Draft Annual Electricity Transmission Performance Report 2025

EirGrid

ESB NETWORKS

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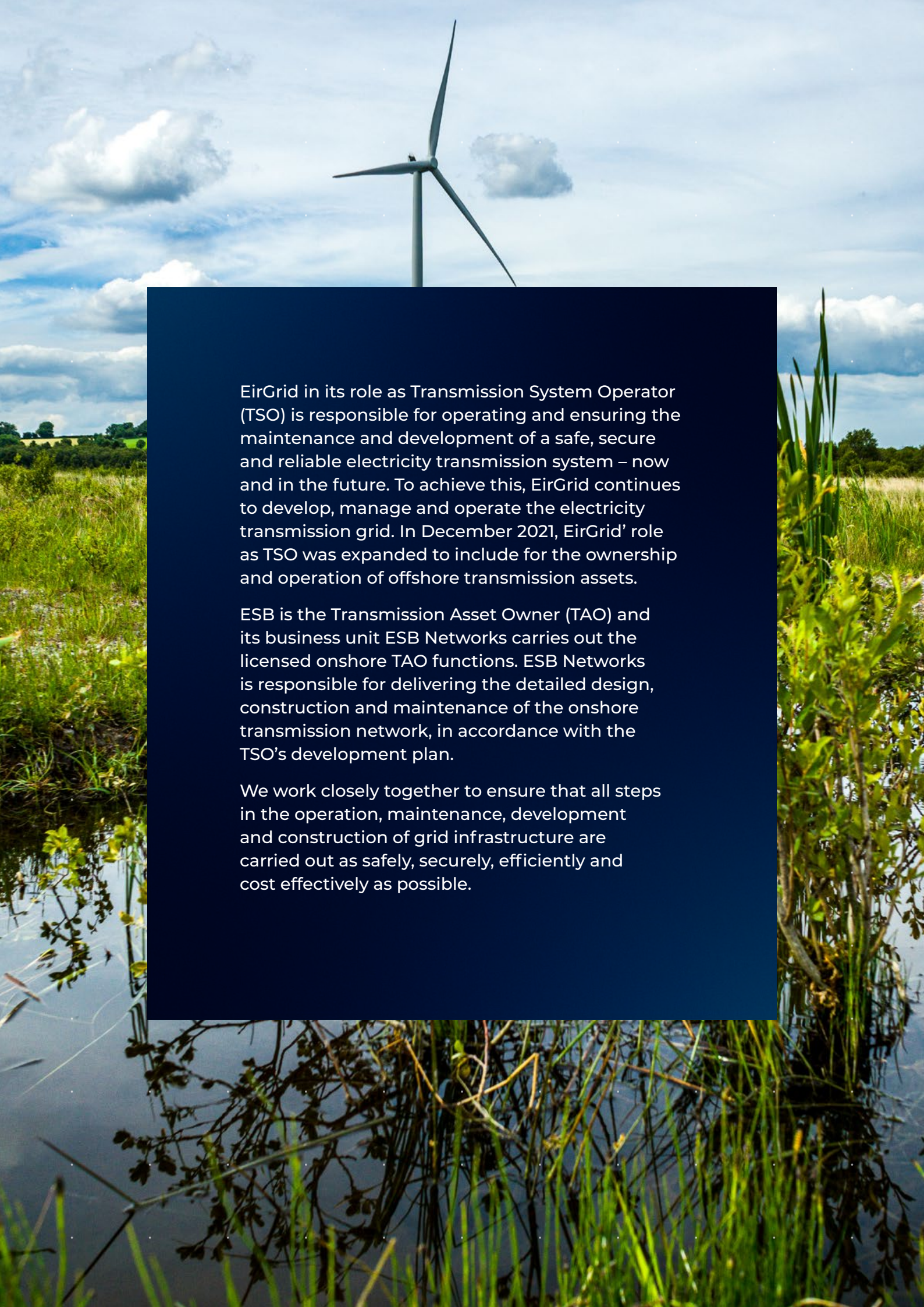

EirGrid in its role as Transmission System Operator (TSO) is responsible for operating and ensuring the maintenance and development of a safe, secure and reliable electricity transmission system – now and in the future. To achieve this, EirGrid continues to develop, manage and operate the electricity transmission grid. In December 2021, EirGrid' role as TSO was expanded to include for the ownership and operation of offshore transmission assets.

ESB is the Transmission Asset Owner (TAO) and its business unit ESB Networks carries out the licensed onshore TAO functions. ESB Networks is responsible for delivering the detailed design, construction and maintenance of the onshore transmission network, in accordance with the TSO's development plan.

We work closely together to ensure that all steps in the operation, maintenance, development and construction of grid infrastructure are carried out as safely, securely, efficiently and cost effectively as possible.

1. Welcome

Welcome to the ninth annual EirGrid and ESB Networks' Electricity Transmission Performance Report. This report seeks to provide customers, industry and stakeholders with clear and accessible reporting on our operation, development and maintenance of the transmission system throughout 2025.

2025 was the fifth and final year of Price Review Five (PR5). The PR5 Determination[1] contains the Commission for Regulation of Utilities (CRU) decision on EirGrid and ESB Networks' revenues for 2021 to 2025. EirGrid and ESB Network's activities and outcomes in 2025 align with the PR5 Determination objectives and ambition set out by the CRU in relation to grid delivery, decarbonisation and local security of supply and is underpinned by cost efficiency and a regulatory framework which supports the delivery of value to customers.

Throughout 2025, EirGrid and ESB Networks remained fully committed to the successful completion of PR5. The annual delivery of capital investment in transmission projects has increased year on year making steady progress towards overall delivery of the PR5 programme of work. The projects delivered throughout the period have enhanced network resilience and established a strong foundation for the delivery of future network requirements under Price Review Six (PR6). The CRU published its PR6 Final Determination Paper[2] in December 2025 which covers the year 2026-2030 and sets out the regulatory requirements for the period. As EirGrid and ESB Networks prepare for the transition to PR6, continued focus has remained on accelerating project delivery throughout the year. This is reflected in the high level of Capital Approvals (CAs) received, Project Agreements (PAs) advanced, and projects energised in 2025.

The publication of the Climate Action Plan 2025 (CAP25) reaffirmed Ireland's commitment to halving greenhouse gas emissions by 2030 and achieving climate neutrality by 2050. In 2025, renewable generation accounted for 40.7% of all electricity consumed in Ireland.[3] EirGrid and ESB Networks continued to work towards government energy targets to facilitate a clean, secure and cost-effective energy future.

1 Price Review 5
2 Price Review 6
3 EirGrid System and Renewable Reports | eirgrid.ie

EirGrid and ESB Networks continued to prioritise the secure operation of the electricity system throughout 2025. EirGrid worked closely with key stakeholders including the CRU, the Department of Climate, Energy and Environment (DCEE), energy sector agencies, market participants and Large Energy Users (LEUs) to support system adequacy, emergency preparedness and coordinated system response. As part of the CRU's Electricity Security of Supply Programme, EirGrid works closely with the CRU and DCEE to implement a co-ordinated approach to address security of supply challenges in Ireland in the short, medium and long term with the aim of securing adequate supply to meet demand. In 2025, security of supply initiatives developed under the CRU Security of Supply Programme have been embedded into normal business processes, supported by proactive communications across real-time, week-ahead, seasonal and 10-year outlook timeframes.

Targeted improvements were implemented in the Transmission Outage Programme 2025 (TOP25) planning process to support more effective delivery. These improvements included workshops in specific regions of the country as well as the formalisation of the pre-energisation processes and communication of the same across TSO and TAO organisations, improving clarity and reducing the risk of delays leading to extension of power outages and wider delivery programme impacts.

In 2025, EirGrid and ESB Networks continued to enhance the Joint Outage Transformation Programme (JOTP) in areas of project delivery, system operations, programme management, regulation, policy, and digital integration. Collaboration across both organisations has remained essential in 2025 in the delivery of key infrastructure projects to support Ireland's CAP.

Works continued on the Celtic Interconnector project in 2025, with the completion of trenching and installation of ducting to carry the high voltage direct current (HVDC) cable from Claycastle Beach to the converter station in Ballyadam. The first section of marine cable laying was also completed. Significant stakeholder engagement continued in 2025 across projects including the Celtic Interconnector with the community benefit fund for phase 1 and phase 2 already awarded to the local community. As a result of the TSO facilitating its connection and the TAO delivering the requisite transmission network infrastructure, Greenlink went into commercial operation in January 2025, bringing with it great benefits to both Ireland and Great Britain.

EirGrid's role as TSO has been expanded under the Maritime Area Planning (MAP) Act 2021 and the Government's Framework for Ireland's Offshore Electricity Transmission, with responsibility for the ownership, development, and operation of offshore electricity transmission assets. This expanded mandate is central to facilitating the integration of offshore renewable generation into Ireland's electricity system and market. EirGrid is progressing a programme of regulatory engagement and infrastructure delivery to support this role. This includes preparing for the acquisition of Phase 1 transmission assets from developers, advancing the Offshore Asset Readiness Plan (OARP), and developing infrastructure under Powering Up Offshore South Coast.

Collaboration between ESB Networks and EirGrid remains central to delivering a secure, reliable, and sustainable transmission electricity system for Ireland. Together, both organisations work closely to plan, develop, and operate the national transmission electricity grid, ensuring that homes, businesses, and communities across the country have access to safe and resilient power supplies. This partnership supports the integration of renewable energy, drives innovation in grid infrastructure, and helps meet Ireland's climate and energy goals. Through ongoing coordination and shared commitment, ESB Networks and EirGrid continue to enable a cleaner energy future for all.

We hope that you find this document informative and we look forward to working together with you to further develop our plans. We welcome all feedback with regard to the information set out in this booklet and any additional information you might wish to see included in future versions.

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2. What is the electricity transmission system?

Electricity transmission encompasses the operation, planning and development of the high-voltage network in Ireland, predominately assets that operate at 110 kV, 220 kV or 400 kV, ensuring that supply and demand is balanced on a minute-by-minute basis.

The transmission system moves power around the country. It brings power directly to industry and businesses that use large amounts of electricity and also powers the distribution network. The transmission system supplies the electricity used every day in our homes, businesses, schools, hospitals and farms. For further information on the TSO's and TAO's activities in the delivery of the transmission network, please see the 2025 Annual Investment Planning and Delivery (IPD) Report published on the EirGrid and ESB Networks' websites. Working closely together, we develop and build energy infrastructure when it is needed. Through our operation and maintenance of the transmission system, we ensure a safe, secure and reliable supply of electricity.

How we work together is governed by the TSO and TAO licences granted by the CRU and by an Infrastructure Agreement (IA) which sets out how the two organisations develop, maintain and operate the transmission system. Efficient operation of TSO/TAO working arrangements is essential and we can report satisfactory operation of these arrangements during 2025. The CRU requested a comprehensive review of the IA in readiness for PR6. The IA review commenced in 2025, with both Network Companies progressing the review during the year.

An Infrastructure Delivery Charter with joint committee structures underpinning the mutual working arrangements between the TSO and TAO is in operation. This charter commits both companies to renewed levels of engagement and partnership to meet the evolving needs of the electricity customer and society into the future.

The operation of a Joint Programme Management Office (JPMO) and other agreed processes are important aspects of TSO/TAO co-operation. EirGrid and ESB Networks continued to effectively operate, review, develop and communicate regular updates to key stakeholders regarding these arrangements throughout 2025. The TSO and TAO Transmission Programme teams jointly plan the delivery of the full pipeline of projects out to 2030, as set out in EirGrid's Shaping Our Electricity Future (SOEF) Roadmap and ESB Networks' "Networks for Net Zero" strategy.

This year was the fifth year of the operation of the PR5 Joint TSO/TAO Incentive for EirGrid and ESB Networks. Details of the performance outcomes for this incentive are provided in Section 5 of this report '*How we performed against transmission delivery incentives*'.

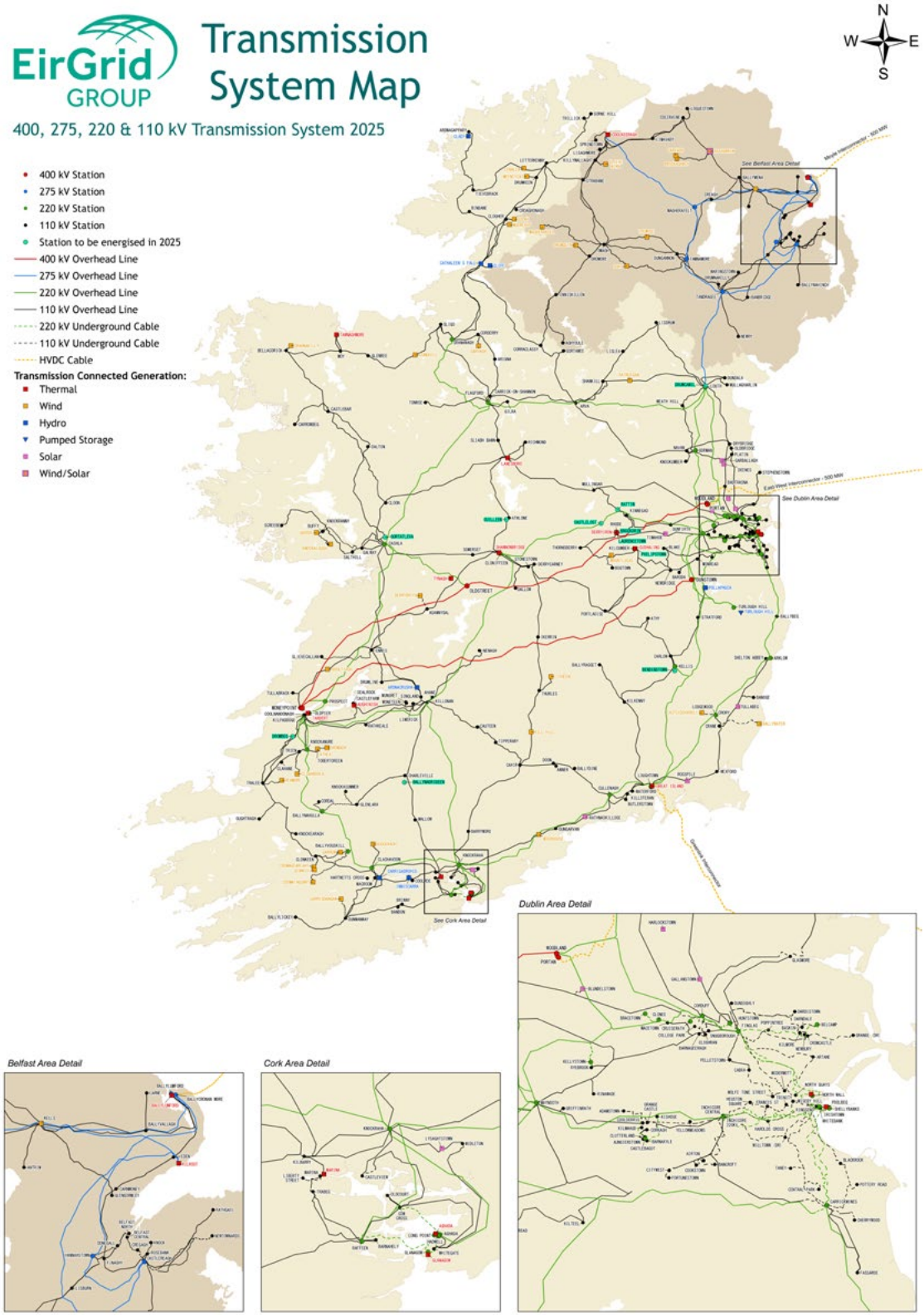

Figure 1: All Ireland Transmission System Map 2025[4]

4 Please note that the Northern Ireland Transmission Network is included for illustration purposes only in the above map. The Northern Ireland Transmission Network is outside of the scope of this report

3. How we plan, deliver and use the network

EirGrid's approach to grid development uses a six-step process which explains why and how the grid is developed. More importantly, it also explains how the general public and stakeholders can influence the decisions that are made. All our projects go through this process. The Joint EirGrid and ESB Networks' IPD Report which accompanies this report highlights the work carried out in each step of the process and project progress in 2025.

2025 was the final year of EirGrid's Strategy 2020-25, the aim of which is to transform the power system for future generations. Central to Strategy 2020-25 is EirGrid's six-step approach for grid development. EirGrid's focus has been to increase its value proposition to consumers and stakeholders while improving efficiencies in grid development.

During 2025, EirGrid and ESB Networks partnered with some of the biggest companies in the world, to foster jobs and prosperity across the country. We continued to upgrade and strengthen the transmission grid where necessary.

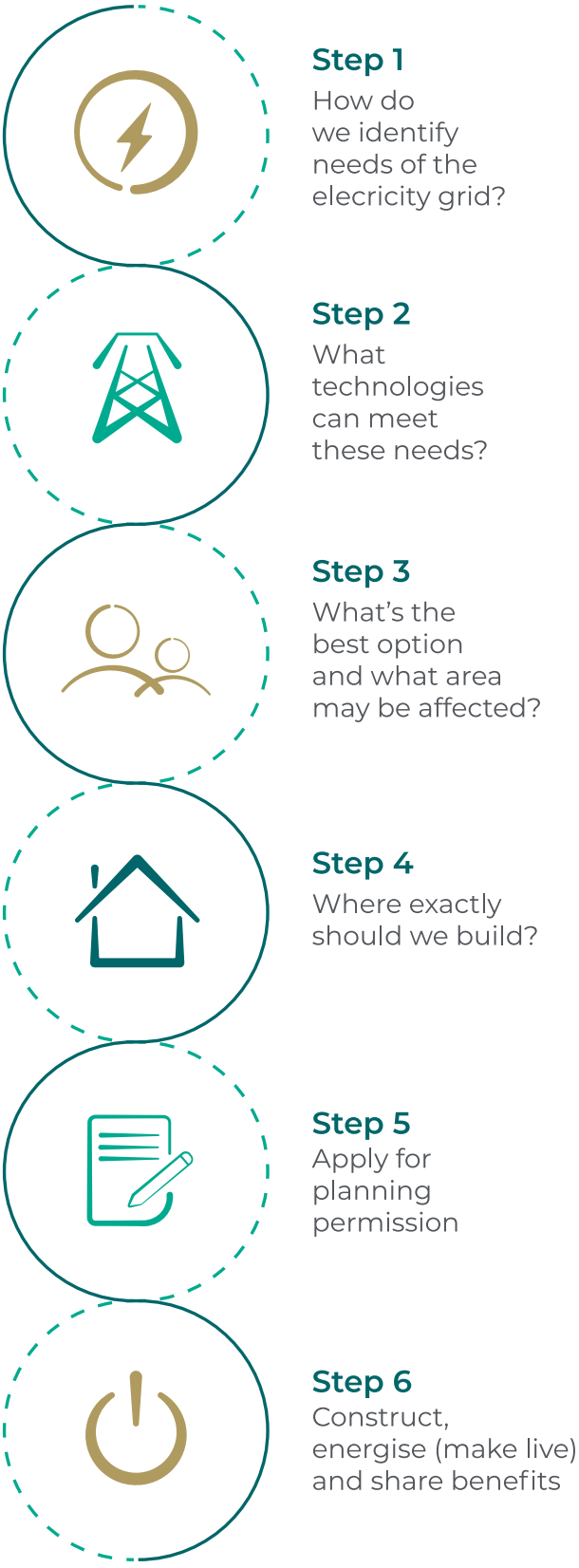

Figure 2: EirGrid Six-Step Framework for Grid Development

3.1 Summary of 2025

The fifth and final year of PR5 saw significant progress made by the TSO and TAO in terms of project development, delivery, system and market operation.

In 2025, EirGrid and ESB Networks progressed project delivery with 60 projects receiving capital CA, 43 advancing to PA, and 23 projects energised (including one Temporary Emergency Generation projects).

Notable trends in 2025 include the connection of many renewable energy projects including:

- One wind farm providing 50 MW of renewable generation[5]
- Five solar farms providing an additional 439 MW of renewable generation[6]
- Two new Battery Energy Storage System (BESS) technology totalling approximately 83 MW were completed.

In addition, the 60 projects achieving CA in 2025 are expected to deliver approximately 418 MW of future wind generation, 791 MW of future solar generation, and 388 MW of future BESS technology.

Figure 3 shows the number of renewable connections and supporting technologies added to the transmission system in 2025.

Further details on transmission infrastructure development and delivery are set out in our 2025 IPD Report.

5 Final energisation for Yellow River windfarm (101MW) also achieved in 2025. Temporary connection reported in 2024 APR.
6 Final energisation for Timahoe North Solar farm also achieved in 2025, temporary connection reported in 2024 APR. Drombeg Solar Farm achieved customer and station energisation in 2025, final energisation achieved in 2026

50 MW

One wind farm providing 50 MW of renewable generation[5]

439 MW

Five solar farms providing an additional 439 MW of renewable generation[6]

83 MW

Two new Battery Energy Storage System (BESS) technology totalling 83 MW were completed.

1,597MW

60 projects achieved CA in 2025. 418 MW of future wind generation, 791 MW of future solar generation, and 388 MW of future BESS technology.

