species guides to staff nationwide and there is also a digital version of this available to staff. The guide outlines how each invasive species might be identified and the procedure to follow in the event that an invasive species has been identified.

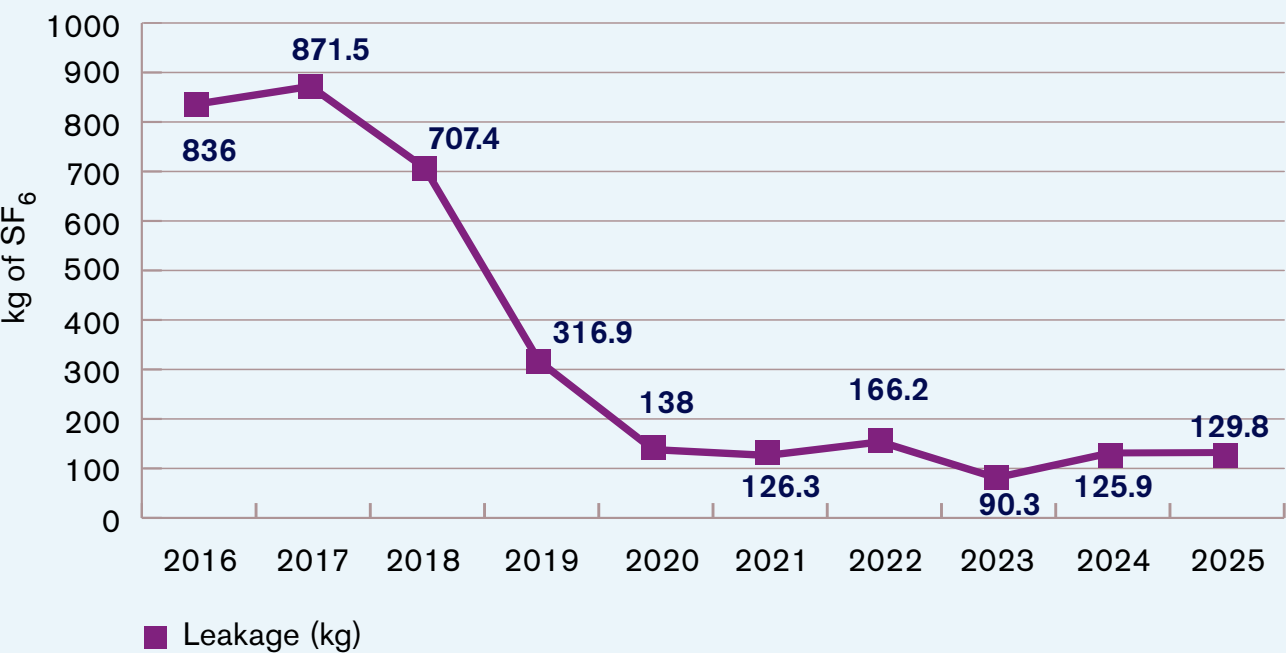


SF6 Gas Management

Sulphur hexafluoride (SF6) is used in a significant portion of ESB Networks' high-voltage switchgear assets on the transmission and distribution networks. It is used because of its very high electrical insulating properties which facilitate efficient and safe operation of the switchgear. Emission rates for SF6 gas are reported to the Environmental Protection Agency (EPA) on an annual basis.

In 2025, 129.8 kg of SF6 was emitted due to equipment faults, representing 0.06% of the total installed inventory of SF6. The comparable 2024 leak quantity was 125.9 kg, also representing 0.06% of inventory. The IPPC Global warming potential value of a kg of SF6 has remained at 24,300. This overall leakage rate compares favourably to other European utilities. The overall downward trajectory of SF6 emissions over the last ten years can be seen in Figure 5.