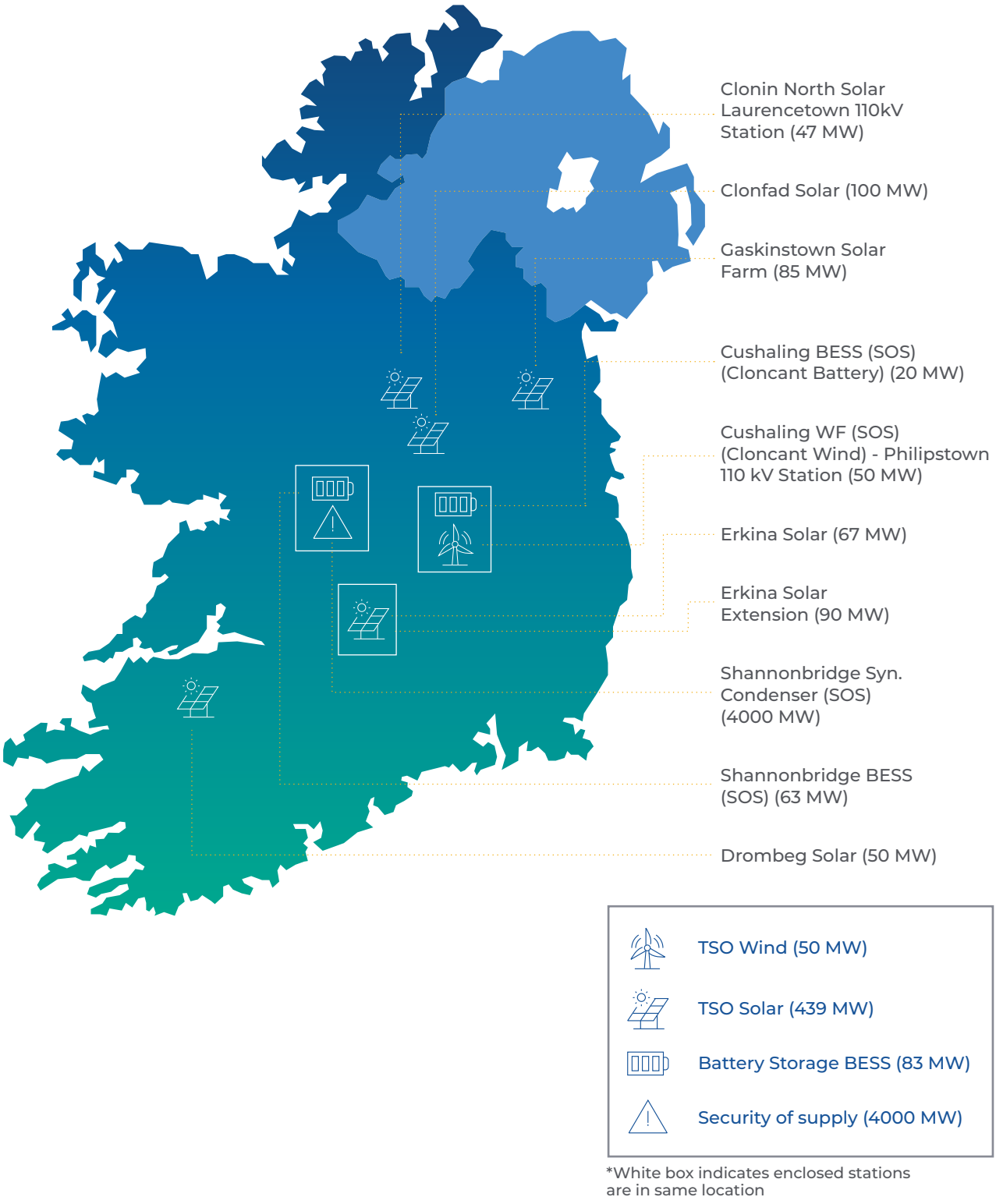

Figure 3: 2025 generation energisations

4. Key performance summary matrix

Table 1: Key performance summary matrix

Metric	Section of this report	2025 target/ basis for incentive	2025 performance	2025 incentive outturn[7]	2024 performance[8]	2023 performance[9]
TSO Strategic Objectives Incentive	'How EirGrid performed against strategic incentives' Section 6	Target: 15 incentive metrics with a total incentive available of €0.5m	Performance: 52% success	Incentive: €0.26m	Target: 13 incentive metrics with a total incentive available of €0.5m Performance: 74% success Incentive: €0.370m	Target: 13 incentive metrics with a total incentive available of €0.5m Performance: 69% success Incentive: €0.345m
TSO Transmission System Performance System Frequency (SF)	'How EirGrid manage system performance' Section 7	€0.1m p.a. for each step if exceeds 98%, 99% and 99.5%	SF was operated within the target operating limits of 49.9 Hz and 50.1 Hz for 98.84% of the time	Incentive: €0.10m	Target: 98% Performance: 98.87% Incentive: €0.10m	Target: 98% Performance: 98.71% Incentive: €0.10m
TSO Transmission System Minutes Lost (SML)	'How EirGrid manage system performance' Section 7	0.75-2.5	2.207 SML on the transmission system	Incentive: €0.0m	Target: 0.75 – 2.5 Performance: 0.152 SML. Incentive: €0.30m	Target: 0.75 – 2.5 Performance: 4.461 SML. Penalty: (€0.50m)
TSO's Stakeholder Engagement	'Engaging with stakeholders' Section 17	Max score: 10	Performance: 6.7	Incentive: €0.20m	Target: max score:10 Performance: 6.9 Incentive: €0.22m	Target: max score:10 Performance: 6.66 Incentive: €0.19m
TSO Investment Planning and Delivery Balanced Score Card	'How we performed against transmission delivery incentives' Section 5	Target: 6 incentive metrics with a total incentive available of €0.9m.	Performance: 74%	Incentive: €0.67m	Target: 6 incentive metrics with a total incentive available of €0.9m Performance: 69% Incentive: €0.62m	Target: 6 incentive metrics with a total incentive available of €0.9m Performance: 80% Incentive: €0.72m

7 A penalty is indicated in brackets.
8 2024 APR and IPD
9 2023 APR and IPD

Table 1: Key performance summary matrix

Metric	Section of this report	2025 target/ basis for incentive	2025 performance	2025 incentive outturn	2024 performance	2023 performance
TSO Delivering New Connections Enduring Connection Policy (ECP)	'How we manage new connections' Section 14	Issue connection offers to all applicants in the 2025 ECP Batch	TBC[10]	TBC	Target: Issue connection offers to all applicants in the 2024 ECP Batch Performance: 72% success. Incentive: €0.36m[11]	Target: Issue connection offers to all applicants in the 2023 ECP Batch Performance: 76% success. Incentive: €0.38m[12]
TSO Renewable Dispatch Down (RDD) Incentive	'How EirGrid manage system performance' Section 7	5%[13]	10.4%	Penalty: (€0.30m)	Target: 5% Performance: 8.8% Penalty: (€0.27m)	Target: 5% Performance: 8.0% Penalty: (€0.154m)[14]
TSO System Non-Synchronous Penetration (SNSP) Incentive	'How EirGrid manage system performance' Section 7	85% SNSP	75% SNSP	Penalty: (€0.30m)	Target: 82% SNSP Performance: 75% SNSP Penalty: (€0.30m)	Target: 80% SNSP Performance: 75% SNSP Penalty: (€0.30m)
TSO Imperfections and Constraints Incentive	'How EirGrid manage constraint costs' Section 11	Target:4 incentive metrics with a total incentive available of €1.5m	Performance: 12% success	Incentive: €0.178m	Target: 5 incentive metrics with a total incentive available of €1.5m Performance: 19% success. Incentive: €0.290m	Target: 5 incentive metrics with a total incentive available of €1.5m Performance: 7% success. Incentive: €0.105m

10 2025 Outturn incentive/penalty deferred to 2026 due to timing of offer issuance.
11 EirGrid submitted the Incentive Outturn Report for the 2024 ECP Batch to the CRU as part of the Annual Regulatory Reporting Pack for 2025, which was assessed by CRU in its consideration of 2025 outturn.
12 EirGrid submitted the Incentive Outturn Report for the 2023 ECP Batch to the CRU as part of the Annual Regulatory Reporting Pack for 2024, which was assessed by CRU in its consideration of 2024 outturn, as per CRU2025128.
13 As per CRU/20/154, an upside payment of €0.054m is applied if the TSO meets the target of 5.0% and an additional €0.054m for every 0.1% below 5.0% up to a maximum of €0.6m. A downside penalty of €0.014m is applied if the TSO meets the limit of 7.0% and an additional €0.014m for every 0.1% above 7.0% up to a maximum of €0.3m.
14 EirGrid has identified that 2021, 2022 and 2023 Renewable Dispatch Down incentive outturn considered Wind Dispatch Down data only instead of All Renewables Dispatch Down data. As a result, inaccurate penalties were levied for the years 2022 and 2023. As agreed with the CRU, EirGrid is claiming back a total of €0.308m through the 2025 TSO PR5 Incentives.

Table 1: Key performance summary matrix

Metric	Section of this report	2025 target/ basis for incentive	2025 performance	2025 incentive outturn	2024 performance	2023 performance
TSO Renewable Energy Source – Electricity (RES-E) Incentive	'How EirGrid manage system performance' Section 7	Target: 55%[15]	Performance: 40.7%[16]	Incentive: €0.0m	Target: 52% Performance: 40% RES-E Incentive: €0.0m	Target: 49% Performance: 42% RES-E Incentive: €0.0m
TSO Local Security of Supply Incentive	'How we performed against transmission delivery incentives' Section 5	Target: 4 incentive metrics with a total incentive available of €1.125m[17]	Performance: 40%	Incentive: €0.45m	Target: 4 incentive metrics with a total incentive available of €1.125m Performance: 29% Incentive: €0.33m	Target: 4 incentive metrics with a total incentive available of €1.125m Performance: 36% Incentive: €0.396m
Local security of supply end of PR5 Assessment[18]	'How we performed against transmission delivery incentives' Section 5	Target: End of PR5 assessment report with a total incentive available of €1.875m	Performance: 100%	Incentive: €1.875m	N/A	N/A
TAO/TSO Joint Incentive	'How we performed against transmission delivery incentives' Section 5	Target: 4 incentive metrics with a total incentive available of €1.5m for TAO and €0.2m for TSO	Performance: 100%	Incentive: TSO – €0.20m TAO – €1.5m	Target: 4 incentive metrics with a total incentive available of €1.5m for TAO and €0.2m for TSO Performance: 100% Incentive: TSO – €0.20m TAO – €1.5m	Target: 4 incentive metrics with a total incentive available of €1.5m for TAO and €0.2m for TSO Performance: 100% Incentive: TSO – €0.20m TAO – €1.5m

15 The CRU has decided not to implement the RES-E incentive for 2025, as stated in CRU2024144 "taking into consideration the TSO's outturn performance against this incentive and the quality of the 2025 multi-year plan, the CRU has decided not to implement the RES-E incentive for 2025".

16 EirGrid's Fuel Mix Data confirms RES-E for 2025 was 40.7%, as per Fuel-Mix-2025

17 75% allocated annually, 25% allocated at the end of PR5

18 In accordance with CRU/20/154, 25% of the annual LSoS incentive reward was withheld for assessment at the end of the PR5 period.

Table 1: Key performance summary matrix

Metric	Section of this report	2025 target/ basis for incentive	2025 performance	2025 incentive outturn	2024 performance	2023 performance
DSO/ TSO Joint Incentive[19]	'How we performed against transmission delivery incentives' Section 5	TSO target: 4 incentive metrics with a total incentive available of €0.2m for TSO	Performance: 85%	Incentive: TSO – €0.17m	Target: 4 incentive metrics with a total incentive available of €0.2m for TSO Performance: 90% Incentive: TSO – €0.18m	Target: 4 incentive metrics with a total incentive available of €0.2m for TSO Performance: 75% Incentive: TSO – €0.15m
Regulatory Transmission Capital Expenditure[20]	'How we monitor expenditure against PR5 allowances' Section 18	CRU Capex Monitoring Process.	€302m	N/A	CRU Capex Monitoring Process. Performance: 221m	Target: CRU Capex Monitoring Process Performance: €234.8m
TAO Operational Expenditure	'How we monitor expenditure against PR5 allowances' Section 18	CRU Opex Monitoring Process	€91m	N/A	Target: CRU Opex Monitoring Process Performance: €77.5m	Target: CRU Opex Monitoring Process Performance: €71.3m
TAO Project Delivery Incentive	'How we performed against transmission delivery incentives' Section 5	€3.5m	€3.5m 4 Balanced Scorecard Incentive Metrics	€3.5m full incentive payment	Target: 4 Incentive Metrics with a total incentive available of €3.5m Performance: 100% Incentive: €3.5m	Target: 4 Incentive Metrics with a total incentive available of €3.5m Performance: 100% Incentive: €3.5m
TAO Management of planned outages[21]	'How we performed against transmission delivery incentives' Section 5	Complete planned work in less than 9,293 outage days	All planned works com-pleted in 8,781 actual outage days, meeting target	€1m full incentive payment	Target: Complete planned work in less than 10,999 outage days. Performance: All planned works completed in 10,133 actual outage days Incentive: €1m	Target: Complete planned work in less than 10,496 outage days Performance: All planned works completed in 10,061 actual outage days Incentive: €1m

19 See DSO Annual Performance Report for DSO outturn performance for 2025.
20 Regulatory Transmission Capex Expenditure is not inclusive of Interest During Construction (IDC) of €22.9m and Customer Contributions of €24.4m. See table 7 for Gross Transmission Capex Spend.
21 Per CRU/20/154, this incentive relates to the TAO's ability to meet the 3-week ahead outage plans published on the TSO website

Balanced scorecard-based incentives were introduced for PR5. The TSO and TAO's incentive outcomes for each year of PR5 are set out in the table below. The TSO aggregate incentive outcomes increased from 16% in 2021 to 32% in 2024. The TAO was awarded 100% of its total incentive upside for 2021, 2022, 2023 and 2024. The aggregate incentive outcomes for the TSO and TAO over the past three years can be seen in Table 2 below.

Please refer to Table 3 and Table 4 for further information regarding trends for each incentive from 2021 to 2025 for the TSO and TAO.

Table 2: Aggregate Incentive outcomes (2019 Money)

	2021		2022		2023		2024		2025	
Incentive Category	%	€m	%	€m	%	€m	%	€m	%	€m
TSO Balanced Scorecard	12	0.546	40	1.762	43	1.916	45	1.994	60	3.803
TSO Numeric/Binary[22]	23	0.737	8	0.247	-20	-0.634	14	0.434	2	0.06
TSO Aggregate Total		**1.28**		**2.01**		**1.28**		**2.43**		**3.86**
Joint Incentives - TAO	100	1.5	100	1.5	100	1.5	100	1.5	100	1.5
TAO Incentives	100	4.5	100	4.5	100	4.5	100	4.5	100	4.5
TAO Aggregate Total		**6**		**6**		**6**		**6**		**6**

22 Table updated to reflect the revised 2021, 2022 and 2023 RDD incentive outturn figures, as noted in Footnote 24.

Table 3: Key Performance Trends – Balanced Scorecard based incentives	
Incentive	**Performance trends**
TSO Strategic Objectives	EirGrid achieved strong increases in performance between 2021 and 2024, followed by a moderate decline in 2025.
TSO Investment Planning and Delivery	EirGrid achieved strong increases in performance against this incentive between 2021 and 2023, followed by a reduction in 2024 and a subsequent increase in performance in 2025.
TSO Imperfections and Constraints	Performance against this incentive was variable over the PR5 period, decreasing in 2023 before improving significantly in 2024 and moderating in 2025.
TSO Local Security of Supply	EirGrid achieved strong increases in performance against this incentive over the PR5 period, particularly between 2021 and 2023 and again between 2024 and 2025.
TAO/TSO Joint Incentive	Performance against the TAO/TSO Joint Incentive has been consistently strong over the PR5 period with the full incentive awarded each year.
DSO/TSO Joint Incentive	Since 2021, there have been annual improvements in performance against this incentive, with a slight decrease between 2024 and 2025.
TAO Project Delivery Incentive	Performance against the TAO Project Delivery Incentive has been consistently strong over the PR5 period with the full incentive awarded each year.

Table 4: Key Performance Trends – Numeric/Binary incentives	
Incentive	Performance trends
TSO System Frequency	EirGrid has performed consistently in maintaining System Frequency within the target operating limits for over 98.5% over the PR5 period.
TSO System Minutes Lost (SML)	In 2021, 2022 and 2024, EirGrid maintained SML within the target band. In 2023, SML increased due to a single system incident. In 2025, SML increased due to system disturbances which occurred during Storm Éowyn. Absent these events, performance in all PR5 years would have remained within the target incentive band.
TSO Stakeholder Engagement	Over the PR5 period, performance from this incentive has ranged from 6.6-6.9 out of a maximum possible score of 10. 2025 saw a slight decrease in performance compared with 2024.
TSO Connections - Enduring ECP	In 2021, EirGrid received 86% of this incentive, while in 2022 an upside of 6% was received. The outturn performance for 2023 and 2024 saw the TSO receive an upside of 76% and 72% respectively. The 2025 Outturn incentive/penalty was deferred to 2026 due to timing of offer issuance.
TSO Renewable Dispatch Down	There has been an overall increase in renewable dispatch down over the PR5 period, in line with increased levels of renewables on the system over the same period. In 2025, 10.4% of renewables were dispatched down, compared to 8.8% in 2024.
TSO System Non-Synchronous Penetration	In 2021 EirGrid operated with a 75% System Non-Synchronous Penetration limit for 70% of the calendar year. For the remaining of the PR5 period, EirGrid has had a System Non-Synchronous Penetration limit of 75%. EirGrid has not reached target levels which are set at annual increasing intervals rather than step changes.
TSO Renewable Electricity Sources – Electricity (%)	Performance in 2025 was broadly in line with the previous year for renewable electricity sources - electricity, but EirGrid has not reached the incentive targets set out at the start of PR5. The CRU decided not to implement the RES-E incentive for 2025.
TAO Management of planned outages	Performance against the TAO Management of Planned Outages Incentive has been consistently strong over the PR5 period with the full incentive awarded each year.

Table 5: Key Performance Trends – Non-incentive metrics	
Metric	Performance trends
TAO Operational Expenditure	Steady
Regulatory Transmission Capital Expenditure	Strong upward investment

5. How we performed against transmission delivery incentives

EirGrid and ESB Networks are incentivised against targets set by the CRU for the delivery of the transmission network as detailed in CRU/20/154. These incentive arrangements apply from 2021 to 2025.

5.1 TAO Incentives

Project Delivery Incentive Performance

CRU/20/154 defined a balanced scorecard of incentive measures that applied to TAO investment and project delivery activities during PR5. The performance measures and targets are focused on incentivising activities central to meeting the challenges of the Government's CAP.

The TAO Project Delivery incentive includes both qualitative and quantitative measures, and performance is independently assessed each year by external auditors. The audit report is submitted to CRU to assist in determining the final incentive outturn award. In 2025, CRU awarded an incentive payment of €3.5m to TAO.

Table 6: TAO Project Delivery Incentive Performance

TAO Project Delivery Balanced Scorecard	2021	2022	2023	2024	2025
Incentive award	Full	Full	Full	Full	Full
Incentive value[23]	€3.5m	€3.5m	€3.5m	€3.5m	€3.5m

23 A penalty would be indicated in brackets. There are no penalties in this period.

The four performance measures included in the TAO Project Delivery balanced scorecard are:

1. Project Implementation Plans (PIPs)

A PIP is the committed programme of work agreed between TSO and TAO for a new project. The PIP is the baseline schedule against which the work is planned, and progress is monitored. The target list of projects is agreed annually between TSO and TAO. The TAO's performance is measured by the actual percentage of the target PIPs issued during the calendar year.

2. Customer Project Energisation (EIs)/Connection

The TAO performance is measured by the actual percentage of the target Customer Projects energised/ connected in the calendar year. This includes customer energisation works scheduled in the annual Transmission Outage Programme.

3. Transmission Capex Spend

The TAO performance is measured by the actual percentage of the Budgeted Annual Capital Expenditure (CapEx) spend delivered in the calendar year.

4. Project Delivery Process Improvement

This component is qualitatively audited by independent external auditors and examines the TAO's performance on the quality and rigour of its processes for identifying and implementing efficiencies and improving processes in project delivery.

The Project Delivery Incentive performance for 2025 against the above measures is outlined in Table 7.

The TAO Project Delivery Incentive performance, for the above measures, was verified by external independent audit and following a review, the CRU determined an overall assessment of 'Strong' performance outcome.

Table 7: The Project Delivery Incentive - performance for 2025 against the four performance measures

Item	TAO Project Delivery Measure	2025 Plan[24]	2025 Actual
1	PIPs	33	33
2	Customer Project Energisations	13	13
3	Transmission CapEx Spend[25]	€376	€365
4	Process Improvement	N/A	See below

24 Plan adjusted for items outside the TAO control.
25 Transmission Capex Spend in this table refers to the gross transmission capex spend in 2025. Transmission Capital Expenditure figure of €301m (see table 33) for 2025 is calculated as €365m less Interest During Construction (IDC) of €26m and Customer Contributions of €38m.

5.2 Process Improvements – 2025

In 2025, four key process improvements were implemented within TAO project delivery and independently assessed by auditors:

- Voluntary Outage Management System (VOMS)
- Design & Build Project Delivery Model
- Overhead Line (OHL) Sag Check Improvements
- Protection Upgrade Programme

These initiatives demonstrate a continued focus on improving efficiency, coordination, safety, and delivery outcomes. Independent auditors reviewed the design, implementation, and benefits of each initiative, with a particular focus on their contribution to project delivery and customer outcomes. Overall, performance in this area was assessed as strong, reflecting the quality and impact of the improvements delivered.

Voluntary Outage Management System (VOMS)

A new digital system, the VOMS, was introduced in 2025 to improve how transmission outage requests are created, managed, and shared. The new system replaces a legacy process that had limited functionality and was no longer supported. It provides a streamlined, centralised solution that improves both accessibility and reliability. Key benefits include automated generation of outage requests based on the Transmission Outage Plan, direct sharing of requests with operational teams through secure digital channels, access across devices including mobile, and central storage of outage data to improve continuity. VOMS also creates a foundation for future improvements, such as enhanced tracking, reporting, and integration with collaboration tools, improving efficiency, visibility, and coordination in outage management.

Design & Build (D&B) Project Delivery

TAO continued to expand the use of the D&B model in 2025 for major underground cable projects. Under this approach, a single contractor is responsible for design, construction, and procurement, reducing complexity and improving delivery outcomes. During the year, multiple projects across 110kV, 220kV, and 400kV networks were progressed, and two major projects with a combined value of approximately €100 million were awarded, primarily in the Greater Dublin Area and North Connacht. Key advantages of the D&B model include improved programme certainty and scheduling, reduced delays through better alignment of design and construction, more efficient management of materials, and improved use of internal resources. This approach also supported timely delivery of critical infrastructure and reflects a more efficient and scalable delivery model.

Overhead Line (OHL) Sag Check Improvements

Significant progress was made in modernising the process for measuring OHL sag in 2025. The updated approach introduces a safer and more efficient method and is ready for full rollout following development and testing. The process was validated through trials and benchmarking against previous methods. Key improvements include the ability to carry out sag checks from ground level, reducing the need for climbing, minimising interaction with live infrastructure, simplifying operational requirements and increasing productivity. The new approach enhances safety while allowing significantly more work to be completed per day. With training and materials now in place, full implementation is planned for 2026.

Protection Upgrade Programme

A large-scale programme of protection system upgrades was progressed in 2025 to enhance safety, reliability, and resilience of the transmission network. Originally planned as smaller projects, the programme expanded significantly, requiring a coordinated, programme-based delivery approach. This included prioritised scheduling, improved tracking and monitoring, and close collaboration across design, telecommunications, construction, and commissioning teams. Regular coordination ensured effective resource allocation and clear visibility of progress. This approach enabled faster and more efficient delivery, reduced delays, improved coordination, and better use of outage opportunities. It also strengthened organisational capability and provided valuable learning for future complex programmes.

The process improvements delivered in 2025 represent a strong step forward in modernising project delivery. Across digital systems, delivery models, field operations, and programme management, these initiatives improved efficiency, enhanced safety, strengthened delivery capability, and delivered benefits for electricity customers. Independent assessment confirmed the effectiveness of these measures and supported a strong overall performance rating, providing a solid foundation for continued progress.

5.3 Outage Management Incentive Performance

The TAO outage management incentive is designed to improve the availability of the transmission network by reducing outage durations and providing greater certainty to affected parties on expected start and finish dates. This minimises the potential for deviations from the plan and any associated disruption to schedules. The outage incentive mechanism relates to TAO's ability to meet the 3-week ahead outage plans published on the TSO website. Performance is measured against the number of actual outage days relative to the baseline of the published plans.

TAO endeavours to complete the full scope of planned works within the scheduled days target for all activities such as new installation works, refurbishment, and maintenance activities within the outage window except for situations outside the control of the TAO.

CRU/20/154 sets three performance bands. If actual outage days are less than or equal to the baseline total scheduled days, then the full incentive payment €1m is received. There is no incentive if the actual days exceed the scheduled days and there is a penalty of €1m if the actual days exceeds the scheduled days by 5% or more.

In 2025, there were a total of 9,293 scheduled transmission outage days. The total actual outage days in 2025 was 8,781 outage days at year end. The 2025 planned works were delivered within the incentive outage days target and CRU approved the full outage incentive payment of €1m.

Table 8: TAO incentive performance 2021-2025

TAO incentives	2025 Maximum Reward	2021	2022	2023	2024	2025
Outage Management Performance[26]	+€1m	€1m	€1m	€1m	€1m	€1m

26 A penalty would be indicated as a bracket. There are no penalties in this period.

5.4 TSO and TAO Joint Incentive

The TSO/TAO joint incentive focusses on network project delivery, with an aim of promoting efficiencies through enhanced collaboration.

The TSO/TAO joint incentive is based on a balanced scorecard containing four separate measures as outlined below. The TSO and TAO consult on and submit a 5-year joint incentive plan to CRU annually, outlining targets in each area. Annual performance is assessed by independent external auditors against this balanced scorecard which includes both quantitative and qualitative measures:

1. **Deployment of New Technology**
   This incentive is to ensure that the TSO and TAO actively deploy new technology on the grid and operate effective processes to enable the trialling and piloting of emerging technologies.
2. **Project Initiation to Committed**
   Project Parameters (CPP) Agreed
   This incentive rewards timely project development, measuring from the time that TSO notifies TAO of a new project to the time that the CPP (i.e. outline project scope) is agreed.
3. **Joint Process Improvement**
   This incentive examines the TSO and TAO's performance on the quality and rigour of application of joint processes, as well as joint efforts identifying and implementing efficiencies in project and programme delivery.
4. **Asset and Programme Data Exchange**
   This incentive examines the TSO and TAO's performance on the exchange of information with respect to delivery of transmission network capital investment under the PR5 programme.

CRU2024144 provided direction and guidance to TSO and TAO on the 2025 Balanced Scorecard joint incentives key performance indicators, targets, and the assessment process.

Joint TSO/TAO performance was assessed by independent external auditors against the 2025 balanced scorecard. The audit report was submitted to CRU to assist in determining the final incentive outturn award. For 2025, CRU awarded the full incentive payment to TSO and TAO as outlined in Table 9.

Table 9: TSO and TAO Joint Incentive Balanced Scorecard Framework 2025

	2025 Maximum Reward	2025 incentive award	2025 incentive value
TSO incentive award	+ €0.2 m	Full	€0.2m
TAO incentive award	+ €1.5 m	Full	€1.5m

The joint incentive measures delivered by TSO and TAO in 2025 and assessed during audit are detailed below:

1. Deployment of New Technology in 2025

There were 20 specific targets in 2025 across twelve technologies for OHL, Underground Cables, and Substation technology. The TAO and TSO assessed joint progress in 2025 against planned Deployment of New Technology as strong with multiple milestones achieved across a range of new technologies. In line with CRU2024144 guidance, the TAO and TSO successfully deployed Dynamic Busbar Rating at the Dalton 110 kV substation in 2025. This innovative technology helps maximise the use of existing network infrastructure.

Distributed Temperature Sensing has been approved for deployment as a standard approach going forward for all 220 kV and 400 kV underground cable projects, reflecting its transition into business-as-usual deployment. Trefoil cable installation techniques were also further embedded into standard design practices and extended to 400 kV applications.

In 2025, the TSO and TAO continued to operate a joint New Technology working group which maintains the Technology Toolbox tracker. The tracker utilises an industry standard approach to assigning a Technology Readiness Level (TRL) to each technology. Dynamic Busbar Rating was a new addition to the Technology Toolbox during 2025 including a software upgrade to the Energy Management System (EMS) to enable integration of dynamic ratings for busbars, alongside the analysis of twelve months of operational data from installed sensors, with results indicating strong performance and supporting ongoing deployment.

Further information on TSO and TAO collaboration on new technology is contained in Section 15 ‘Innovation’ of this report.

2. Project Initiation to CPP Agreed

Developing and agreeing the technical scope of works for new transmission infrastructure projects to meet system and customer needs is a critical early-stage project development milestone. The CPP defines the outline project scope and establishes the basis for subsequent project development activities, supporting progression towards a future PA at Gateway 6. It is a complex process involving onsite assessment, outage planning and consultation with a number of internal TSO and TAO teams. Many unknowns exist at this early stage of a project and customer projects can be refused or delayed by planning, environmental or other permissions.

During 2025, the TSO and TAO reached CPP Agreed stage for 25 projects within the 98-day incentive timeline, achieving 100% of the adjusted target of 25 projects, following the application of ex-post adjustments to the original target of 29 projects.

Enhanced collaboration and process improvements are on-going between the TSO, TAO, and stakeholders to mitigate risks and accelerate these processes to ensure as many projects as possible benefit from accelerated early-stage project development. Through diligent planning, effective collaboration, and proactive risk management, this area surpassed expectations, reinforcing a culture of continuous improvement.

3. Joint Process Improvement

This qualitative metric examines the TSO and TAOs performance on the quality and rigour of application of joint processes for identifying and implementing efficiencies in project and programme delivery and other areas of collaboration.

Transmission Outage Plan (TOP) 2025 and beyond

The Transmission Outage Plan coordinates, prioritises and delivers outages which are required to complete system reinforcement, refurbishment, and customer connection projects.
In 2025, the TOP25 planning process incorporated targeted improvements to support more effective delivery of work. During the planning phase, it became evident that certain network regions required enhanced coordination, subsequently dedicated workshops were held in the Midlands and Cork network regions. These workshops enabled ESB Networks and EirGrid stakeholders to collectively review complex outage requirements and agree optimised sequencing of works, maximising delivery within the available power outage windows. While this improved preparation, challenges remained in relation to the energisation of unproven High Voltage (HV) assets, due to the number of parties involved and the complexity of technical reviews. To support this, the pre-energisation processes were formalised and communicated across TSO and TAO organisations, improving clarity and reducing the risk of delays leading to extension of power outages and wider delivery programme impacts. A review and lessons learned exercise from the TOP25 planning process was initiated to inform a proposed new approach to future TOP planning cycles. These efforts aim to further improve the accuracy and efficiency of the process, minimise disruption, and ensure reliable service for customers during essential network upgrades.

Joint Outage Transformation Programme (JOTP)

Improving how outages are planned and managed is essential for speeding up the delivery of new electricity infrastructure and supporting Ireland's CAP. In 2025, EirGrid and ESB Networks continued to grow the JOTP,[27] with a number of key interventions delivered and transitioned into business-as-usual operation. These initiatives have contributed to increasing outage availability, improving efficiency, and enabling the delivery of more projects, including those supporting renewable energy integration. The JOTP includes seven key workstreams and eighteen targeted actions, which focus on areas such as project delivery, system operations, programme management, regulation, policy, and digital integration. The eight JOTP interventions that have been delivered and entered into business as usual (BAU) during 2025 are outlined on the following page in Table 10.

27 Joint Outage Transformation Programme

Table 10: Joint Outage Transformation Programme metrics	
Transmission System	• Take more risks on the power system to maximise outage availability. • Review Operational Security Standards (OSS) move to a probabilistic/ statistical approach • Review OSS (to undertake more splits and tails/radialising)
Programme	• Generate project benefits in a sequenced and prioritised (as required) constrained Network Delivery Profile. • Implement a totally integrated and agreed programme out to 2030. • Technical focus on the minimisation of outages from GW1.
Regulatory	• Enable TAO to capitalise joint outage planning from TSO Gateway GW3 onward.
Customer and Industry	• Engage with all parties in the system and industry to ensure they are all aware of, and comply with, their responsibilities in delivering this programme of work.
Project Delivery (Sub-Interventions)	• Protection failure in service replacement. • Maintenance Stage Substation Control System upgrades

During 2025, a more flexible and risk-based approach to outage planning and operational security was implemented. This included updated OSS and structured risk-based decision-making, with over 80 outages assessed under the new approach since May 2025, all of which successfully proceeded. In parallel, programme-level improvements were delivered through the development of an integrated and prioritised transmission programme to 2030, now embedded as business-as-usual. Enhanced early engagement and joint outage planning from Gateway 3 onwards improved project coordination, reduced delivery risks, and accelerated timelines across multiple projects.

Further benefits were realised through targeted project delivery initiatives, including the in-service replacement of protection equipment and upgrades to substation control systems. These measures delivered measurable efficiencies, including typical savings of 10–15 outage days per protection replacement and approximately 15 days saved per control system upgrade, improving utilisation of available outage windows.

In addition, strengthened engagement across system operators (SOs), asset owners, and industry stakeholders improved outage coordination, programme transparency, and delivery readiness for future outage cycles. Progress continues to be tracked and reported to the CRU to ensure continued improvement.

Transmission Line Assessment (TLA)

The TAO and TSO identified the need to review and enhance the TLA process in 2025 to support the delivery of critical grid infrastructure in line with PR5 objectives. This was driven by the need to meet growing electricity demand, enable renewable energy connections, and support national climate targets, particularly in the context of a significant increase in OHL uprate and refurbishment projects. A joint scoping review was completed, resulting in a revised TLA process that is now being implemented.

In 2025, the revised TLA process progressed to implementation following joint development and approval. Working groups were established across EirGrid and ESB Networks, supported by defined roles and responsibilities, and six key recommendations were identified and incorporated into the updated process. The revised approach is designed to improve efficiency, reduce delivery risks, and support increased project volumes.

Key benefits of the updated TLA process include:

- Improved project readiness through enhanced early-stage project identification, clearer governance, and structured review cycles, enabling better alignment with programme delivery requirements.
- Increased sustainability by embedding sustainability reporting within the associated TLA reports, including quantification of reductions in materials and embodied carbon through asset retention and reduced civil works.
- Enhanced flexibility and innovation through the integration of new technologies and outage reduction methods, including energised works and other delivery approaches developed under JOTP.
- Improved outage management by incorporating outage optimisation measures within the TLA process, reducing reliance on de-energised work and supporting more efficient use of outage windows.
- Stronger risk management through the introduction of a revised asset risk classification methodology, enabling more targeted prioritisation of works and improved planning of delivery programmes.
- Improved lifecycle management through the introduction of lifespan tracking and structured review requirements for TLA reports, ensuring data remains current and fit for purpose.

The updated TLA process has strengthened consistency, transparency, and traceability, supporting more efficient and reliable delivery of OHL uprate and refurbishment projects. The progress made in 2025 was presented to the Network Delivery Committee and formally approved on March 2026, with the revised process now applied across all new TLA activities.

4. Asset and Programme Data Exchange

This incentive is intended to optimise EirGrid and ESB Network's collaboration arrangements for information exchange to support the delivery of transmission network investment.

In 2025, EirGrid and ESB Networks made significant progress through the implementation of the Integrated Transmission Programme, providing a structured and coordinated approach to planning, prioritisation, and reporting of the transmission capital programme to 2030 and beyond. This included the development of a centralised programme with integrated milestones, a multi-year outage study, and a prioritised portfolio aligned to system needs and delivery constraints. These enhancements improved transparency, governance, and coordination, providing a single source of truth for programme data and strengthening delivery forecasting and decision-making.

5.5 TSO and DSO Joint Incentive Performance

The Joint System Operator Programme (JSOP) was established to facilitate collaboration between EirGrid in its role as the TSO and ESB Networks in its role as the Distribution System Operator (DSO) in jointly addressing system and customer needs.

The CRU published an information paper on the 2025 incentives in January 2025, CRU2024144. This information paper contains direction and guidance on the 2025 balanced scorecards targets and the performance assessment process. For this joint incentive, a single balanced scorecard applies for both SOs. The aspects included in the balanced scorecard are outlined in Table 11.

Table 11: TSO and DSO Joint Incentive Balanced Scorecard Framework 2025	
Whole of system approach	The quality of the outputs will be important here. Report against how the actions delivered against the whole of system approach requirement. All project documents should clearly demonstrate the benefits of a whole system approach and how outputs have deepened TSO and DSO collaboration. All planned engagement and formal consultations aimed at soliciting stakeholder input into the TSO-DSO Operating Model should be reported on.
Facilitating new technology and system services	The TSO and DSO must demonstrate how the actions delivered through enhanced collaboration have facilitated the delivery of new technology or removed barriers for existing technology.
Reducing dispatch down of renewable generation	The TSO and DSO must demonstrate the benefits in the collaborative actions in 2025 to target reduced dispatch down/and or curtailment compared to 2024 levels after allowing for the impact. Positive incentive award will require clear evidence to show how the TSO and DSO's collaborative actions will lead to a curtailment reduction. A strong submission will show a clear link to whole system benefits, demonstrating actions that deliver quantifiable outcomes. A number of actions overlap with other incentives, so it will be important to focus on the impact of collaboration.
Addressing security of supply (referred to as 'Secure Future Power System')	The TSO and DSO should clearly demonstrate the collaboration with each other, and any insights gained through collaboration when achieving the actions as set out. The TSO and DSO should document the collaborative steps taken to improve the outcome for market participants.

CRU2024144 states that each aspect of the balanced scorecard will be assessed against the following: quality of the plan and defined actions (20%); quality of implementation of the plan (40%); and effectiveness of the plan and demonstrable impacts (40%).

In 2025, both EirGrid and ESB Networks regularly met and collaborated on a number of shared topics outlined in the 2025 JSOP Multi-Year Plan.[28] This included development of a High-Level Design and next steps for reactive power coordination, trialling initial data exchange systems and processes, agreeing and improving processes for a number of pilots (including Flexibility Pilot of Scale, Dynamic Instruction Sets, and Beat the Peak Business), collaborating on requirements and capabilities for DER visibility, forecasting, controllability, modelling, and performance for system security. The SOs also collaborated on work ongoing to develop solutions and standards to manage the response of LEUs to system faults.

The main area of focus of the JSOP in 2025 continued to be the development of the TSO-DSO Operating Model. Building on the work delivered in 2024 to outline the Operating Model conceptual design, the system operators jointly hosted a virtual briefing webinar in December 2025, aimed at engaging stakeholders in understanding the evolving landscape of electricity production and consumption in Ireland and how the TSO-DSO Operating Model fits into that and will affect them.

The SOs also developed a high-level implementation plan considering the tasks required to deliver this model. This included considerations of a phased implementation approach where some aspects of the Operating Model could be accommodated earlier through operational processes prior to being able to implement the full enduring model through system changes. A view of this was included in the 2025-2029 JSOP Multi-Year Plan for Whole of System Approach.

Following this, the SOs commenced work on detailed design for the Operating Model, including scoping the topics to be considered and holding workshops between the relevant subject matter experts in both SOs to develop the detail of the operating approaches within these topics. These details include design concepts, processes, protocols, and systems that will be required for effective coordination between the TSO and DSO. This work continued into 2025.

The programme allowed for effective and efficient co-ordination between the SOs. Effective governance structures are in place for both the wider JSOP and the specific TSO-DSO Operating Model work. For the JSOP, the Management Liaison Board met monthly to govern the consistent delivery across the whole programme, while for the TSO-DSO Operating Model a structure was established of a Working Group developing the design and a Leadership Group providing oversight and decision-making.

In accordance with the detail in CRU2024144 (the CRU's 2025 Balanced Scorecard Information Paper), the CRU has confirmed a joint 85% incentive award to the TSO and DSO, with an incentive amount of €0.17m to be applied to EirGrid for 2025.

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5.6 TSO Transmission Infrastructure Delivery Incentive Performance

As required by CRU, EirGrid has developed a Balanced Scorecard Framework in order to facilitate an annual assessment on the quality and rigour of its end-to-end processes for investment planning and delivery. CRU/20/154 contains direction and guidance to the TSO on incentives and reporting arrangements for PR5. Section 7.8 of the CRU's decision paper relates specifically to the TSO's IPD.

The CRU's 2025 Balanced Scorecard information paper CRU2024144 provides additional guidance to the TSO on the 2025 IPD incentive framework as set out in Table 12 below:

Table 12: PR5 TSO IPD Incentive Balanced Scorecard Framework 2025

Area	Metric no./type	%	Steps	Strong €0.9m	Acceptable €0.2m	Below acceptable -€0.5m
Investment planning (40%)	Metric 1 Qualitative	10%	Step 1	Demonstrating full assurance	Demonstrating satisfactory assurance	Demonstrating limited/ unsatisfactory assurance
	Metric 2 Qualitative	10%	Step 2			
	Metric 3 Qualitative	20%	Step 3			
Delivery (40%)	Metric 4 Qualitative	20%	Step 4-5			
	Metric 5 Quantitative	20%	Step 6 (TOP)	Greater than 90%	80-90%	Less than 80%
Timeliness (20%)	Metric 6 Quantitative & Qualitative	6.6%	CA	Greater than 90%	80-90%	Less than 80%
	Metric 7 Quantitative & Qualitative	6.6%	PA	Greater than 90%	80-90%	Less than 80%
	Metric 8 Quantitative & Qualitative	6.6%	Cumulative EI	Greater than 90%	80-90%	Less than 80%

The incentive payment is determined by the CRU, informed by an independent audit, and performance is graded as "strong", "acceptable", or "below acceptable". An independent audit was carried out on the balanced scorecard for 2025, and the findings of the audit were submitted to the CRU for their consideration. The incentive payment range is outlined in Table 12 above In line with CRU2024144, the balanced scorecard framework supports both quantitative and qualitative assessment, enabling the CRU to carry out a holistic assessment of performance when determining the final incentive outcome.