Figure 5 – SF6 gas leakage trends



ESB Networks operates in compliance with Regulation (EU) 2024/573 in relation to SF6. This compliance is enabled by:

- Implementation of revised SF6 policy and procedures across the ESB Networks' business, addressing:
 - Labelling
 - Transport
 - Gas Handling
 - Recording & Reporting
 - Leak Response
- Continued training and certification for those involved in handling SF6.
- Technology Improvements related to mobile app-based recording of SF6 gas usage.
- Enhanced monitoring/closeout of SF6 Leaks on a systematic basis.
- Renewed nationwide communication of key requirements of EU Reg 2024/573 as part of rollout of revised procedures.
- Maintaining a critical understanding of market development, regulatory environment and available SF6-free technology

Engagement with statutory authorities & associated reporting protocols

ESB Networks engages with a number of key stakeholders, in relation to SF6 emissions reporting, namely Local Authorities and the Environmental Protection Agency (EPA).

Local Authorities

Where a leak has been identified on a piece of equipment, ESB Networks reports this leak to the relevant local authority. This reporting requirement is implemented in accordance with the Air Pollution Act (1987).

The reporting structure adopts the following approach:

- A Stage 1 notification is issued when a SF6 leak has been identified.
- A Stage 2 notification is issued when the SF6 leak has been stopped.

Environmental Protection Agency

ESB Networks reports on an annual basis to the EPA on its cumulative SF6 emissions for the previous year on/before 31st of March each year. This reporting is undertaken as part of ESB Networks' responsibilities in relation to the Pollutant Release and Transfer Register Regulations (2011).

ESB Networks reports all SF6 emissions to the associated license holder where there are emissions from ESB Networks' equipment on EPA licensed sites.

Processes

Technology Utilisation – where SF6 is moved to and from assets, these transactions are recorded via a mobile device based SF6 app. This simplifies site recording and enables prompt and accurate reporting of gas utilisation.

Policy & Procedures Enhancement – Regular reviews and updates of existing SF6 procedures are carried out to ensure consistent and up to date information and guidance is available for all staff, thus embedding the processes to drive ongoing awareness and compliance in the business with regard to SF6 regulations.

Rationalisation of existing SF6 gas quantities – Where SF6 was recovered from assets, it has been assigned for use in new projects, negating the need to buy additional SF6 for these projects.

SF6 Leak Monitoring & Repair Programme Review – enhanced procedures and IT tools are in place to ensure prompt reporting, capture and closeout of SF6 leaks through a robust process involving Network Assets, Environmental and frontline high voltage station staff.

Fluid-Filled Cables

Fluid Filled Cables (FFCs) - Replacement Programme

Recognising the environmental challenges in operating and maintaining FFCs, ESB Networks started a fluid-filled cable replacement programme in 2005. So far, 20% of FFCs have been replaced, removing the source of 40% of the previous cable fluid leaks from the system.

At present, there is approximately 164km of FFCs on the transmission and distribution electricity networks. We have a number of active FFC replacement projects at construction stage and additional projects at route selection stage.

During 2025, ESB Networks replaced 12km of FFCs in ongoing distribution FFC replacement projects. The following works were undertaken:

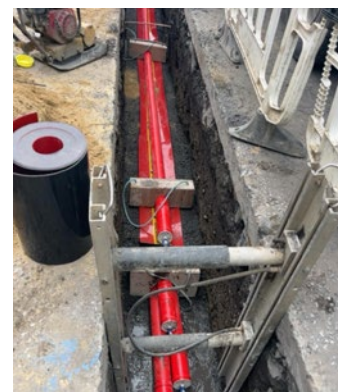
- Five existing 38 kV fluid filled cable circuits were taken off the system and new plastic circuits energised (Dodder Rd - Templeogue, Finglas - Merville, Ringsend - East Wall Rd, Ringsend - Parkview and Fairhill - Kilbarry (Cork)), these energisations removed c. 12 km of fluid filled cable from the system.
- There was 3.5 km of new ducting installed for these and future FFC replacement projects.

Such major infrastructural projects involve:

- Scheduled outages, for which businesses and families adjacent to these works must be informed and given adequate notice.
- Securing temporary road opening licences.
- Traversing third party infrastructure, services and major road, rail, waterway crossings.
- Temporary extended road closures.
- Significant trench excavations for new plastic insulated cable and cable replacement.
- Jointing works.

The projects are undertaken on a phased basis in populated urban areas with significant traffic volumes. Ongoing engagement with relevant stakeholders is vital to ensure efficient and successful delivery of these cable replacement projects.

A significant number of transmission FFC route replacements achieved capital approval in late PR5 also. Due to the significant circuit lengths on most of the transmission FFC routes involved, full replacement is not expected to be completed until PR6 (2026-2030). We are engaging with the TSO to take advantage of advanced ducting opportunities as they arise. For example, we are liaising with Dublin City Council's (DCC's) Royal Canal Greenway project team to install 220 kV ducting which may become part of a future 220 kV FFC replacement project in PR6. The TSO is proactively engaging with multiple stakeholders in their Powering up Dublin strategy. The replacement of five of the existing transmission FFC circuits in Dublin City will result in a significant uprate of the circuits involved. As such, there is both a system uprate and environmental benefit to these circuits being replaced. The remaining FFCs are planned to be replaced over subsequent Price Reviews subject to CRU approval.



Fluid Filled Cables – Leakages

During 2025, 6,191 litres of cable insulating fluid leaked from the High Voltage Cable network (34 litres per km). This is a decrease of 2,068 litres on the 2024 fluid leakage figure of 8,259 litres.

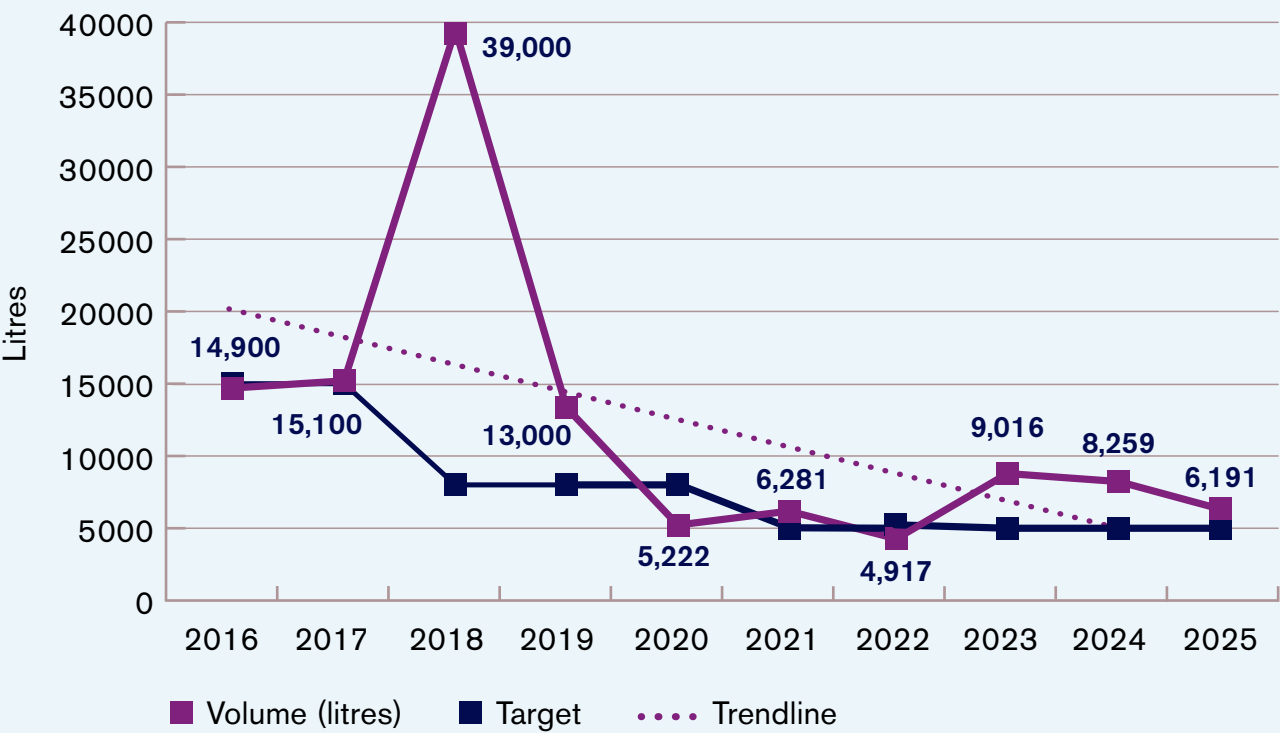
The breakdown of the fluid leaks was as follows:

- 220 kV Cable Network = 938 litres
- 110 kV Cable Network =1561 litres
- 38 kV Cable Network = 3692 litres

ESB Networks' Company Standard, "Management of Fluid Filled Cables" set a target maximum cable leakage volume of 5,000 litres for 2025. The aim of this value is to encourage efficient leak incident identification and repair. Due to a combination of factors, our leakage total in 2025 surpassed targets. These factors include the increasing age of the assets, 3rd party damage and the requirement to maintain a constrained critical network. Many of our main arteries in Cork and Dublin employ fluid-filled cables as the backbone of our network, which imposes challenges in managing these assets.

The overall trend for the past ten years continues to show an overall downward trend in leakage (see Figure 6).

Figure 6 – Fluid-filled cables leakage trends 2016 to 2025



Leaks that were notified to the relevant Local Authority on the 38 kV Cable Network in 2025:

- Fairhill - Kilbarry
- Dennehy's Cross - Liberty Street
- Clontarf - East Wall Road
- Unidare - Whitehall

Leaks that were notified to the relevant Local Authority on the 110 kV Cable Network in 2025:

- Harolds Cross - Ringsend

Leaks that were notified to the relevant Local Authority on the 220 kV Cable Network in 2025:

- Inchicore - Poolbeg 2

Circuits with repaired leaks in 2025 were:

- Fairhill - Kilbarry
- Dennehy's Cross - Liberty Street
- Clontarf - East Wall Road
- Inchicore - Poolbeg 1
- Harolds Cross - Ringsend

Fluid Filled Cables - Environmental Assessments

In 2025, further works were progressed on a number of sites as we continue to progress all to a conclusion with the relevant authorities. ESB Networks issued Generic Quantitative Risk Assessments (GQRAs), that had detailed site assessments completed, to the relevant Local Authority. All reports recommended no further site assessments or remediation. As further detailed site assessments are completed and further GQRAs developed, ESB Networks will continue to update Local Authorities on our progress in these assessments, and the reports will be available upon request through our public website.

Fluid Filled Cables - Incident Management

Since 2019, ESB Networks has Fluid Filled Cables (FFC) incident protocols in place dealing with both historic and current FFC leaks with relevant Local Authorities. The protocols ensure all relevant authorities are notified of incidents as they arise and are kept up to date with incident response. Regular communication is maintained with relevant Local Authorities to ensure close collaboration regarding road opening licenses, drainage maps and other aspects relevant to our work in cable leak location, environmental assessment, and repair.

We continue to have experienced Network Technicians specially trained in FFC maintenance, leak identification and repair techniques to ensure that we manage these incidents promptly when they occur. ESB Networks' tracer detection equipment has significantly improved our ability to identify leak sites and implement repairs. We continue to implement this state-of-the-art leak detection methodology along with other leak detection methods employing third party cable fault detection specialists that have yielded very positive results for cable fault locations. We have also conducted Ground Penetrating Radar (GPR) trials as part of our commitment to leverage new technologies that will advance our ability to manage our FFC assets.

ESB Networks' leakage rate in 2025 was approximately 34 litres/km. The current leakage rate equates to 0.6% of the total installed cable fluid volume per annum. This is lower than the leakage rates reported by a number of peer network companies in other countries.