For 2025, EirGrid's performance on the aspects outlined in the balanced scorecard above can be summarised as follows:

- Metrics 1-3 (Investment Planning): EirGrid demonstrated a strong performance across steps 1 to 3 in 2025. This was evidenced by the achievement of 60 CAs during the year, surpassing the 2024 total and highlighting sustained momentum across the project portfolio. These projects are distributed across the transmission network and support the connection of renewable energy sources (RES), increased system capacity, and improved network resilience. A total of 43 projects reached PA stage, demonstrating continued momentum in progressing projects through the development lifecycle.
- Metric 4 (Delivery- Steps 4–5): EirGrid demonstrated an acceptable performance in 2025, with approximately 75% of gateway targets achieved across these stages, reflecting the complexity of projects and challenges associated with the consenting process. Metric 5 (Delivery – Step 6, TOP25): EirGrid achieved a Strong performance in 2025, delivering 94.2% of the TOP25 following approved ex-post adjustments, representing an improvement on 2024 performance and aligned with increased CRU performance thresholds. A total of 125 projects requested outages, with 789 outage weeks allocated in the TOP25 baseline programme, and a further 105 outage weeks across 17 additional projects facilitated during the year to maximise delivery.
- Metric 6-8 (Timeliness): EirGrid's timeliness performance in 2025 was mixed across the three sub-metrics. Strong performance was achieved for CAs and PAs (100% against PR5 baseline targets), while cumulative EIs remained below acceptable at 63% in PR5, reflecting ongoing challenges in outage delivery and project completion.

- In addition to the performance in each of the 8 metrics listed in Table 12, EirGrid continued to develop and implement process improvements across the 6-step framework in 2025, with evidence of strengthened governance, enhanced reporting systems, and improved project and stakeholder management processes. These improvements were validated through the independent audit process.

EirGrid's performance against the IPD incentive and associated metrics underwent an independent audit in March 2026, which confirmed EirGrid's assessment of an overall "Acceptable" IPD incentive performance for the 2025 calendar year, with strong performance across key planning and delivery metrics supported by robust governance and process improvements.

5.7 TSO Local Security of Supply Incentive Performance

The CRU highlighted the importance of resolving the local security of supply issues within its PR5 Strategic Objectives. The CRU considered that given the significant forecasted growth in demand in the Greater Dublin Region, constraints in the Dublin Region represent a security of supply risk. CRU/20/154, the CRU's decision on the PR5 regulatory framework, incentives and reporting, introduced the Local Security of Supply (LSoS) incentive the aim of which is for EirGrid to demonstrate progress in addressing and managing key transmission network security of supply/ constraint areas during PR5.

EirGrid submitted the LSoS multi-year plan for 2025–2029 to CRU in October 2024, with the 2025 CRU's balanced scorecard setting out four key areas: Infrastructure, Markets, Operations/ Demand, and Quantification.

The CRU's 2025 balanced scorecard for this incentive is outlined in Table 13.

Table 13: Local Security of Supply Incentive Balanced Scorecard 2025		
Item	Projects / Actions	Required Evidence
Infrastructure		
Stakeholder and Public Engagement	All forums operating consistently and adapting to programme needs	Report on progress against planned engagements, outputs achieved, and assessment of how engagement activities contributed to progressing, accelerating, or de-risking the Dublin Programme
	Dublin Programme Infrastructure Forum quarterly meeting	
	Community Forums meeting quarterly	
	Business Forums meeting quarterly	
	Project-specific engagements aligned to project timelines	
	Quarterly website/FAQ updates	
Planning and Environment	Completion of Declaration of Exempted Development on best-performing cable routes	Evidence of completion and timeliness of exempted development processes Evidence of submission and timeliness of planning applications for non-exempt projects
	Submission of planning applications for non-exempt cable projects	
Major Project Delivery	Delivery of specific milestones for projects in the Greater Dublin area	Report on progress against milestones, including quantification of impacts on resolving local security of supply issues, particularly short circuit issues, and effectiveness of remedial actions

Market		
T-3/T-4 Project Delivery	Delivery of 100 MW capacity	Evidence of outcomes and actions demonstrating timely connection of capacity to the network
Short Circuit Levels in Dublin	Progress investigation of short circuit levels	Publication of guidance and reports outlining the issue, impacts on connections, identified mitigation measures, and timelines for resolution
	Development of mitigation measures and long-term solutions	
Operation		
Operations / Demand	Annual Operations/ Demand report outlining actions and progress	Report clearly identifying and quantifying the impact of actions taken to address local security of supply issues
Quantification		
Quantification	Development of methodology to quantify security of supply issues and impacts	Report outlining methodology and quantified assessment of security of supply issues and effectiveness of implemented actions

EirGrid's performance against the areas set out in the balanced scorecard for 2025 are summarised as follows:

- Project milestones for the 13 projects reported under the major project delivery aspect demonstrated continued progress in 2025, with the majority of milestones completed. Key projects such as Kildare–Meath Grid Reinforcement, East Meath–North Dublin, and Dublin Central BSP advanced through planning approvals and project delivery stages, supporting increased network capacity and resilience in the Dublin region.
- In 2025, the Stakeholder Engagement and Communications Plan continued to play a critical role in the Dublin Programme. Quarterly Infrastructure, Community, and Business Forums, alongside project-specific engagement and regular website updates, supported effective stakeholder coordination, informed decision-making, and reduced delivery risks across the programme.

- EirGrid continued to strengthen its planning and consenting processes to support the timely delivery of critical infrastructure. Planning approvals were secured for key strategic projects, while the exempted development process and ongoing engagement with planning authorities supported the progression of both onshore and offshore elements of major projects. This proactive approach enabled continued advancement of priority infrastructure despite external consenting challenges.
- In 2025, the Grange Castle 110 kV DSO project achieved energisation, delivering approximately 115 MW of flexible thermal generation capacity to the transmission system. This represents a significant contribution to security of supply in the Dublin region, complementing capacity delivered in previous years.
- EirGrid continued to implement targeted measures to support timely delivery of capacity market projects, including enhanced early engagement, improved risk management, and coordination with developers and ESB Networks. These measures strengthened delivery certainty and addressed risks associated with planning, procurement, and commissioning.
- EirGrid progressed actions relating to short circuit levels in Dublin, including the publication of industry guidance and continued engagement with stakeholders on mitigation measures. These actions built on the measures undertaken in 2024 and support the longer-term resolution of short circuit constraints through coordinated infrastructure investment and operational measures.

Based on the 2025 outturn, EirGrid achieved an overall "Acceptable" performance for the LSoS incentive, with approximately 79% of milestones completed.

As per CRU/20/154, 25% of the annual LSoS incentive reward was withheld for assessment at the end of the PR5 period.

Therefore 75% of the incentive reward/ penalty applied annually and the remaining 25% of each years' reward/penalty was at stake at the end of price review period, subject to an end of period assessment.

In accordance with the detail in CRU2024144 (the CRU's 2025 Balanced Scorecard Information Paper), the CRU has confirmed an outturn award of €0.45m be applied for the LSoS annual incentive, and a full outturn award of €1.875m be applied for the LSoS End of PR5 Assessment.

6. How EirGrid performed against strategic incentives

We are in a time of unprecedented change to the electricity system as we move to a low carbon future. EirGrid is at the forefront of guaranteeing that this change is brought about in a timely and cost-effective manner while realising a broad range of benefits for end users and market participants.

We do this by maintaining a safe, secure, and reliable transmission system while integrating an ever-increasing number of renewables. This is supported by our development of a wide variety of innovative projects and the roll out of new system services.

The CRU PR5 Regulatory Framework Reporting and Incentives Decision Paper (CRU/20/154) invited the TSO to propose key performance indicators for its strategic incentive, in the following three areas:

- Facilitating a secure low carbon future;
- Increasing efficiency and protecting consumers; and
- Anticipation of future investments.

EirGrid built on the CRU's three proposed incentive areas above and put forward a number of initiatives for 2025. As per CRU2024144, in 2025, the TSO's performance in relation to this incentive was based on the initiatives set out in Table 14.

Table 14: Strategic Objectives Incentive Balanced Scorecard 2025		
Networks	Detail the Outcome from the TSO's Participation in the 2024 International Transmission Asset Management Survey.	• Report on the outcome of the International Asset Management Survey, including a summary of key takeaways and lessons learned. • Outline an implementation plan of lessons learned that includes benefits of those actions and an implementation timeline.
	Review and Identify Opportunities for Changing from Time Based Maintenance to Condition and Risk Based.	• Report on opportunities identified and include expected benefits and impact on cost savings for the electricity consumers. • Outline a high-level implementation plan and timelines.
	Draft Proposal for an Enduring Renewable Hubs Framework.	• Submission to the CRU of new Enduring Connections Policy 3 (ECP3) early engagement process. • Building on work progressed in 2024, submit a draft proposal to CRU for an enduring Renewable Hubs framework. This should include clear evidence of consultation with industry, and address issues such as financing of contestably built hubs, selection of locations, etc.
	Deliver a Holistic Onshore and Offshore Network Plan Blueprint (Net Zero Network Plan).	• Consult on different approaches to network design cases based on end use electricity. • Publish a Target Transmission Network Design for 2040 and beyond.
	OARP - Progress against OARP Baseline.	• Submission of quarterly business readiness reports and other investment gateway submissions, in line with the CRU's Offshore Revenue Model Decision Paper. • Complete Gate 1 Approval.
	Offshore Phase 2 surveys commence.	• Provide a letter stating that the vessel is currently offshore performing the required surveying tasks for EirGrid. • Provide a list of the surveys programmed and which contractor(s) have been employed, accompanied by the contract time schedule or deliverable milestones showing what it is planned to do and for how long.

Markets	Implement Tranche 1 of the Scheduling & Dispatch Programme which includes Operation of Non-Priority Dispatch Renewables, Energy Storage Power Station, and Improvements to Wind/Solar Dispatchability.	• Changes to the market systems to implement the required Single Electricity Market SEM-22- 009 decision. • Changes to the market systems to allow market participants submit negative Physical Notifications (PNs). • Changes to the dispatch systems to allow for more equitable dispatching of wind/solar.
	Implement Tranche 2 of the Scheduling & Dispatch Programme which includes Fast Frequency Response, Reserve Services Scheduling and Dispatch and Synchronous Condenser Scheduling and Dispatch.	• Update market system to allow to schedule and dispatch the full suite of reserves from new technologies and allow for the scheduling and dispatch of synchronous compensators.
	Publish a recommendations paper to the CRU on the procurement of Long Duration Energy Storage.	• Submit a detailed recommendations paper on Long Duration Energy Storage Market Mechanism to the CRU, outlining proposed definition of long duration energy storage, system need, funding if required and recommendations on how to proceed. • Evidence of consideration/inclusion of stakeholder views and evidence of integrated in the recommendations paper.
	Detailed Requirements for Dispatchable Consumption Unit complete as part of the Strategic Markets Programme (SMP) - Q3 2025.	• Detailed Requirements document signed off by Regulatory Authorities (RAs) and ready for submission to vendors for assessment and for input into modifications drafting.
	Issue a Recommendations Paper on the Procurement Mechanism for Non-Reserve Products to the RAs.	• Carry-out Stakeholder workshops. • Issue the Non-reserves Consultation Paper. • Issue the Non-reserves Recommendations Paper.
	Layered Procurement Framework (LPF) for Future Arrangements for System Services (FASS).	• Complete the 2025 LPF Assessment in line with the High-Level Design requirements, which include the identification and assessment of services/products to procure though the LPF.

Operations	Complete Studies/ Analysis to Inform the Development of a System Strength Policy.	• Summary report of the completed studies/analysis to inform the policy. • The summary report should identify technical scarcities, operational needs and system technical needs and discuss possible challenges/barriers to implementation. • The report should provide specific and actionable recommendation based on the findings, which will inform the implementation plan.
	Develop a Policy and Implementation Roadmap for System Strength.	• Development of high-level milestone plan including projected timelines
	Develop Implementation Plan for Grid Forming Control Technologies.	• Complete all required studies and analysis and produce a summary report which highlights opportunities and challenges for the implementation of grid forming control technologies. • Provide an implementation plan for delivery, including timelines.
	Implementation of Sharing of Maximum Export Capacity (MEC) for Hybrids Underway.[29]	• Provide an implementation plan for delivery, including timelines.
	Submit Recommendations to the CRU for New Grid Code Fault Ride-Through (FRT) Requirements for Demand Facilities.	• Submission of Grid Code Modification for approval. • Submission should include: – Industry Engagement – how the proposed modification addresses specified system issues in short, medium and long term; and – cost benefit analysis.
	Ongoing Monitoring of 80% SNSP Trial and Decision on Implementation as Enduring Operational Policy.	• Carry out and conclude 80% SNSP Trial. • Conduct post-trial analysis and produce final report on the outcomes of the trial, clearly highlighting lessons learned and benefits obtained in terms of reducing the levels of curtailment. • Decision on the implementation of 80% SNSP as Enduring Operational Policy.

EirGrid understands its crucial role in delivering on our climate targets. Our strategic objectives are a vital component of the radical change we will see in the run up to 2030. We will continue to operate and maintain a system, which will see dramatic positive change, as we enter a new era of low carbon, for the benefit of all.

In accordance with the detail in CRU2024144, the CRU confirmed an outturn incentive award be applied for the above incentive for 2025 of €0.26m against a total possible incentive upside of €0.5m.

29 Dependent on CRU decision regarding the sharing of MEC approach, published 15 April 2026

7. How EirGrid manages system performance

In a highly competitive global marketplace, continuity of supply is crucial to attracting inward investment and ensuring economic growth, especially in the technology sector. A changing generation portfolio with increased penetration of variable renewable generation makes it more difficult to maintain current high levels of security of supply. As an island with limited but increasing interconnection, Ireland is leading the way in resolving the complex technical challenges that the integration of high levels of renewable generation presents.

Two of the primary metrics by which a transmission system's performance is measured are System Frequency and System Minutes Lost. These measures are a recognised, robust way of measuring the reliability and quality of supply delivered by an electricity transmission system. Given their importance, EirGrid is incentivised to maintain certain levels for each of these.

For further information see the Ireland Transmission System Performance Report 2025.[30]

7.1 System Frequency (SF)

Frequency must be maintained at the standard level in order to support the stability of the system. If the frequency is not maintained within defined limits, the system will collapse leading to wide-scale power outages. For the Irish transmission grid, the standard for frequency is 50 Hz. This means that at this level load and generation are perfectly balanced. If the system becomes significantly unbalanced, transmission equipment can be damaged. Household devices are also designed to only handle a certain range of frequencies and can be damaged if this range is not maintained.

Ensuring control of the SF is critical and challenging as EirGrid seeks to further increase the level of renewable generation connected to the grid. EirGrid continues to be incentivised to maintain SF within prescribed limits. As per CRU/20/154, the target is to keep SF between 49.9 Hz and 50.1 Hz. In 2025, the SF was operated within the target operating limits of 49.9 Hz and 50.1 Hz for 98.94% of the time. Therefore, EirGrid achieved a partial incentive award of €0.1m.

30 Ireland Transmission System Performance Report 2025

7.2 System Minutes Lost (SML)

SML is an internationally recognised measure of transmission system performance. It measures the severity of each system disturbance relative to the size of the system. By measuring SML EirGrid's performance can be compared against other TSOs.

EirGrid is incentivised to ensure SML remains low. EirGrid has maintained downward pressure on SML through diligent frequency management, developments in generator performance incentivisation and monitoring, and through the transmission system protection upgrade programme. As per CRU/20/154, the SML annual target is 0.75-2.5 for the PR5 period.

In 2025, there were 2.207 SML on the transmission system. 2.153 of these SML were attributed to system disturbances which occurred during Storm Éowyn on 24th January 2025. There were no Under Frequency Load Shedding disturbances in 2025.

In accordance with the detail in CRU/20/154, no incentive/penalty will apply for 2025.

7.3 Renewable Dispatch Down (RDD)

Dispatch-down of renewable energy refers to the amount of renewable energy that is available but cannot be used by the system. The dispatch down percentage is based on the average RDD for the aggregate of both constraints and curtailment (as currently measured) over the 12 months of the calendar year. It is expected that as the energy share of renewables increases, so too will the percentage of renewable generation dispatched down.

The target for 2025, per CRU/20/154, is outlined in Table 15 below. In 2025, 10.4% of renewables were dispatched down.

As a result, in accordance with CRU/20/154, EirGrid received a penalty of €0.3m for 2025. RDD is discussed further in section 16.

Table 15: RDD Incentive

	2025
PR5 upside target	5%
PR5 downside target	7%
TSO 2025 achieved	10.4%

7.4 System Non-Synchronous Penetration (SNSP)

EirGrid has significant obligations to undertake studies and implement relevant policies to help realise the Irish Government's renewable energy targets and objectives. Increasing SNSP is part of the SOEF 1.1 Roadmap and will facilitate higher levels of non-synchronous renewable generation on the system.

EirGrid has a responsibility to enable increased levels of renewable energy generation on the power system while making sure that the system is operated safely and securely. As part of the PR5 Regulatory Framework, the CRU introduced a new annual incentive focused on increasing SNSP operating policy levels. SNSP operating policy sets the maximum allowable level of renewable generation on the power system, referred to as the SNSP limit. A target SNSP operating policy of 85% was set for 2025 by the CRU.

The TSO successfully concluded the 75% SNSP trial in March 2022 and 75% SNSP became enduring operational policy. EirGrid concluded the trial to reduce the Minimum Number of Conventional Units (MUON) constraint from five conventional fossil fuel generators to four in Ireland in March 2024 and transitioned it into enduring policy, further reducing system constraints and enabling greater renewable integration. The MUON constraint relates to the number of large conventional fossil fuel generation units which must be online at a point in time. Following this, the TSO progressed and completed feasibility studies on increasing SNSP limits to 80%. These studies were completed in December 2024 and identified a number of key system risks that require mitigation before the 80% SNSP trial can commence. Progress towards the commencement of the 80% SNSP Trial is currently delayed pending further consideration of the required mitigations associated with these system risks.

Section 16 '*How EirGrid performs relative to comparator TSOs internationally*', highlights how EirGrid is leading the way in both its trialling of higher SNSP limits and in its translation of these increasing limits into operational policy, in comparison to TSOs internationally.

SNSP Operating Policy remained unchanged at 75% in 2025 and as a result, in accordance with the direction in CRU/20/154, the full penalty of €0.3m applied for 2025.

7.5 Renewable Energy Source – Electricity (RES-E)

The CRU has decided not to implement the RES-E incentive for 2025, as stated in CRU2024144 "taking into consideration the TSO's outturn performance against this incentive and the quality of the 2025 multi-year plan, the CRU has decided not to implement the RES-E incentive for 2025."

8. Interconnector Development

Co-financed by the Connecting Europe Facility of the European Union

EirGrid, along with our French counterpart Réseau de Transport d'Électricité (RTE) is continuing the development of the Celtic Interconnector project, a planned subsea HVDC electricity link between Ireland and France.

8.1 Development of the Celtic Interconnector

The Celtic Interconnector will deliver a wide-ranging package of benefits to consumers and businesses in both Ireland and France. It will apply downward pressure on the cost of electricity, enhance Ireland's security of electricity supply, and facilitate our national transition to a low-carbon economy.

The interconnector undersea power cables will reach landfall in Ireland at Claycastle Beach, near Youghal in East Cork. From there underground cables will run inland and continue north of Midleton to the converter station. This is being built at Ballyadam, on part of an IDA-owned site, to the east of Carrigtwohill. The final connection is by underground cable from Ballyadam to a substation on the national grid at Gogganstown.

The Celtic Interconnector Community Forum is made up of local community representatives. It facilitates dialogue between stakeholders with interests in the project and the project team and represents local communities in the design and implementation of the Community Benefit Fund. Celtic Interconnector Community Forum meetings continue to be held on a quarterly basis during the construction phase of the project. The Celtic Interconnector Community Benefit Fund has been established by EirGrid with the overall aim of increasing public and environmental wellbeing in the community and leaving a positive legacy in the communities hosting this grid infrastructure. The fund is released in three phases, when construction begins, mid-way through the project and when the project is energised. Funds for Phase 1 and Phase 2 have already been awarded to local community projects. More information on the Celtic Interconnector Community Benefit Fund can be found here.

During 2025, works continued in East Cork. The trenching and installation of ducting to carry the HVDC cable on the route from Claycastle Beach to the converter station in Ballyadam was completed. At the landfall, the cofferdam was removed and the beach returned to its former state for public use. Underground cable works are substantially complete with works ongoing on the underground cable works from Youghal to Ballyadam, with cable pulling and jointing in progress. In addition, the first section of marine cable laying was completed during 2025. All four transformers had been successfully installed at Ballyadam converter station. The transformers ensure the voltage levels at the converter station are matched to the transmission system voltages to allow the connection of the interconnector to the grid.

As a European Project of Common Interest, EirGrid and RTE maintain a dedicated project website www.celticinterconnector.eu. Full details on the ongoing activities of the project are published on the website which is available in both English and French.

For up-to-date information please see the EirGrid website that is updated regularly here.

Co-financed by the Connecting Europe Facility of the European Union

8.2 Development of the Greenlink Interconnector

The Greenlink Interconnector is an underground electricity interconnector cable between the electricity grids in Ireland and Great Britain, with a capacity of 504 MW, constructed by Greenlink Interconnector Limited. The project transfers electricity via submarine and underground cables over 190 km between the Great Island 220 kV Station in County Wexford and the Pembroke Station in Wales. The interconnector power cables reach landfall in Ireland at Baginbun Beach, near Ramstown in South Wexford. From there, underground cables connect via Campile Converter Station to the Great Island 220kV Station.

This project brings significant benefits on both sides of the Irish Sea, Ireland and Wales, for the integration of low carbon energy sources. This project provides Ireland with a link to the EU and the Nordic electricity markets via Great Britain. EirGrid and ESB Networks facilitated the connection into Great Island 220 kV Station.

Construction & Commissioning of the Greenlink Interconnector has been completed and the interconnector has been in commercial operation since January 2025.

9. How we ensure network resilience

EirGrid designs and plans the transmission network in accordance with the Transmission System Security and Planning Standards[31] and operates it in accordance with the Operating Security Standards[32] while ESB Networks constructs and maintains the transmission network on the ground.

As the transmission network is vital to the supply of electricity for all customers and end users, these standards are critical to ensuring that the transmission network is designed in a way which guarantees this in a safe, secure and robust manner. The operation of the grid once in place is supported and underpinned by robust policies and procedures both in our control centres and on the ground.

On-going transmission system maintenance is crucial to ensuring the resilience of the network.

The Asset Maintenance Policy is kept under review to ensure that it continues to meet the requirements of the system and best international practice. The most up to date Guide to Transmission Equipment Maintenance can be found on the EirGrid website here.

The transmission network contains a large number of OHLs, cables and substations distributed across the country and at customer's installations. Transmission maintenance work requires a wide range and high volume of complex maintenance tasks to be undertaken annually. EirGrid and ESB Networks agree an annual maintenance programme based on the applicable Transmission Maintenance policies and standards. ESB Networks delivers the transmission maintenance programme utilising teams of highly skilled technicians and specialists distributed nationally. The maintenance expenditure in 2025 was €31.8m (including both planned and fault maintenance). ESB Networks delivers transmission maintenance efficiently and to a high standard contributing to the health, performance, life and resilience of the transmission system. There is some flexibility in scheduling maintenance within the year, or from year to year.

EirGrid and ESB Networks report and manage the maintenance work programme actively and dynamically, based on criticality, on an on-going basis. The ability to deliver the full maintenance work programme is affected by the availability of outages; interdependencies with capital project works; weather and other unplanned maintenance or faults arising; additional work or materials requirements identified following inspection; and a wide range of other issues.

31 EirGrid Transmission System Security and Planning Standards | eirgrid.ie
32 Operating Security Standards | eirgrid.ie

A resilient network requires prioritisation of maintenance work to ensure that the most important maintenance is completed first. ESB Networks has a Prioritised Maintenance Process that involves the analysis of data and, working with EirGrid, takes account of the outages required to complete the necessary remedial actions. This ensures we address high risk issues, and that network safety/ resilience driven work is prioritised.

Throughout 2025, EirGrid and ESB Networks continued to work closely to ensure the resilience of the transmission network through a combination of robust planning, proactive maintenance, and coordinated outage management. As the volume and complexity of transmission infrastructure projects increase, maintaining a resilient network requires not only effective asset maintenance but also strategic planning of outages to support both operational reliability and long-term system development.

A key enabler of resilience in 2025 was the continued implementation of JOTP. As mentioned in *Section 5: How we performed against transmission delivery incentives*, this programme, jointly led by EirGrid and ESB Networks, delivered several important interventions during the year that have now transitioned into BAU. These included the introduction of energised mast foundation works, early-stage project engagement processes, and a new brownfield substation policy. These measures have improved the efficiency and coordination of outage planning, directly contributing to enhanced network resilience.

Co-ordinated outage planning is another core requirement to ensuring network reliance on a day-to-day and week-to-week basis. The ability of the system to meet demand, even where generation or system assets are unavailable, is carefully monitored and planned for. The All-Island Generation Outage Plan ensures co-ordination of planned outages when power stations will not be available due to maintenance or other reasons. The plan takes into account security of supply in Ireland, as well as economic operation of the power system, and the maintenance/ resource needs of generators.

The All-Island Generation Outage Plan is published in September each year. During the year, the plan for that year is updated on a daily basis, or as necessary. Details regarding the All-Island Generation Outage Plans can be found on the Single Electricity Market Operator (SEMO) website here. Generators can send outage requests to EirGrid using the Generator Outage request form on EirGrid's website here.

Transmission Outages involve planned times when lines, cables and substations will be maintained and not in service. It also involves times when plant testing, connection of new plant and decommissioning of old plant is carried out. The annual TOP includes all outages of transmission infrastructure which are planned to occur in the year.

The outturn delivery percentage of planned outage-related capital works and EIs is reported with reference to the annual TOP. In 2025, the TOP delivery percentage was 94.2%.

There are a number of risk factors that impact on the ability to deliver investment and maintenance work programmes at this scale. These generally fall into one of the following seven categories; the consenting process and legal matters, technical complexity, resourcing and global supply chain constraints, public and stakeholder challenges, land accessibility and affordability, as well as issues arising on third-party customer projects and outage risks.

The CRU introduced Short Notice Outage Adjustment Mechanism (SNOAM) provisions, providing for the reduction of the duration of planned outages at short notice. In March 2020, the CRU published an information paper CRU/20/038 containing further details of this mechanism. In 2025, the SNOAM provisions were not employed in relation to any outages.

Further Information on the TOP can be found here.

9.1 Network resilience in an ever-changing system

One of the biggest challenges is maintaining network resilience in an increasingly diverse and complex power system with ever increasing levels of renewable generation.

EirGrid's SOEF 1.1 Roadmap[33] seeks to address this issue.

With the SOEF programme, EirGrid continues to aim toward 95% SNSP in 2030 and studies are ongoing to investigate mitigating measures needed to commence an 80% SNSP trial. Further details on this can be found in section 7 and section 11.

It is also important to optimise the delivery of maintenance on the transmission system in order to enhance its resilience. In 2025, critical maintenance plans were again incorporated earlier in the transmission outage planning process giving higher priority to critical maintenance considerations in developing the outage plans and schedules. The JOTP between the TAO and TSO is another programme progressed in 2025 that is aimed at optimising the outage process and is covered in section 5.

9.2 Network resilience in action

In 2025, there were a number of incidents where it was required to manage interruptions to the network and maintain its resilience, ensuring that a constant, safe and secure supply of electricity was always available.

Seven loss of load events occurred in 2025:

- On 24 January at 02:30, Dallow-Shannonbridge-Stonestown 110kV circuit tripped for a two phase to earth fault during storm Éowyn. The fault cleared in approximately 60ms. An interruption to end-users occurred, resulting in 0.540339 SML.
- On 24 January at 03:33, Cashla-Shannonbridge-Somerset 110kV circuit tripped for a two phase to earth fault during storm Éowyn. The fault cleared in approximately 60ms. An interruption to end-users occurred, resulting in 0.822709 SML.
- On 24 January at 04:40, Booltaigh-Moneypoint-Tullabrack 110kV circuit tripped for a two phase to earth fault during storm Éowyn. The fault cleared in approximately 60ms. An interruption to end-users occurred, resulting in 0.243028 SML.
- On 24 January at 05:07, Bellacorick-Castlebar 110kV circuit tripped for a single phase to earth fault during storm Éowyn. The fault cleared in approximately 60ms. An interruption to end-users occurred, resulting in 0.398904 SML.
- On 24 January at 06:25, Bellacorick-Moy 110kV circuit tripped for a single phase to earth fault during storm Éowyn. The fault cleared in approximately 60ms. An interruption to end-users occurred, resulting in 0.148406 SML.
- On 20 May at 21:13, Cathaleen's Fall-Corraclassy 110kV circuit tripped for a Three phase to earth fault due to lightning. The fault cleared in approximately 60ms. Simultaneous to the fault on Cathaleen's Fall - Corraclassy 110 kV circuit, GRL200 impedance function in Srananagh on Cathaleen's Fall 1 (ONE) cubicle mal-operated and tripped Cathaleen's Fall 1 (ONE) 110kV CB in Srananagh 110kV station. This resulted in Islanding Donegal region until the reclosing of, Cathaleen's Fall - Corraclassy 110 kV circuit. Load was disconnected due to under frequency tripping. At 21:14 hours Cathaleen's Fall 1 (ONE) 110kV CB in Srananagh 110kV station was energized by National Control Centre (NCC). An interruption to end-users occurred, resulting in 0.045255 SML.
- On 20 June at 03:23, Charleville-Mallow 110kV circuit tripped and reclosed only at Charleville for a Three phase to earth fault due to lightning. The fault cleared in approximately 45ms. Reclosing was off in Mallow as per VO 12-25-25 on Kilbarry-Mallow 110kV circuit. An interruption to end-users occurred, resulting in 0.008247 SML. Charleville CB in Mallow remotely closed by NCC at 03:27 hours.

Winter 2024-25 saw significant storm activity, including Storm Éowyn, which was one of the most severe storms in recent history. A System Alert was issued by EirGrid in response to a red weather warning for Storm Éowyn on 24 January 2025.

Ensuring transmission assets are resilient to climate change has required greater focus with stakeholder engagement necessary to identify the latest projections and climate risks. ESB Networks continues to engage with the Office of Public Works on their climate models and flood maps to identify climate risks on the transmission network. In 2025, working with the DCEE, ESB Networks inputted into the 2025 Electricity and Gas Networks Climate Change Sectorial Adaptation Plan and are a member of the Steering Group responsible for its implementation over the next 5 years.

Please refer to Section 12 of the IPD for further details on EirGrid's proposed climate adaptation measures relevant to the transmission system.

9.3 Power System Emergency Communications Plan

EirGrid has worked with DCEE and the Government Information Service to establish and exercise the Energy Emergency Communications subgroup, which is activated under the National Emergency Coordination Group (NECG) in the event of a national emergency.

In 2025, EirGrid led two energy sector exercises with Gas Networks Ireland, ESB Networks, DCEE, CRU, and the National Cyber Security Centre. These exercises are vital in supporting Ireland's risk preparedness and emergency planning.

In addition, EirGrid supported DCEE in the planning and design of a NECG exercise (along with all government sector departments) in November 2025.

10. How EirGrid manages network constraints

EirGrid implements system operational constraints, in conjunction with SONI, the TSO of Northern Ireland, in order to maintain acceptable levels of system stability and voltage levels to enable efficient and secure operation of the power system. More information can be found in the Operational Constraints Update, which is published weekly on the SEMO Website.

There is an annual process in place whereby all operational constraints are reviewed at the beginning of the business year. Based on inputs from various teams across EirGrid and a review of the weekly Operational Constraints Update, the specific operational constraints to be reviewed are selected and subsequently analysed. A review of operational constraints is also carried out if there have been significant network changes made to a particular area of the transmission system, connection of significant generation in an area of the transmission system, or closure of significant generation in an area of the transmission system. EirGrid can confirm that all Operational Constraint Update reports for 2025 were published in a timely manner and are publicly available here.

Short-term management of network constraints is carried out by Control Centre Engineers through the use of specialist software tools. Information is provided to the NCC to ensure that the most cost-effective action is taken. The most effective measure of performance in managing constraints is action taken to reduce constraint costs. *How EirGrid manages constraint costs* is discussed further in Section 11.

10.1 Information on 2025 Curtailment Volumes

Curtailment refers to the dispatch-down of wind/solar for system-wide reasons (where the reduction of any or all wind/solar generators would alleviate the problem). There are different types of system security limits that necessitate curtailment including:

1. **System stability requirements (synchronous inertia, dynamic and transient stability)** - To ensure the frequency stability of the power system, a minimum level of inertia is required to counteract sudden changes in generation or demand. Currently, this is managed by the MUON operational constraint, which requires a specific number of large synchronous conventional units to operate at all times. During periods of high renewable output, these units displace wind and solar generation to ensure that sufficient inertia and dynamic stability are maintained. Additional information on plans to reduce the MUON constraint can be found in section 7.
2. **Operating reserve requirements, including negative reserve** - When conventional units are running to provide operating reserve or system services, they may have to operate above their minimum stable output in order to be technically able to provide the service. If the demand is low and renewable generation is high, these units may have to be run at higher outputs which necessitates the dispatch-down of renewables to maintain the system balance.
3. **Voltage control requirements** - Voltage control is a locational stability requirement that often necessitates the dispatch of conventional generation in specific areas to maintain voltage within acceptable ranges. This can drive curtailment even when system-wide inertia is sufficient, as specific local units must be kept on, reducing the available capacity for renewables elsewhere on the grid.
4. **SNSP limit** - The SNSP limit is a key operational metric that represents the maximum percentage of demand that can be met by non-synchronous generation (wind, solar, HVDC interconnectors) at any one time. More information on increasing SNSP limits can be found in Section 7.4.

Each curtailment action is categorised into one of three corresponding reason codes applied by the control room:

- **High Frequency/Minimum Generation:** Used when attempting to alleviate an emergency high frequency event or in order to facilitate the minimum level of conventional generation on the system to satisfy reserve requirements, priority dispatch or to provide ramping capabilities. High Frequency/Minimum Generation curtailment accounted for 4% of Ireland's total available wind energy and 5.2% of Ireland's total available solar energy in 2025.
- **SNSP Issue**: Used to reduce the System Non-Synchronous Penetration. SNSP accounted for 0.7% of Ireland's total available wind energy and 2.0% of Ireland's total available solar energy in 2025.
- **ROCOF/Inertia**: Used when the Rate of Change of Frequency (ROCOF) value for the loss of the largest single infeed is unacceptably high and wind/solar must be dispatched down as a result or when the system inertia is too low. ROCOF/Inertia accounted for 0% of Ireland's total available wind energy and 0% of Ireland's total available solar energy in 2025.

Table 16 below shows a breakdown of Curtailment volumes for wind and solar in Ireland. There was no curtailment of solar generation in 2021 and 2022 as there was no transmission-connected solar generation until 2023.

Table 16: Renewable Curtailment Volumes

Year	Wind Curtailment Volumes (MWh)	Solar Curtailment Volumes (MWh)
2025	613,657	89,272
2024	627,440	32,006
2023	594,595	9,548
2022	412,827	N/A
2021	291,412	N/A

The level of dispatch-down is affected by a number of factors which vary from year to year, such as the amount of wind and solar connected to the system, system demand, interconnector imports and the capacity factor[34] of renewable generation. The capacity factor of wind farms was 24% in 2025.

In recent years, significant capital works have been undertaken to upgrade the transmission system to allow more wind and solar generation to be exported on to the power system. Every year a range of planned transmission outages are undertaken which at times will increase constraints. Increasingly complex operational switching was performed in 2025 to maximise renewable output wherever possible across the transmission system.

For more information related to Constraints and Curtailment, please refer to the Annual Renewable Energy Constraint and Curtailment Report 2025.

Cost of Renewable (Wind & Solar) Constraint and Curtailment

When a renewable generator (wind or solar) is required to be dispatched down for localised system security concerns (constraint) or as a result of system-wide issues (curtailment), they may be due compensation. At present, under the Single Electricity Market (SEM) arrangements renewable generation is compensated when constrained only. The SEM Committee decision SEM/22/009, which pertains to the implementation of Article 13(7) of Regulation (EU) 2019 / 943, is subject to a judicial review (JR) process in Ireland. The outcome of this process may change how units are compensated for both constraint and curtailment in the SEM.

Without prejudice to the outcome of those proceedings, EirGrid has set out below an estimate of the potential costs of constraint and curtailment in Ireland in each relevant calendar year should the compensatory arrangements change, based on a number of assumptions that have been discussed with the CRU and the SEM RAs. The table reflects when the estimated potential costs arose as opposed to when the costs may be paid out. All figures will be reviewed and confirmed following the outcome of that legal process and full and final settlement of any monies owing. As such, the figures should be treated as high-level estimates only.

34 The capacity factor is the amount of energy produced (MW output) relative to the theoretical maximum that could have been produced if the generator operated at full capacity. Therefore, it represents the generation's average output.

Table 17: Estimated cost of compensation to renewable generators (constraint & curtailment)				
	Potential Costs pending outcome of JR and final methodology		Actual Paid Out	
Ireland Only	Curtailment Estimated Cost €M	Constraint Estimated Cost €M	Constraint Actual Costs Paid €M	Total Estimated Cost €M
2020	€31	€35	€4	**€71**
2021	€15	€37	€19	**€71**
2022	€24	€43	€28	**€95**
2023	€37	€33	€19	**€90**
2024	€45	€40	€20	**€106**
2025	€49	€65	€32	**€146**

It is important to note that the figures set out above reflect the estimated potential cost of compensation to the renewable generators only. The figures do not include an estimate of the potential costs of compensation due to the alternative least cost generation source(s) required to replace the energy that has been dispatched down, if applicable. EirGrid will continue to engage with the CRU to determine a suitable approximation methodology for such costs, if applicable.

It is noted that the CRU and the SEM RAs have provided in tariffs for the recovery of funds to meet any potential liability without prejudice to the ongoing judicial review process. No payments will be made until the legal process is finally concluded and there is a regulatory approved calculation methodology and payment mechanism in place. All monies recovered are ringfenced for this specific purpose.

11. How EirGrid manages constraint costs

Sometimes EirGrid will have to dispatch or call in some power generators differently from the market schedule in order to ensure security of supply to end users and market participants. This is because of the technical realities of operating a dynamic and fast–changing power system, such as preventing overloads or maintaining enough generation reserve.

Where power stations are run differently from the market schedule, it is termed 'constraint'. Generators are kept financially neutral with the original market schedule and the cost associated with doing this is the constraint cost.

Constraint costs are the most significant part of dispatch balancing costs. Dispatch means the sending of instructions from the EirGrid control centre to power generators, demand side units, interconnectors or pumped storage plant about their times, fuel, manner of operation or output. Dispatch balancing costs are a suite of payments that relate to how generators are instructed.

In addition to constraint costs, dispatch balancing costs also include uninstructed imbalance payments and generator testing charges. Constraint costs are an inherent feature of the SEM design. These costs are levied on suppliers through the Imperfections Charge. EirGrid, working with SONI, the TSO in Northern Ireland, is responsible for forecasting and managing dispatch balancing costs. They form part of the imperfections charge which is paid for by market participants.

As part of PR5, the CRU introduced an incentive for Imperfections and Constraints. The aim of the incentive is to promote EirGrid to mitigate and reduce the costs of constraints on the system. The incentive involves EirGrid identifying areas that are related to imperfections costs and putting in place actions to reduce costs.

The CRU published an information paper on the 2025 incentives in January 2025, CRU2024144, which contained direction and guidance on the 2025 Balanced Scorecards targets and the performance assessment process. The information paper outlined how each aspect of the balanced scorecard is assessed against the following: quality of the plan and defined actions (20%); quality of implementation of the plan (40%); and effectiveness of the plan and demonstrable impacts (40%).

The Imperfection and Constraints incentive for 2025 is based on a balanced scorecard containing five key measures, as outlined in Table 18.

Table 18: Imperfections and Constraints Incentive Balanced Scorecard 2025	
Reserve Policy Review and Changes	• TSO to report on the increased use of non-conventional generation and demand resources for reserve provision. • TSO to report on trial of enhanced use of non-conventional generation and demand resources for reserve provision. • Reports should include information on how the TSO plans to increase the use of non-conventional generation and demand resources, specify the levels of these resources, and provide clear implementation timelines for 2025 and beyond. • The report should also update on Reserve Policy Updates (completed or projected timeline).
Transmission Constraint Group (TCG) Review and Roadmap	• Report on the annualised review of thermal and voltage-based TCGs that are constraining the power system and outline what measures the TSO plans to take following the review to alleviate constraints. • Report should include clear and quantitative evidence of what constraints were found (incl. cause of constraint), cost impact, and how they were or will be reduced as part of the TCG review and process. • Report should identify enhancements in the 2025 TCG review compared to 2024.
Inertia	• Report detailing the potential for regional inertia floors, including an analysis of the costs and benefits of potential changes, as well as the possible interaction with other constraints, such as the impact of MUON on inertia floors (or vice versa). • Evidence of commencement of procurement plan for Low Carbon Inertia Service (LCIS) Phase 2. • Evidence should include timelines for the launch of the procurement plan, evaluation criteria of suppliers, and definition of stakeholders. • Development of the Position Paper for Regional Inertia, which should include the methodology used, costs and benefits associated with the plan, and actionable recommendations with estimated timelines.
Imperfections and Constraints Reporting	• Publish four Quarterly Imperfections Cost Reports with clear evidence of imperfection reductions actions, progress on an annual plan and the future improvements that the TSO will make to remove or reduce the cost of each constraint in the next period. • Submit mid-year report to the CRU by the end of March to provide an analysis of imperfections spend for the first 5 months of tariff year and a view of the imperfections spend for the last 7 months of the tariff year. • Detail improvements made by the TSO to imperfection reporting in 2025 and how this is leading to changes in TSO actions to address system constraints. • Report to include detail on all active/removed constraints for 2025, how long each has been in place for and how long each is forecasted to be in place for (report to be in line with CRU guidelines). • The constraints report should also include volume of system services dispatched by the TSO through non-energy actions during 2025 and the associated cost. The report should provide a comparative analysis of performance against 2024.