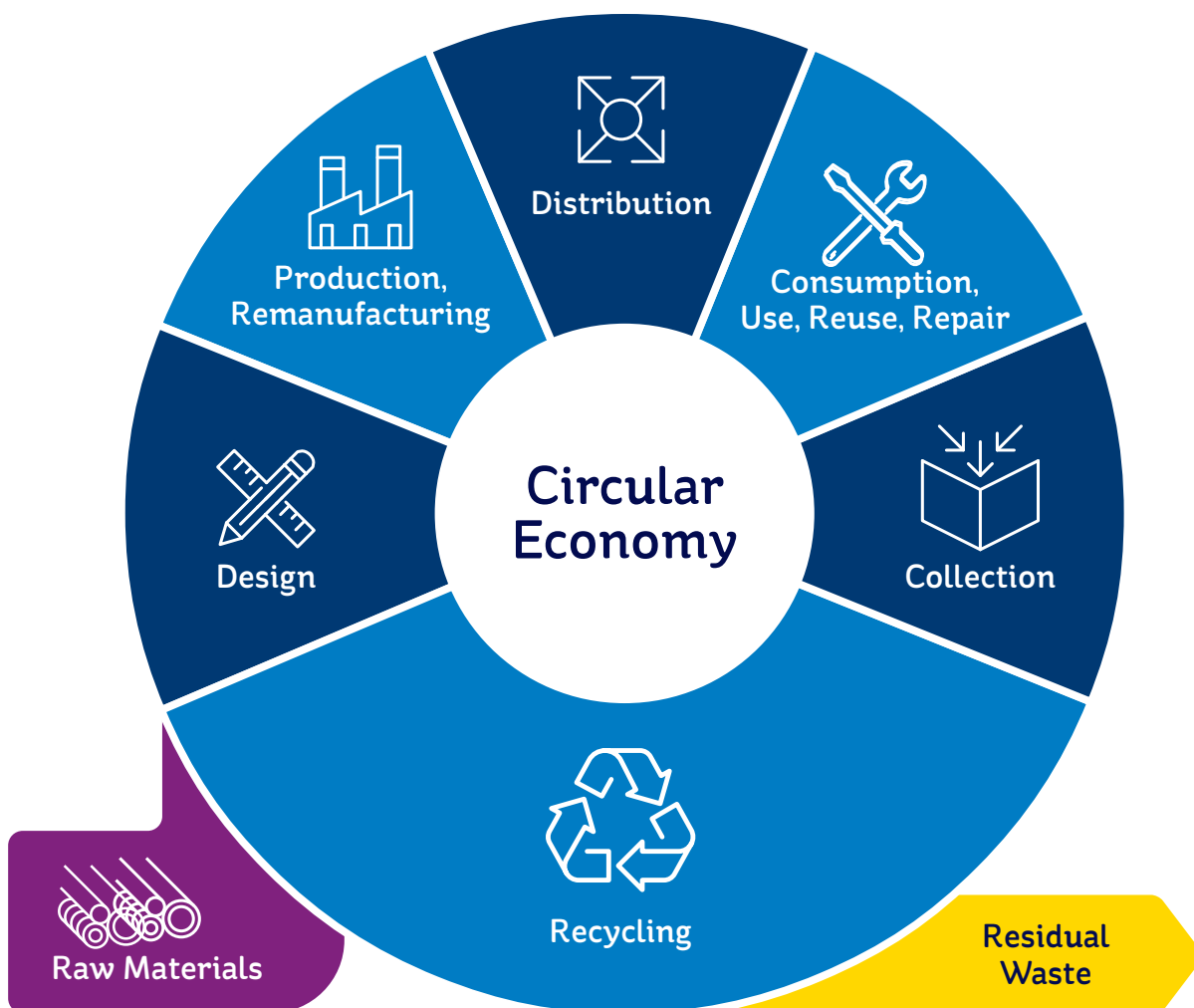
Circular Economy

The circular economy is a system where materials never become waste and nature is regenerated. In a circular economy, products and materials are kept in circulation through processes like maintenance, reuse, refurbishment, remanufacture, recycling, and composting. The circular economy tackles climate change and other global challenges, like biodiversity loss, waste, and pollution, by decoupling economic activity from the consumption of finite resources.

Waste prevention, a central concept of the circular economy, challenges us to review our existing design, production, distribution and consumption of products. This is moving us from the current linear model of Take > Make > Use > Dispose to focusing on reducing, reusing, repairing, and recycling to keep materials in use for as long as possible.

A circular economy approach strengthens ESB Networks in its ability to:

- Reduce operational waste and costs
- Improve supply chain resilience
- Meet climate and sustainability targets
- Support ESB Networks' net zero and circular economy ambitions



A circular economy approach for ESB Networks means redesigning how the network is built, maintained, renewed, and ultimately decommissioned so that materials stay in use longer and waste is eliminated.

Circularity requires ESB Networks to treat every pole, cable, transformer, and substation component as part of a closed material loop, not a one way consumption stream. ESB Networks is committed to sustainable sourcing of materials (including recycled materials) and implementing end-of-life plans.

For example, ESB Networks carries out mandatory testing for the purpose of re-use of all retired oil filled equipment, thus contributing to our circular approach to recycle suitable equipment where possible. The following items of equipment were refurbished during 2025:

- Interface Transformer (IFT) Refurbishment, ESB Networks' Site Tuamgraney: 18 x Units (see photos below of before and after refurbishment work)
- High Voltage (HV) Transformer Refurbishment, Hitachi Waterford: 6 x Units
- Pole mounted transformers from 20 kV conversion: 540 transformers replaced; 232 of those tested can and will be reused.

Such actions reduce waste, cut procurement costs, strengthen supply chain resilience and are in keeping with our approach to Circular Economy. This shifts ESB Networks from a “replace and dispose” model to a “maintain, recover, and regenerate” model.



Waste Management

Throughout 2025, ESB Networks maintained and improved its arrangements for effectively managing waste in compliance with waste regulations. ESB Networks continued to segregate waste, pending its appropriate disposal, treatment or recycling. The company continued to collaborate with all waste management contractors to ensure compliance with all permits and licenses required.

ESB Networks is committed to being at the forefront of sustainability and the circular economy, and the effective management of waste is a fundamental part of this environmental management goal. Notably, in 2025, significant advancements were made towards this objective, with some key achievements and initiatives:

- Contracts for the management of non-hazardous and hazardous waste, scrap metal, oil-filled equipment, and the disposal of empty cable drums and creosote poles were effectively managed nationwide.
- ESB Networks' contracted service providers were facilitated to collect waste, and records of waste disposal were maintained.
- Records of waste streams and associated tonnages were tracked on a continuous basis through 2025
- Depot recycling rate of 83% achieved for municipal solid waste & Scrap Metal Recycling and 85% for all Non-Hazardous & Scrap Metal Recycling combined in 2025.
- 100% of Oil Filled Equipment, Scrap Metal, Transformer Oil & Network Poles are recycled.
- Waste including soil, stone / concrete and asphalt (spoil and rubble) are managed directly by our contractors in line with waste legislation. During 2025, 136,617 tonnes of spoil & rubble was removed from ESB Networks' sites and appropriately disposed of.
- Standardised office waste management systems maintained at all our facilities to promote the proper segregation of waste.
- Training continued to be rolled out addressing waste management, recycling targets, waste hierarchy, and proper waste segregation and disposal requirements.
- Memorandums of Understanding are in place and maintained with Dublin City Council, South Dublin City Council and Dun Laoghaire-Rathdown County Council on the management of illegal dumping of waste, litter, and graffiti at unoccupied ESB Networks' facilities.
- Throughout 2025, ESB Networks' appointed waste management contractors were engaged to clean up and dispose of waste illegally dumped at ESB Networks' facilities by 3rd parties in a prompt and timely manner to minimise the risk to the environment.

Waste Statistics (classification and quantities)

In 2025, ESB Networks generated 147,926 tonnes of waste. Figure 7 presents a breakdown of the various main operational waste streams. This excludes spoil and rubble which was recorded in 2025 at 136,617 tonnes.