Reserve Policy Review and Changes

In 2025, the TSO made substantial progress in increasing the contribution of nonconventional resources to system reserve provision, particularly through greater integration of additional BESS, wind, and solar resources through the DS3 System Services framework. This progress was also supported by improvements in operational tools and processes that enabled greater use of Active Power Control and broader reserve procurement from renewable technologies. As outlined above, enhancements to the Scheduling and Dispatch Programme (SDP) (notably SDP_02 and SDP_04), enabled more accurate recognition of the reserve capabilities of battery storage and more consistent and efficient treatment of wind and solar units. Together, these developments demonstrate the TSO's continued efforts to facilitate higher levels of renewable integration. In addition, the establishment of the Day Ahead System Services Auctions (DASSA) framework provides a clear structure to further enable the use of nonconventional generation, with future reserve policy intended to be guided by DASSA outcomes and aligned with evolving operational needs.

Transmission Constraint Group (TCG) Review

The 2025 review identified a number of key TCGs that continue to constrain system operation. In the Dublin region, four TCGs remain in place, comprising both voltage-driven and thermal/load-flow-driven constraints. In addition, a voltage-based TCG is applied to support the 400 kV transmission network.

The review of these constraints commenced in 2025 and remains ongoing. Preliminary studies have shown that the 400 kV TCG may be capable of removal, subject to further validation. The commissioning of the Moneypoint synchronous condenser (MP5) has provided additional reactive power and system strength, significantly reducing the need to maintain synchronous generation for voltage support on the 400 kV network. While this represents a material step forward, further analysis and operational trials are required before this constraint can be formally removed.

In contrast, the Dublin TCGs are expected to remain in place in the near term. These constraints are driven by a combination of voltage stability requirements, system strength needs, and complex power flow conditions in a high-demand region with limited local generation. While full removal is not currently feasible, the review has identified opportunities to refine and adjust these constraints, with the aim of improving operational flexibility and reducing their impact on dispatch.

For a full list of changes to constraints and the full set of constraints that are currently applicable, please see the Weekly Operational Constraints Update report located here.

Inertia

In 2025, the TSO completed an assessment report for potential for regional inertia floors. The report identified and outlined the potential benefits for regional inertia floors as an important development to further strengthen operational security, and outlined the potential cost implications of regional inertia floors. While the TSO recognised the importance of developing regional inertia floors, this work was temporarily paused to allow the TSO to prioritise system security efforts and resources to identifying mitigation measures for addressing and managing the FRT issue.

In 2025, the TSO commenced work on the procurement activities associated with LCIS Phase 2, providing evidence of progress including the indicative procurement timeline, the launch of the procurement plan, the proposed evaluation criteria for suppliers, and the identification of relevant stakeholders.

In addition to this there was significant progress made in improving system inertia through the LCIS Phase 1 procurement, which contracted approximately 45% of the system's current inertia floor requirement, and SDP_06, which seeks to include synchronous condensers more appropriately in scheduling processes, enabling the TSO to optimise its management of inertia on the system going forward.

In accordance with the direction in CRU2024144, the CRU has confirmed an outturn incentive award be applied for this incentive for 2025 of €0.178m against a total possible incentive allowance of €1.5m.

For reference, previous imperfection cost savings due to TSO initiatives and total imperfections spend are shown in Table 19 below.

Table 19: Imperfections Cost Savings and Imperfections Spend

	Cost Saving to Imperfections from TSO Initiative (€m)	Total Imperfections Spend (€m)
2024/25	N/A	632
2023/24	N/A	437
2022/23	1.43	559
2021/22	10.2	512
2020/21	22.44	274

12. How the financial impact of transmission losses on consumers are minimised

When electricity is transported through electricity networks, there are inherent losses, which means that not all of the power generated reaches end users. For example, when electrical currents travel on a network, some energy is dissipated in the form of heat and is "lost" due to the electrical resistance in the network. This occurs on both the transmission and distribution networks, although higher voltages generally reduce losses.

12.1 Treatment of losses in the wholesale market

To ensure that the all-island wholesale market is settled correctly, transmission losses are allocated to generators in Ireland and Northern Ireland (including generators connected to the distribution system), using Transmission Loss Adjustment Factors (TLAFs). TLAFs are only applied to generators so the costs of transmission losses are not directly charged to end consumers.

The TLAFs for the island of Ireland are calculated annually by EirGrid, jointly with SONI in Northern Ireland, and approved jointly by the CRU in Ireland and the Utility Regulator in Northern Ireland. They effectively discount the value of lost generation being produced by individual generators.

The further power must flow through the system from where it is generated to where it is needed, the greater the potential losses. As a result, TLAFs are location specific. The regional TLAFs for 2025 are shown in Figure 4 with green indicating a higher and therefore financially better TLAF. The second map indicates the change in regional TLAFs from 2024. These changes are influenced by yearly dispatch, demand and topology changes.

Such signals provide a commercial incentive for generators to make informed investment decisions concerning their use of the transmission system.

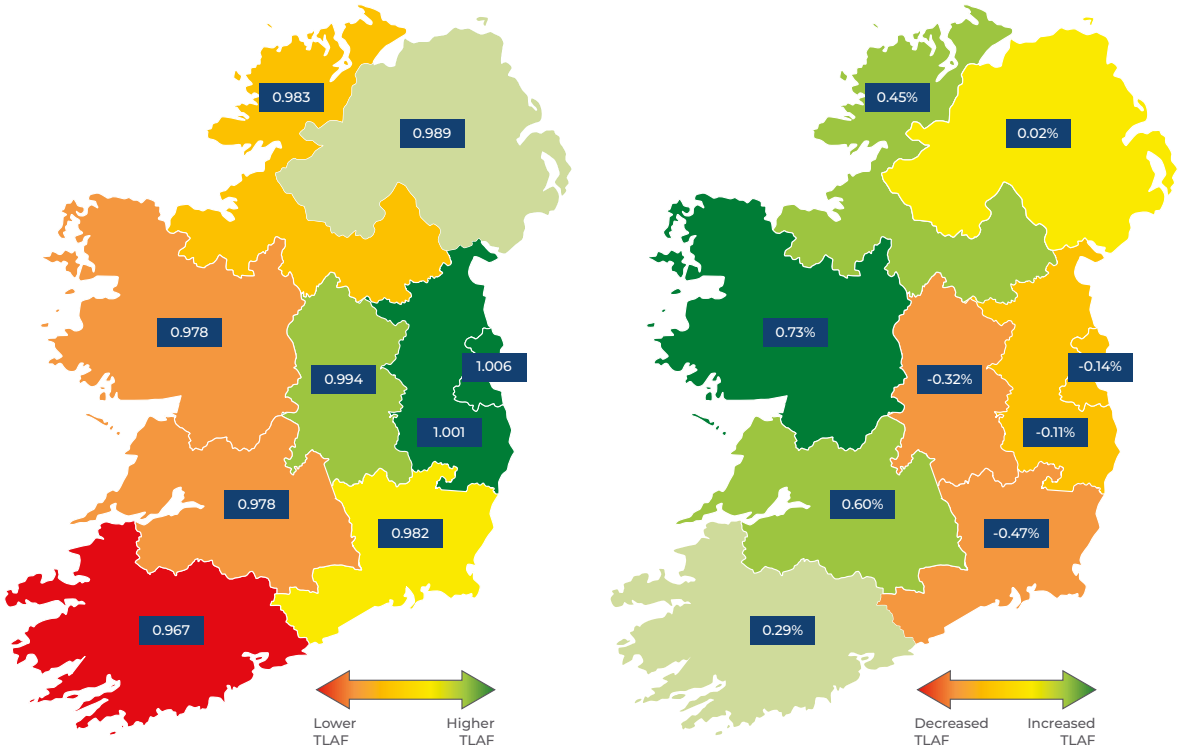


Figure 4: 2025 regional TLAFs % change from 2024 to 2025

TLAFs are designed to provide locational signals to facilitate a more efficient real time dispatch. They are calculated using a forecast annual dispatch based on the latest assumptions for the tariff year ahead (forecast demand, fuel prices, generator outages, etc.). The all-island TLAF average typically sits in the 0.98 to 0.99 band, however, the average TLAFs of individual participants have ranged from, but are not limited to, 0.95 to 1.008 (a range of approx. 5%) in 2025.

Given the possibility for improving real time dispatch efficiency, even if the TLAFs conservatively achieved just a 1% reduction in energy, it would have accounted for a saving in the all-island wholesale energy required of approx. 404GWh in 2025. Using the average Imbalance Settlement Price for 2025 of €121/MWh this would equate to a reduction in all-island costs of around €49m. Further information on TLAFs can be found on EirGrid's website located here.

12.2 Overall Transmission Losses

Total system losses were 1.34% and 1.81% for 2025 and 2024, respectively.

Supporting data can be found in the Table 20 below:

Table 20: Data on transmission losses for 2021 - 2025	
Total Injections in Transmission Network (GWh)	
2021	25,232
2022	24,959
2023	25,891
2024	27,149
2025	28,583
Total Withdrawals from Transmission Network (GWh)	
2021	24,838
2022	24,630
2023	25,631
2024	26,657
2025	28,200
Losses in Transmission Network (GWh)	
2021	394
2022	329
2023	260
2024	492
2025	383
Total System Losses	
2021	1.56%
2022	1.32%
2023	1.00%
2024	1.81%
2025	1.33%

Transmission losses vary between 0.99% and just under 3.96% across European TSOs, as per the Council of European Energy Regulators (CEER) report on Power Losses published in 2025.[35] Irelands transmission losses are below the European average.

Estimated Cost of Losses

At a European level, TSOs are required to monitor and quantify the overall volume of network losses. The CRU has requested that EirGrid include a proxy estimate of the overall financial impact of network loss in this report.[36]

To do so EirGrid has developed a high-level methodology to estimate the cost of losses in each year, based on the weighted average price across the three markets in the SEM, the Day Ahead Market (DAM) price, the Intra Day Ahead price and the Balancing Market (BM) price against the percentage of the market generation seen in those markets. The Average Market Prices and % Market are set out in the table below.

Table 21: Average Market Prices

	DAM		IDA		BM	
Year	Ave. €/GWh	% Market	Ave. €/GWh	% Market	Ave. €/GWh	% Market
2021	€136.07	84.97%	€ 140.08	14.73%	€ 135.31	0.30%
2022	€226.19	84.57%	€ 232.80	13.58%	€ 219.19	1.84%
2023	€121.91	83.43%	€ 125.96	16.52%	€ 119.57	0.05%
2024	€108.91	81.67%	€ 114.35	18.02%	€ 110.16	0.30%
2025	€114.78	79.38%	€114.42	19.99%	€115.90	0.63%

35 CEER Report on Power Losses 2025
36 For clarity, stakeholders should note that cost of loss comparisons across member states/TSOs are not reported at EU level, as such costs are highly sensitive to specific grid configurations and regional market conditions (energy prices in respective markets, etc.).

Based on the above Weighted average price across all three markets – the proxy cost of losses in each year set out below in Table 22.

Table 22: Estimated Cost of Losses

Year	% Losses	Estimate Total €M
2021	1.56%	53.8
2022	1.32%	74.7
2023	1.00%	31.9
2024	1.81%	54.1
2025	1.33%	43.9

12.3 Measures to reduce network losses

The power system is operated in a way that tries to reduce losses. This is done by keeping the voltage near its upper limit, and this helps reduce resistive losses in the network.

The Control Centre 'Voltage Control Policy' provides recommended voltages ranges across various times of the day. The recommended voltages are higher than the nominal voltages which has the effect of reducing losses.

When comparing network reinforcement options in Step 3 of the grid development framework, the relative impact on network losses is assessed as part of the overall appraisal. While losses are considered, they are not a primary driver of network development decisions, which are instead based on ensuring secure and reliable operation, as well as alleviating constraints. Loss outcomes largely reflect the resulting network configuration and dispatch patterns rather than determining them directly.

SOEF and other previous EirGrid publications highlighted the importance of facilitating new generation in areas with available network capacity, for example through locating large demand customers closer to sources of renewable generation. These approaches can reduce the need to transport large volumes of electricity over long distances—often on lower voltage circuits—and thereby help limit transmission losses.

13. How EirGrid supports market operations

In its role as TSO, EirGrid provides critical support in the operation of the SEM.

The market arrangements are designed to integrate the all-island electricity market with European electricity markets, making optimal use of cross border interconnectors, enhancing security of supply, delivering increased competition and further enabling the integration of renewables onto the system.

New market arrangements for the All-Island Single Electricity Market came into operation on 1st October 2018 under the Integrated-Single Electricity Market project. A number of Capacity Market auctions have been held which are central to generation adequacy. New types of capacity such as batteries and flexible generators have entered the market as a result.

EirGrid and SONI are working towards the delivery of the second North South Interconnector. Together with the SEM, this will enable all consumers on the island of Ireland to realise the ambition of maximising the considerable benefits of an all-island electricity system and market.

The second North South Interconnector remains critical to improving the security of electricity supply across the island of Ireland. It resolves an historical and physical constraint on the all-island grid that is vital if the system is to carry more renewables in the future. It will allow for the flow of at least 900MW of renewable electricity across the border, in both directions. This is enough to power 600,000 homes using clean electricity from renewable sources. While the capacity auctions ensure provision of adequacy in the near to medium term, the second North South Interconnector remains essential to ensuring long term security of supply across the island of Ireland.

Demand in Ireland is increasing, and long-term demand is forecast to increase significantly, due to the expected expansion of many LEU's and as the heat and transport sectors move towards electrification.

One of our key responsibilities is providing accurate system demand forecasts. This is a crucial aspect of ensuring generation adequacy and maintaining security of supply. Using a complex modelling system which predicts electricity demand based on changes in economic parameters, and with the support of bodies such as the Economic and Social Research Institute, we ensure that market participants can make informed decisions due to the accuracy of our demand forecasts.

Further details on our work in demand forecasting can be found in the All-Island Resource Adequacy Assessment (AIRAA) 2026-2035.[37]

37 All-Island Resource Adequacy Assessment 2026-2035

The AIRAA looks at the balance between electricity demand and supply on the island of Ireland for the next 10 years. The AIRAA is an evolution of the Generation Capacity Statement (GCS), supported by the CRU, which implementing an updated methodology, is required to represent the evolving power system where the mix of technologies on the system is becoming increasingly diverse with increasing levels of renewable generation, energy storage, demand side flexibility and interconnection. The new methodology ensures our analysis appropriately reflects the contribution from each technology to the reliable operation of the power system.

The AIRAA 2026-2035 report includes data from the 2025 reporting period. In the median scenario, electricity demand is forecasted to increase 40% by 2035 from 2024 levels.

The long-term demand forecast in Ireland continues to be heavily influenced by the expected growth of LEU's, primarily data centres. By 2035, 35% of all electricity demand is expected to come from data centres and new technology loads. Furthermore, there will be new additional load from the heat and transport sectors as they move towards electrification

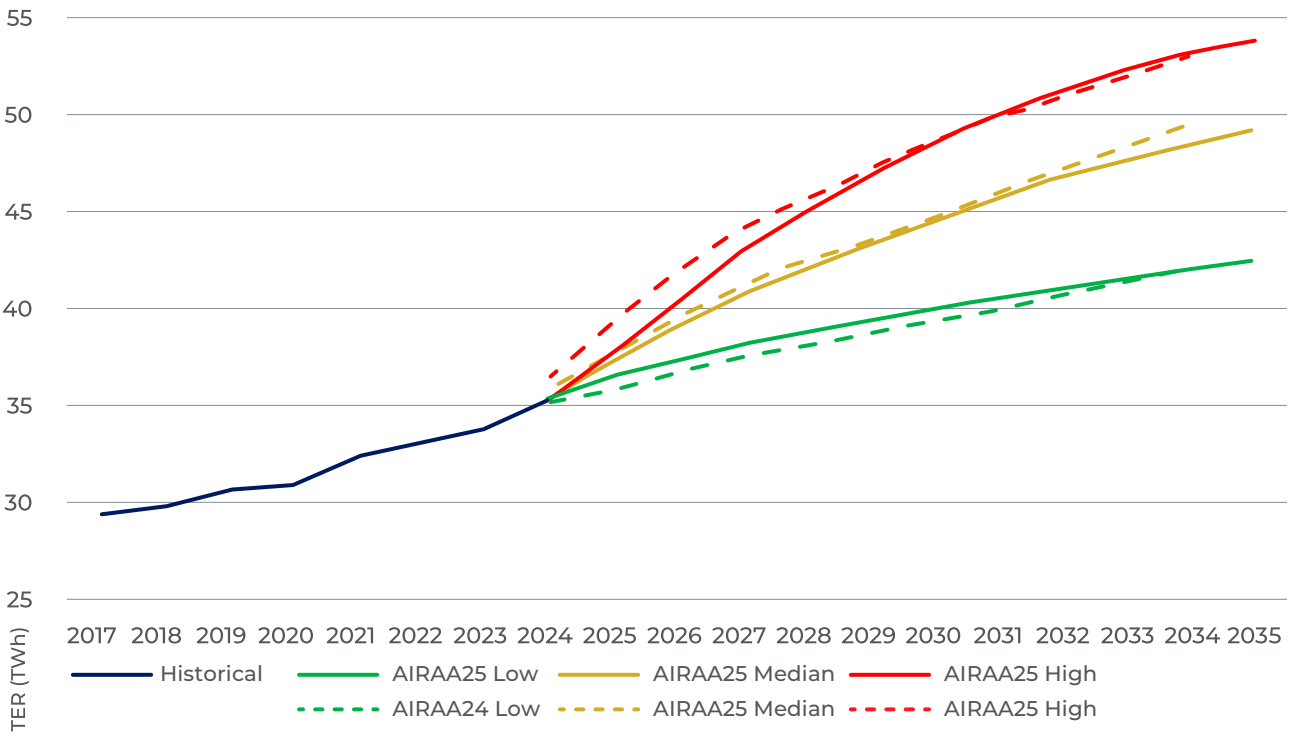


Figure 5: Total electricity requirement forecast for Ireland 2026-2035

13.1 Capacity Auctions

EirGrid, working with SONI, also has a critical role in the operation of the Capacity Market, securing generation capacity to meet the further demand needs of the all-island network. This is achieved through Capacity Auctions.

In May 2025, the TSOs ran a T-1 Capacity Auction for the 2025/2026 Capacity Year (October 2025 to the end of September 2026). The auction secured a total of 502.84MW of Capacity. The auction clearing price was €90,000 per MW per year.

Of the 46 units that qualified to take part in the auction, 30 units submitted offers in to auction. A total of 30 units were successful. From this auction, a total of €48 million of capacity payments will be paid during the period October 2025 to September 2026.

The capacity required from these auctions considered peak demand, security of supply, as well as the reliability and performance of generators, and a range of demand forecasts and interconnection. The final results are available to view in the 2025/2026 T-1 Capacity Market Auction Results Report.[38]

In the event that not all the Awarded Capacity achieves successful completion in the designated timeframes, the SEM Committee may direct the SOs to hold supplementary T-1, T-2 or T-3 auctions in order to procure the additional volume necessary to ensure security of supply.

38 2025/2026 T-1 Capacity Market Auction Results Report

14. How we manage new connections

EirGrid issues connection offers to large scale generators, interconnectors and demand customers, who seek connection to the transmission system in line with connection policy and directions as issued by CRU. This section provides a summary of connections for 2025.

14.1 Connecting generators and interconnectors

Large generators, typically with a capacity of more than 40 MW, connect to the transmission system. Offers are issued to generators seeking connection in line with the regulatory framework set down by the CRU. EirGrid also provides SO connection offers to the DSO so that distribution generation connections can connect to the distribution network and export power onto the transmission system.

Generator types include thermal plants using fossil fuels, hydro, Combined Heat & Power plants, wind and other newer generation types such as solar power or utility scale battery energy storge solutions (BESS).

EirGrid operates the connection process for new generators in close co-operation with ESB Networks, as DSO, and in line with regulatory policy.

The total renewable generation provided to the grid at the end of 2025 was 14,009 GWh which supported 40.7% of the total demand.