Figure 7 – Breakdown of Waste Streams (excludes spoil & rubble)

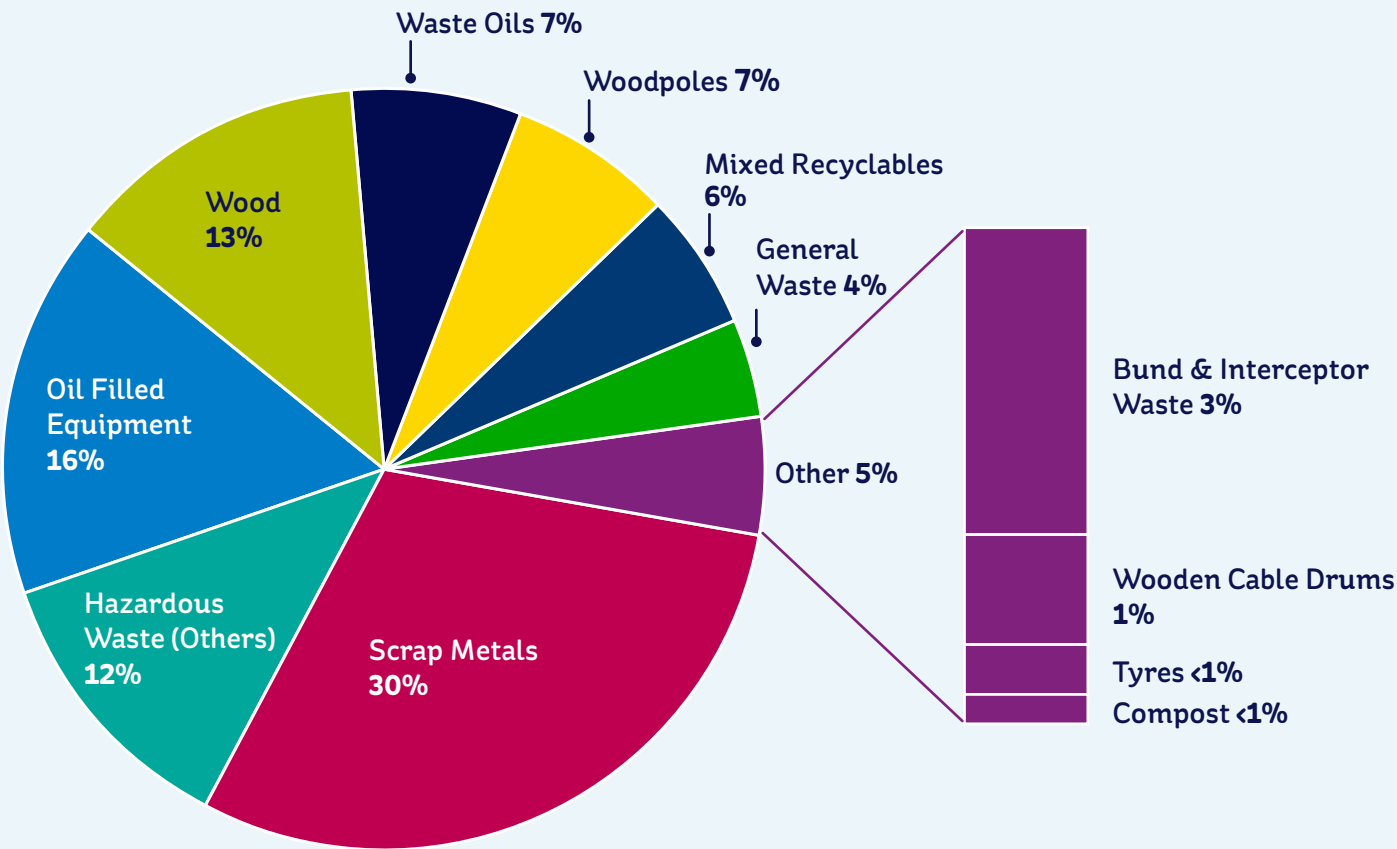


Table 2 compares tonnage quantities for the principal waste categories for 2023, 2024 and 2025.