When an offer is issued it means that the TSO, or the DSO, has issued a connection offer to an applicant.

This does not mean the offer has at the time been accepted by the applicant. A connection offer which is accepted in one year is also unlikely to impact on connected generation capacity in the same year given the lead times associated with construction. Once a connection agreement is executed, it typically takes several years for the connection to be completed, subject to system outage constraints.

In addition to issuing connection offers for new generation and demand capacity, EirGrid facilitates existing contracted customers in modifying existing connection agreements.

EirGrid also facilitates the connection of interconnectors between the transmission system in Ireland and transmission systems in other countries. Offers are issued to companies seeking to construct an interconnector in line with the rules determined by the CRU.[39]

39 Electricity interconnectors | CRU.ie

Table 23: Offers issued – new and modifications – total in 2025		
	No.	MEC (MW)
New Transmission Generator Connection Offers Issued	33	3,734.3
Modifications to pre-existing Transmission Generator Connection Agreements Issued	20	0
Modifications to pre-existing Interconnector Connection Agreements Issued	0	0
Modifications to pre-existing Autoproducer Connection Agreements Issued	0	0
New Transmission Autoproducer Connection	0	0
Advance Works Package Connection Offers Issued	5	0
Total	**58**	**3,734.3**

When a connection offer is executed, this means that the applicant has signed a connection agreement. The total number of offers executed in 2025 detailed in Table 24 below also includes offers which may have issued prior to 2025 but were executed in 2025.

A list of the currently contracted and connected customers to the Transmission system is located on EirGrid website here.

Table 24: Offers executed – new and modifications – total in 2025		
	No.	MEC (MW)
New Transmission Generator Offers Executed	28	3,414.3
Modifications to pre-existing Transmission Generator Connection Agreements Executed	19	0
Modifications to pre-existing Interconnector Connection Agreements Executed	0	0
Total	**47**	**3,414**

14.2 Connecting Demand Customers

A demand customer is a large commercial or industrial user of power. They can apply to connect to either the transmission or the distribution system. In general, customers who require a power supply of over 20 megavolt-amperes (MVA) connect directly to the transmission system. Table 25 sets out the demand customer offers executed in 2025.

At the end of 2025, there were a total of 32 demand customer sites connected directly to the transmission system. When a connection agreement is executed for a new connection, it typically takes a number of years before it is connected to the transmission system, subject to system outages constraints. This period includes project development, time taken to obtain consents and to construct the connection. There were no new connections of demand customer sites in 2025.

Table 25: Demand offers issued and executed – total in 2025

	No.	MIC (MVA)
New Demand Connection Offers Issued	0	0
Modifications to Demand Connection Offers Issued	5	0
New Demand Connection Offers Executed	0	0
Modifications to Demand Connection Offers Executed	5	0

14.3 Demand Side Units

Demand Side Units (DSUs) do not receive connection offers. A DSU is a single demand site or group of demand sites that can reduce their electricity consumption when instructed by the NCC. These are registered in the market and are offered system services contracts. By the end of 2025, there were 41 DSUs contracted with a total capacity of 718.01 MW.

14.4 Efficiency Improvements in the processing of connection offers and modifications

EirGrid has conducted a lessons-learned review and taken measures to improve efficiencies in its connection offer process in 2025. These include enhancements to its early engagement process with customers, enhancements to its Application Form, and the refinement of a number of its internal processes to reflect the changing customer dynamic. EirGrid continues to explore opportunities to introduce efficiencies into its connection offer process to enable it to facilitate the additional requirements and future uncapped batches under the Renewable Energy Directive (RED III) and the Electricity Connection Policy – Generation and System Services (ECP-GSS-1) Decision (CRU/202410). Some of this work is being co-ordinated via the Accelerating Renewable Electricity Taskforce Connections (ARET) Working Group.

In parallel, the Commission for Regulation of Utilities (CRU) has undertaken a consultation on the Electricity Connection Policy – Generation and System Services (ECPGSS): Charging and Rebating Methodology (CRU/202538), EirGrid's detailed proposal submitted to the CRU in March 2025. The consultation considers potential reforms across key areas including a streamlined charging model, revised rebating arrangements, payment structures, and oversight costs, with the intention of informing a subsequent CRU decision. This work is ongoing, and a series of industry workshops were held in 2025.

14.5 Contestable Delivery projects

Contestable Delivery is the arrangement whereby customers can opt to construct the new network required to connect their facility to the transmission system. This approach has been available to transmission customers since the year 2000 and provides flexibility to customers to manage and control the costs, programme and risks associated with their transmission connection. Customers can still opt for TSO and TAO to quote, manage and construct the new connection infrastructure but Contestable Delivery has become the preferred approach for customers. This has required the TSO and TAO to put multidisciplinary teams and processes in place to support and facilitate the increasing levels of contestably delivered connections.

TSO and TAO work closely together with customers to manage the design review, construction quality monitoring, due diligence, commissioning, and asset transfer processes associated with contestably delivered projects to ensure the connected assets are fit for purpose. This provides the necessary assurance on behalf of TSO, TAO and the electricity customer and gives feedback to industry on issues arising and lessons learned at an early stage in each project's development. Ownership of the new assets transfers to TAO, and then TSO takes over operational control when the new network is energised and becomes part of the transmission system. Six contestably delivered renewable generation projects were connected to the transmission system in 2025. The number of contestably delivered projects is illustrated in Table 26. The total connection capacity was 504 MW. Twelve contestable delivery projects were in design review stage during 2025.

Table 26: Contestably delivered renewable generation projects

	2021	2022	2023	2024	2025
Projects Connected/Energised	5	10	7	18	6
Renewables Generation MW (incl. Battery) – Additional MW Connected*	229 MW (100%)	541 MW (83%)	442 MW (94%)	1745.30 MW (94 %)	504 MW (89.5%)
Number of Projects in Design Review	20	23	39	35	12 (TSO Only)

**The percentage (%) of all additional Renewable MW capacity that was connected via the Contestable Delivery process.*

14.6 Connection Policy Developments 2025

ECP-2 and ECP-GSS

The CRU ECP-2 decision CRU/20/060 published in June 2020, prioritises the issuance of connection offers for large renewable energy projects in the first instance, in line with the CRU strategic priority of delivering sustainable low-carbon solutions with well-regulated networks. Since its introduction, ECP-2 has led to a significant increase in the number of new generation capacity offers issuing.

In April 2023, the CRU issued CRU202326, a direction to hold a fourth ECP-2.4 batch in 2024. The application window for ECP-2.4 closed in November 2023 with batch processing scheduled to take place across 2024 and 2025. Subsequently, in September 2024, CRU issued CRU/2024101, a direction to process a final batch under the existing ECP-2 policy (ECP-2.5). The application window for ECP-2.5, closed in November 2024.

To facilitate the transition to the new connection policy ECPGSS framework, ECP2.5.1 was introduced as a limited, timebound extension of the final ECP2.5 batch, with an application window open from 20 March to 10 April 2025.

In CRU/2024101, the CRU issued a direction to establish the new ECP-GSS. ECP-GSS applies to onshore renewables, conventional generators, storage and other system services technology projects connecting to the electricity system. It does not apply to interconnectors, demand connections, micro-generation, or offshore electricity connections. The first "Batch Closing Deadline" under the new policy was 30 September 2025. Going forward, Batch Closing Deadlines will be on 31 March and 30 September each year.

Following this, the CRU published a Proposed Decision on the ECP-GSS: Pre-Engagement and High-Level Technical Assessment (HLTA) in April 2025,[40] setting out proposed timelines, requirements, fees, and transitional arrangements for the pre-application process under the ECP-GSS framework, which was subsequently finalised in June 2025,[41] establishing the Pre-Engagement and HLTA process as a core component of the ECP-GSS application framework.

40 Proposed Decision on Electricity Connection Policy – Generation & System Services: Pre-engagement and High-Level Technical Assessment
41 Energy Connection Policy - Generation & System Service: Pre-engagement and High-level Technical Assessment

14.7 Data Centre Grid Connections

In November 2021, following public consultation, the CRU published its Direction to the SOs related to Data Centre grid connection processing, CRU/21/124, which directed the SOs to implement a set of additional assessment criteria by which to process data centres applications.

Since the direction, there have been a number of further developments, including the Government Policy Statement on Security of Electricity Supply (November 2021)[42] and The Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy (July 2022).[43] EirGrid has been engaging to date with the CRU, data centre developers and all relevant stakeholders to ensure that data centre applications are processed in line with CRU/21/124 and relevant government and national policy. This engagement has also included EirGrid's response to the CRU's consultation on LEU connection policy, CRU2024001.

The CRU's LEU Connection Policy CRU/2025236, published in December 2025, sets a structured framework for assessing and processing datacentre connection applications. It requires LEUs to meet an 80% renewable electricity target through new renewable generation. In addition, projects must be backed by 100% maximum import capacity (MIC)-equivalent via onsite or proximate dispatchable generation, supporting security of supply and system adequacy.

42 Policy Statement on Security of Electricity Supply
43 Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy Jul 2022

14.8 Security of Supply

Over the 2025 period EirGrid and ESB Networks continued to work closely with the CRU and DCEE to deliver the strategic programme of actions under the CRU's Electricity Security of Supply Programme, as well as security of supply concerns related to FRT of data centres.

The following actions have been implemented regarding system adequacy concerns:

- ESB Generation advanced the necessary consents and works to enable the retention of the units at Moneypoint on heavy fuel oil for the provision of security of supply services. These Retained Existing Units (REUs) exited the market on the 30th June 2025 and became available as non-market units from the 1st July 2025.
- System Margin Outlook reports from July 2025 reflect the potential support that the REUs can provide to the system.[44]
- The Winter Outlook 2025/6: The Loss of Load Expectation (LOLE) in Ireland for the five months of the winter period being studied is 1.1 hours. The LOLE has reduced from 3.6 hours last winter and 21 hours the previous winter. It is inside the 3 hours per year standard.[45]

The following actions have been implemented in relation to FRT of large demand facilities:

- The risk to the power system associated with Demand Customers that are unable to ride through a fault has been set out in the information paper titled "Large Demand Facility Fault Ride Through Issue and Proposed Solutions", published by EirGrid and SONI in November 2025.[46]
- Throughout 2025, EirGrid and ESB Networks continued to engage large demand facilities that are unable to ride through faults.
- A proposed grid modification was developed in 2025 and submitted to the CRU on 31 March 2025.
- Operational measures were developed to address the risk to the power system, including measures outlined in the weekly constraints report.

44 System Margins Outlook Reports
45 EirGrid Winter Outlook Report 2025-26
46 Large Demand Facility Fault Ride Through Issue and Proposed Solutions Information Paper

In addition, a number of initiatives and actions were undertaken across system operations including:

- An Energy Sector Emergency Preparedness cross-organisational Exercise (Exercise Atlantic) was carried out to address joint preparedness for a national blackout and subsequent power system restoration.
- The Power System Restoration Plan and related TSO/DSO procedures were updated.
- The Power System Emergency Communications Plan was updated.
- CRU and EirGrid concluded the second cycle of updating the Risk Preparedness Plan for Ireland (RPP), having considered the European Network of Transmission System Operators for Electricity (ENTSO-E) regional electricity crisis scenarios. The updated RPP was published by the CRU.[47]

14.9 Offshore Grid Connections

Further to the MAP Act 2021 and the Policy Statement on the Framework for Ireland's Offshore Electricity Transmission, enacted in December 2021, the role and remit of EirGrid as TSO was significantly expanded to incorporate new functions related to the development of offshore renewable activity. It provides that EirGrid can own offshore assets in its capacity as TSO. As part of this role, EirGrid is playing a leading part in transitioning our electricity system to accommodate this magnitude of offshore wind onto our grid and into the electricity market.

EirGrid has been given a role in owning and managing offshore wind transmission assets.

Our preparation for this role includes:

- Getting our internal systems and business 'offshore ready' for the ownership and operation of offshore transmission assets through the OARP.
- Arranging for the purchase of transmission infrastructure from private developers in the case of the Phase 1 projects.
- Preparing to construct offshore transmission assets in the case of Powering Up Offshore South Coast.

47 Ireland's Electricity Sector Risk Preparedness Plan

Progress made in 2025

During 2025, EirGrid has continued to work at pace across its entire offshore programme to ensure that it is ready to take on its offshore role.

The Government announced during 2025 that EirGrid would see a significant equity injection to support their work to, amongst other things, expand its electricity transmission infrastructure offshore.

Other key activities that EirGrid has undertaken during 2025 include:

- Submission of response to CRU's draft PR6 determination in October 2025. CRU's final PR6 determination is essential to creating regulatory certainty for the next five years (2026-2030) and determines the allowances for PR6 required to deliver the offshore programme, while at the same time delivering value for the consumer.
- Launch of a new public facing webpage dedicated to the OARP, which includes links to relevant publications to keep stakeholders informed and engaged.
- In December 2025, the CRU published its PR6 Final Determination. EirGrid welcomes this decision, which was a result of extensive engagement between EirGrid and the CRU over the past two years. The determination provides for a new Offshore regulatory framework which will enable EirGrid to advance its offshore activities over the next five-year period (2026-2030). The framework includes challenging stretch targets through incentivisation and EirGrid will work closely with the CRU throughout the PR6 period to ensure the successful implementation of the decision.
- Throughout 2025, EirGrid continued to develop its organisation to ensure it has the necessary people, processes and systems in place to position for successful financing, operation, ownership, and maintenance of Ireland's offshore assets.

Arranging for the purchase of transmission infrastructure from private developers in the case of the Phase 1 projects

In relation to the Phase 1 projects, in 2025 EirGrid made key regulatory submissions to CRU, including related to the Transmission Connection Agreement and Asset Purchase Agreement.

In October 2025, the CRU published its decision on 'General and Functional Specifications' changes for Phase 1 projects whereby only a small number of EirGrid's offshore specifications required further review which was welcome. This decision followed a new process for review by the CRU.

Getting our internal systems and business 'offshore ready' for the ownership and operation of offshore transmission assets through the OARP

The OARP is EirGrid's ambitious and critical business transformation project to ensure that it is ready to own and operate the offshore transmission assets being delivered by Phase 1 Developers and through Powering Up Offshore South Coast.

The OARP is made up of 30 individual programmes which aim to ensure that EirGrid has the necessary capabilities to own, operate and maintain offshore transmission assets.

At the end of 2025, 15 of the 30 OARP capability programmes had reached the first of three governance milestones, namely Stage 1 Scoping. Programmes that have passed Stage 1 Scoping including Warehousing, Knowledge and Information Management, Maintenance and Inspection, Cybersecurity and Health and Safety, amongst others.

Preparing to construct offshore transmission assets in the case of Powering Up Offshore South Coast.

In 2025, a Maritime Usage Licence was awarded to EirGrid to undertake marine surveys related to Tonn Nua. Phase 1 of these surveys commenced in July and have now been completed.

Surveys included comprehensive marine geophysical, metocean and environmental surveys, and intertidal non-intrusive landfall investigations involving geophysical and environmental surveys. An overview of the 2025 marine survey campaign can be found at the link here.

In December 2025, a joint venture between ESB and Ørsted was announced as the winner of the Offshore Renewable Electricity Support Scheme (ORESS) Tonn Nua auction. The ORESS Tonn Nua auction is administered by EirGrid on behalf of DCEE.

15. Innovation

EirGrid and ESB Networks have innovation programmes through which we research, develop and use innovative solutions which help us manage the ever-changing power system. We innovate to bring value to all users of the power system.

Both innovation and research are essential in getting us to where we need to be, enabling solutions to realise sustainable energy benefits. Throughout 2025, EirGrid, together with the Northern Ireland TSO, SONI, have strategically innovated to deliver key projects, such as SOEF and, Tomorrow's Energy Scenarios as well as delivering a number of smaller individual projects that enhance the way we operate.

The publication of the CAP25 reaffirmed Ireland's commitment to halving greenhouse gas emissions by 2030 and achieving climate neutrality by 2050[48]. To achieve these Government-set targets, we need to overcome the natural limitations of many established technological, operations and market practices. The plan's emphasis on accelerating renewable integration, enhancing energy security, and deploying flexible, low-carbon technologies directly relate to EirGrid's directive and informs our innovation priorities.

Our Innovation and Research Strategy is closely aligned with the SOEF roadmap, which outlines the actions required to deliver a secure and decarbonised power system by 2030. The innovation programmes launched and developed in 2025 are designed to advance the SOEF roadmap. There is a need to understand the options and solutions which will work best for the island of Ireland, to ensure we are on the right path to deliver on a cleaner energy future.

EirGrid's collaboration with partners has been, and continues to be, fundamental in delivering innovation programmes. Enhancing these strong relationships, as well as building new ones is vital as we strive to innovate further with our strategic innovation programmes of work. Throughout 2025, progress has been made by EirGrid on various strategic innovation programmes. The 2025 Annual Innovation Report documents progress of EirGrid and SONI on the strategic innovation programmes and points out our ambition for future developments of the programmes and new initiatives.

48 Climate Action Plan 2025 | gov.ie

In 2025, some of the key projects from the strategic innovation programmes included:

- EirGrid completed a project to see if artificial intelligence/machine learning can help determine strategic storage, demand or generation projects. There is ongoing research into whether artificial intelligence/ machine learning can assist in generating energisation instructions.
- There has been progress throughout 2025 on trials of Dynamic Line Rating that will soon progress to trials for Dynamic Power Flow Controllers, demonstrating their potential to ease congestion and maximise existing network capacity.
- EirGrid delivered impactful engagement projects and student competitions, strengthening public participation and awareness of the energy transition and EirGrid's role in society through the completion of CleanerGrid 2024/2025 competition as well as the 'Public engagement on energy transitions in an era of climate crisis' research project.
- Further studies and trials to address system stability at very high renewable penetration, including inertia solutions and integration of emerging technologies have advanced throughout 2025.

Membership of a number of groups, including the Centre for Applied Data Analytics Research, Electric Power Research Institute, Energy Systems Integration Group, ENTSO-E: Research Development and Innovation Committee and Industry Research and Development Group gives EirGrid access to expertise in many different areas as well as wide networks of companies and colleagues in innovation.

The TSO and TAO collaborate on innovation in order to meet the system resilience and capacity challenges within the CAP for the electricity transmission network. The required levels of system security and investment means that new ways of thinking, innovation and collaboration between TSO and TAO is essential.

TAO and TSO continued to meet monthly in 2025 to monitor, progress and collaborate on joint innovation projects. This is in line with the framework agreement on Innovation that sets out how both companies work together to proactively progress viable technology options.

During these joint meetings, a register of new technologies that are under consideration (studies, surveys, trials, etc.) is reviewed for inclusion in the 'technology toolbox'. Progress is measured using an agreed assessment of the TRL.

Key milestones for each technology are planned and monitored. The CRU has linked progress on certain innovation initiatives to the joint annual incentive available to both companies as outlined in *Section 5: 'How we performed against transmission delivery incentives'*.

16. How EirGrid performs relative to comparator TSOs internationally

This section presents a benchmarking assessment of EirGrid's performance relative to the best performing TSOs internationally. Considering the characteristics and challenges particular to the Irish electricity transmission system, the benchmarking results show that EirGrid is overall performing well relative to its comparators. This includes leading the way in integrating intermittent renewables whilst maintaining a resilient system and developing the transmission network.

16.1 Aims and approach

The aims of this assessment were to understand how EirGrid performs relative to other TSOs, to identify best practice and to establish areas for improvement. EirGrid's performance was compared with TSOs in nine OECD jurisdictions over the PR5 period. In some instances, either due to data availability or to understand longer-term trends, we observed data outside this range. The assessment considered performance in established areas of activity, such as the efficient development of the transmission network and maintaining system reliability, as well as newer areas of activity, such as supporting the transition to a low carbon energy system.[49]

The assessment considered performance in three key areas: (i) system reliability and resilience; (ii) facilitating the energy system transition; and (iii) developing the network (see Table 28). These were selected because they correspond to network activities that underpin our key objectives and that have associated Performance Incentives set by the CRU. Facilitating the energy system transition is especially pertinent to analyse, given that it includes activities that are relatively new developments in Ireland and internationally and can provide insights on any innovative steps that are being taken by other TSOs.

This year's report uses the same performance measures and comparator TSOs as last year.

49 Where possible, we sourced data for the assessment from the TSOs or the relevant regulators' websites. Where this was not possible, we sourced data from research papers prepared by internationally recognised research bodies or scientific papers that have been subject to double-blind peer review

While the performance measurements in the scope of the assessment are principally the responsibility of EirGrid as TSO, there are also some dependencies in certain areas with our delivery partners. These include the TAO, ESB Networks, and the DSO, ESB Networks DAC.