Table 2 - Waste Tonnage Quantities from 2023 to 2025

Waste Stream / Retired Material	Tonnes Per Year		
	2023	2024	2025
Scrap Metals	2,732	3,371	3,446
Oil Filled Equipment	2,067	1,512	1,776
Wooden Cable Drums	760	479	136
Wood	834	1,285	1,428
General Waste	654	459	456
Mixed Recyclables	397	380	670
Bund & Interceptor Waste	229	405	376
Waste Oils	343	772	744
Woodpoles	1438	641	796
Hazardous Wastes (Others)	192	1,601	1,385
Tyres	73	53	60
Compost	33	43	36
Spoil & Rubble	0	78,239	136,617
Totals	9,752	89,240	147,926

Note:

Hazardous Waste (Others) includes Creosote Contaminated Consumables, Contaminated Soil, Oil Filters, Solid Oily Waste, Batteries, WEEE, Chemicals, Paints, Empty Paint Containers, Mixed Fuels, Resins, Silica Gel.

The increase in the total tonnes per year for 2024 and 2025 is due to the inclusion of spoil and rubble.

Environmental Incidents

ESB Networks' environmental management systems are designed to minimise, prevent, and mitigate the occurrence of environmental incidents. However, some environmental incidents occur in the course of ESB Networks' business operations, and these are appropriately managed and dealt with.

During 2025 the Environmental team responded to 166 environmental incidents (as seen in Table 3).

Table 3 Environmental Incidents 2023 to 2025

Reported Environmental Incidents	Incidents per year		
	2023	2024	2025
Air Emissions/breaches (excluding F - gases)	1	-	-
Dust nuisance	-	-	-
Ecology, Flora and Fauna (Including invasive species)	9	6	3
Environmental Complaint (External)	-	5	2
Environmental monitoring/abatement equipment malfunction or breakdown	4	10	9
Explosion	-	-	-
F - Gas leak/storage/handling (excluding SF6)	1	-	3
Fire	-	-	-
Flooding (Environmental impact)	1	2	1
Fluid filled cable leaks	4	6	6
Impact on Conservation area (SACs/SPAs/NHAs) and national monument/heritage sites.	-	-	-
Land - Contaminated land or soil	-	4	-
Land - General land damage	-	-	-
Leaks/uncontrolled discharges/spillages of chemicals, oils or fuels	60	37	27
Noise nuisance/emissions	1	5	4
Odour	-	1	1
SF6 gas leak/ handling/storage	108	99	101
Supplier/Contractor Incident	-	-	2
Timber Cutting	-	-	-
Visual (Litter/Graffiti) (3rd party)	-	1	-
Waste - Unauthorised disposal (3rd party)	6	2	1
Waste management (Internal)	8	8	5
Water & Discharges - Emissions/breaches/leaks to water bodies	-	1	1
Totals	202	187	166

ESB Networks uses appropriately licenced and permitted environmental incident response contractors, and environmental consultant services, and liaises with relevant regulatory authorities in connection with environmental incident management as necessary. Spill response training is delivered to staff engaged in oil and oil-filled equipment handling and a range of related ESB Networks' Guidelines have been developed and are available.

Spill kits and associated consumables are also available in depots, stores, HV stations and in fleet and equipment vehicles as required.

The following is a sample of some of the environmental incidents that ESB Networks has responded to in 2025:

- Four noise complaints were recorded. Noise monitoring has been completed at all four locations. ESB Networks has engaged with each complainant as appropriate.
- Odour monitoring is ongoing in relation to a recurring odour complaint from Killeel woodpole storage facility. This complaint was initially recorded in 2024. ESB Networks is currently engaging with the relevant statutory authorities.
- ESB Networks received a complaint associated with a creosote-treated woodpole impacting a domestic drinking water well and are currently engaging with the complainant to resolve this complaint.



NETWORKS

ESB Networks
Leopardstown Road,
Fockrock,
Dublin 18,
D18XN80

Tel 1800 372 757 or +353 21 2386555
Email esbnetworks@esb.ie

esbnetworks.ie