Table 27: Selected performance measures and comparator TSOs

	System reliability and resilience	Facilitating the energy system transition	Developing the network
Performance measures	SML Energy Not Supplied (ENS) as a proportion of energy consumed SF deviation	Share of renewables in the generation mix Renewables dispatched down relative to energy share of wind SNSP and other system stability measures	Imperfection costs per capita Connections offers per capita Planned outage days per capita Approving and energising transmission infrastructure
Comparator TSOs[50]	Great Britain (GB) New Zealand Italy Denmark Australia – Tasmania	California Portugal Cyprus Israel	
Rating	• Extent to which performance in TSO control • Data comparability rating • Overall results comparability		

50 From a longlist of OECD jurisdictions, we selected comparator TSOs based on comparability of institutional and regulatory frameworks, as well as on data availability.

16.2 Summary of results

A summary of the results is outlined in Table 28 below. For each area of performance, a performance rating out of three was assigned, which indicates how EirGrid performs relative to the comparator TSOs over the observed timeframe. Each performance rating is an average of the scores assigned to the underlying measures in that area of performance:[51]

A score of 3 indicates that EirGrid is demonstrating consistent best practice among our observed comparators in the observed time period.

A score of 2 indicates that EirGrid is broadly in line with the median performance among our observed comparators in the observed time period.

A score of 1 indicates that observed comparators demonstrate relatively stronger performance than EirGrid in the observed time period.

Table 28: Summary of Benchmarking results

Area of performance	Measure	Results comparability[52]	Performance rating (out of three)
System reliability and resilience	SML	High	 (2.25, relative to 2.5 last year)
	ENS as a proportion of energy consumed	High	
	SF deviation	High	
Energy system transition	Share of renewables in the generation mix	Medium	 (2.5, relative to 2.5 last year)
	Renewables dispatched down relative to energy share of wind	Medium	
	SNSP and other system stability measures	Low	
Network development	Imperfection costs per capita	Medium	 (2.25, relative to 2.25 last year)
	Connection offers per capita	High	
	Planned outage days per capita	Medium	
	Approving and energising transmission infrastructure	Medium	

51 A score of 3 means that, on average across the three performance measures, EirGrid outperformed 75% of TSOs. A score of 2 means that on average EirGrid outperformed 50% of TSOs. A score of 1 means EirGrid on average only outperformed 25% of TSOs at best.

52 The comparability of performance across TSOs is affected by two key factors – data comparability and the influence of external factors. We created a balanced "results comparability rating" of high, medium or low for each measure to capture whether results are comparable across TSOs based on these factors. The performance rating (in the right-hand column) only considers measures with a high or medium results comparability rating. However, measures with a low results comparability rating provided helpful context.

Despite the unique challenges facing the Irish electricity transmission system, EirGrid is performing well relative to comparators. Below, we spotlight key measures from each area of performance, outlining observations on EirGrid's performance and supporting explanatory factors. Finally, we reflect on some of the challenges with comparing the TSO performance internationally.

16.3 System reliability and resilience

Of the TSOs assessed, all have resilient and reliable systems, within which EirGrid has demonstrated relatively strong performance over the period observed.

For SF, the networks used for comparison are Tasmania and GB. Over the observed period, our network has consistently demonstrated resilience (see Figure 6). We maintained frequency within a narrow range of 50 ± 0.1 Hz for 99.67% of recorded intervals in 2020, outperforming GB and Tasmania, where the normal operating frequency bands are wider. Despite marginal reductions in resilience between 2020 and 2022, our performance rebounded in 2023 and again in 2024, surpassing the levels achieved in 2021. In 2025, resilience performance remained strong at 98.84%, broadly consistent with the elevated outturns observed in 2023 and 2024. Ireland continued to outperform comparator networks, remaining above the upper-quartile benchmark and demonstrating sustained resilience despite increasing operational complexity.

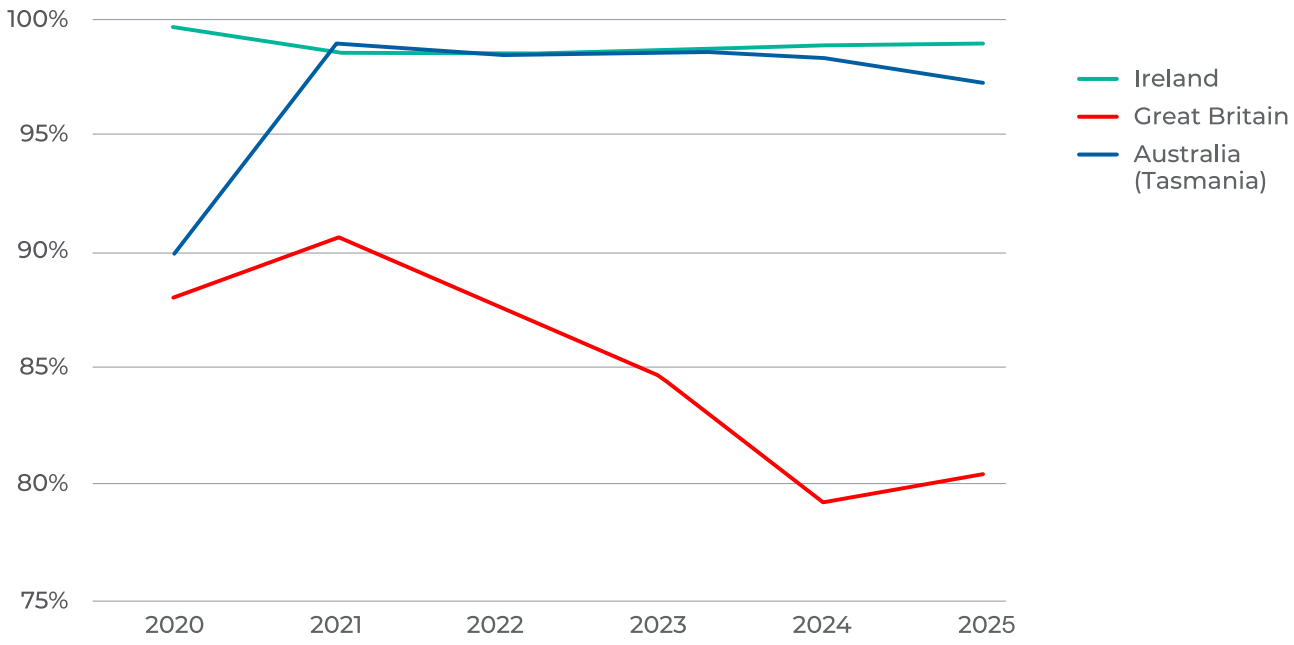


Figure 6: Proportion of time SF sits within 50 ± 0.1 Hz (%), 2020-25

For SML, the networks used for comparison are Tasmania, GB, New Zealand and Portugal. All the comparators observed exhibit a strong degree of network reliability until 2022 (see Figure 7). All comparators demonstrate less than 0.4 SML across 2020-2022, and all but Tasmania demonstrate less than 0.15 SML across the same period.

In 2023, New Zealand and Ireland both exhibited a large increase in SML due to isolated incidents. In New Zealand, this was caused by the impact of Cyclone Gabrielle on a substation.[53] On our own network, SML increased as a result of a single incident on November 25, 2023, caused by a fault at Cunghill 110 kV station in the North Mayo Region. This resulted in an outage on the network, and the consequent interrupted supply was 4.4 of SML. Without this event, SML in 2023 would have shown an improvement on our 2022 performance.

Portugal also saw an increase in its SML in 2023. Of the 240 incidents impacting the National Transmission Network, three (1.3%) affected the electricity supply, causing seven interruptions lasting more than 3 minutes. These interruptions resulted in a total ENS of 2,579.4 megawatt hours (MWh).

In 2024, all comparators demonstrated less than 0.4 SML, and all but Tasmania demonstrated less than 0.15 SML across the same period. The SML in Ireland was narrowly impacted by Storm Darragh which occurred in December 2024.

Ireland's SML rose to 2.207 in 2025, driven almost entirely by a single severe weather event during Storm Éowyn on 24 January 2025. Excluding this incident, SML would have been approximately 0.05, well within historical norms, indicating no underlying deterioration in network performance. Across other jurisdictions, SML outcomes largely remained within historical ranges.

EirGrid maintained frequency within our target bands for **98.84%** of recorded intervals in 2025

53 Transpower FY23 Integrated Report

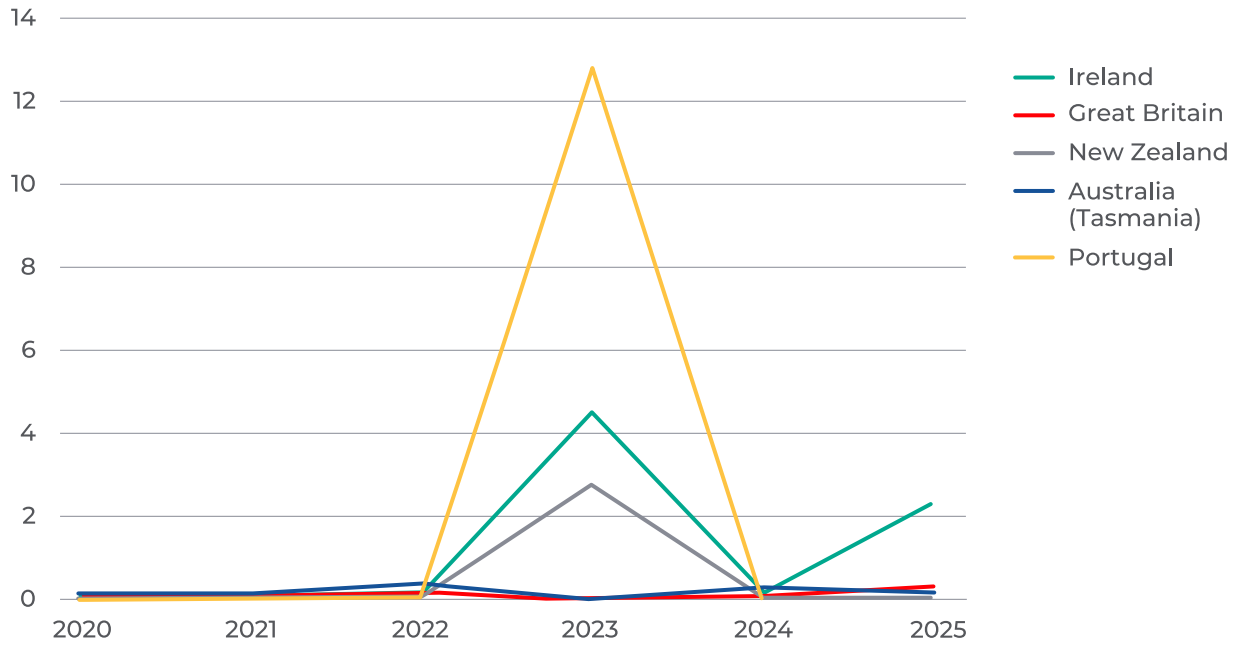


Figure 7: SML 2020 to 2025

For Energy Not Supplied (ENS) outcomes remained low across comparators in 2025. Ireland's ENS increased to 0.000639% (from 0.000043% in 2024), largely attributable to system disturbances arising during Storm Éowyn, as ENS is calculated using SML. Despite this increase, Ireland's ENS remained low in absolute terms and within the range observed across comparator networks, indicating robust underlying network reliability.

In summary, we have exhibited strong SF performance in recent years. With the exception of the isolated incident in 2023 and 2025, we have exhibited strong performance for SML and Energy Not Served over recent years. It will be important that we continue to focus on developing innovative solutions to maintain a reliable and resilient system, as more variable renewables are integrated. This could include accelerating the deployment of energy storage, strengthening integration with European markets through new interconnection (already underway through the Celtic Interconnector, which is under construction), and working more closely with the DSO on measures such as increasing the capacity of demand response on the network and system flexibility.

16.4 Energy system transition

Assessing a TSO's performance in enabling the transition to a net-zero power system while maintaining security and resilience is inherently complex and multifaceted. Performance metrics are highly sensitive to national and regional factors, including the composition of renewable generation on the system, which can limit direct comparability. Nevertheless, benchmarking against comparable TSOs provides a useful barometer of relative performance and offers valuable contextual insights.

When compared to equivalent OECD and non-OECD comparable TSOs, Ireland's overall renewable energy share (40.7%) is superseded by comparator TSO's with significantly higher shares such as New Zealand, Denmark, Portugal & Tasmania, all having shares of renewables above 60%.

Despite Ireland having a lower renewable energy share relative to some comparator TSOs, renewable generation has increased materially over the period. Ireland's renewable energy share rose from 35.0% in 2021 to 40.7% in 2025, representing a sustained upward trajectory despite some year-to-year variability. This progress continues to be driven primarily by wind generation, which has experienced a 19% increase from 2021 to 2025.

Ireland's wind generation increased by **19%** from 2021 to 2025

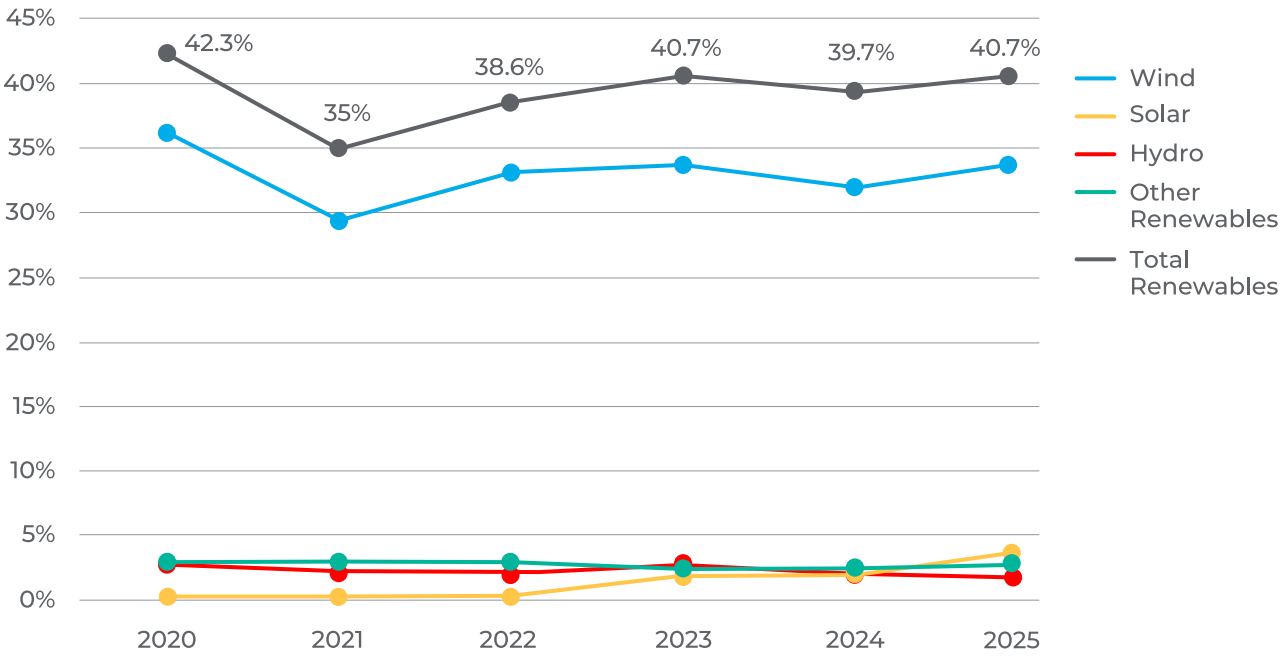


Figure 8: Ireland Energy mix as a percentage of demand (%), 2025

Across the comparator TSOs, Ireland continues to rank second for wind penetration, behind Denmark, which leads at 57.8%, while Ireland recorded a 33.2% wind share in 2025. As shown in Figure 9 below, the results show that Denmark consistently has the highest share of wind based on consumption, and Ireland has the second highest. In 2025, Denmark's wind share comprised 26% onshore and 24% offshore, whilst Ireland's share was all onshore.[54]

To harness the potential of offshore wind energy and achieve RES-E targets, offshore electricity will now become a greater component of our electricity supply over the coming years. EirGrid's role as TSO has been expanded to own and operate the offshore transmission network and we are actively involved in developing the infrastructure needed to integrate offshore wind energy into the national grid.[55]

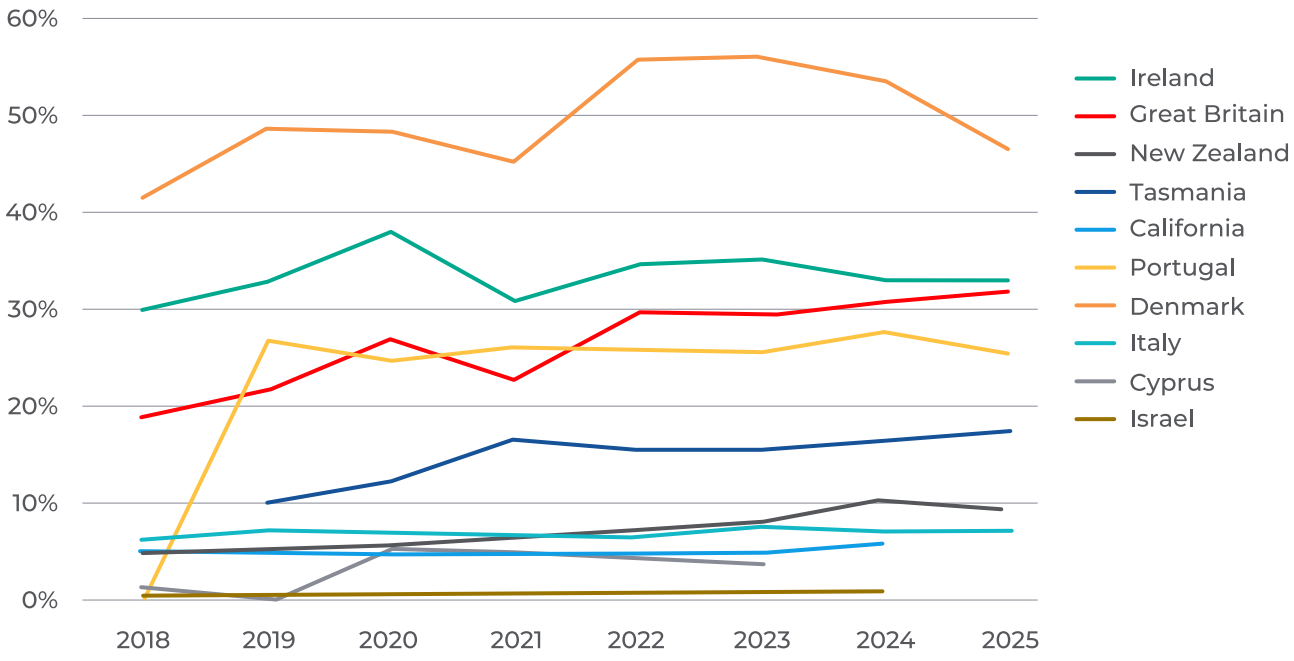


Figure 9: Energy share of wind based on consumption (%), 2018-2025

54 Wind Energy Europe 2025 Statistics and the Outlook for 2026-2030
55 Offshore Energy Future | Projects | EirGrid

EirGrid demonstrates levels of RDD comparable with GB for similar energy shares of wind. While some other TSOs, like Denmark and California, have lower levels of RDD, these jurisdictions have significantly higher interconnection capacity as well as access to a larger synchronous system containing jurisdictions with relatively low penetration of intermittent renewables.

EirGrid's SOEF roadmap targets an increase in SNSP limits to 95% by 2030. Significant progress to increase SNSP levels has been made in recent years. In April 2021, the power system moved to permanent system operation policy at 70% SNSP and a trial with an SNSP limit of 75% began. The 75% trial continued into 2022 and was successfully completed by the end of March 2022 when a limit of 75% SNSP became operational policy. Considerable work was undertaken in 2023, 2024 and 2025 to advance the requirements to commence the 80% SNSP trial. Feasibility studies that were completed in 2024 identified a number of key system risks that require mitigation before the 80% SNSP trial can commence. Progress towards the commencement of the 80% SNSP Trial is currently delayed pending further consideration of the required mitigations associated with these system risks.

EirGrid is performing well and outperforming comparator TSOs in some areas of the transition. EirGrid has the second highest penetration of wind energy of all TSOs compared. EirGrid demonstrates international best practice in progressing the increase of SNSP limits over time. It is important to note that EirGrid's system is also highly resilient and in line with international best practice, evidencing our capabilities in maintaining a secure and resilient system whilst facilitating the transition to net zero.

16.5 Network development

Imperfection costs per capita in Ireland and GB were broadly comparable over 2020–2022, with Ireland performing slightly better than GB in 2021–2022. From 2023 onwards, Ireland's costs increased, rising to €86.0 in 2025 compared to €61.2 in GB. While this represents a divergence, direct comparison is challenging due to differences in data construction and system characteristics. The 2025 outturn also illustrates the sensitivity of imperfection costs to year-to-year system and market conditions, with GB experiencing cost pressures in the same year.

Our generation connection offers per capita increased overall between 2020 and 2025, despite a dip in 2021 and 2025. Larger connection batches have driven workload but have yet to fully translate into offers, which means the scale of transmission connection offers is set to continue the upward trajectory in the coming years.

As more variable renewable generation comes online, the management of imperfection costs will become increasingly challenging. To meet this challenge, EirGrid will continue to facilitate a balanced portfolio of technologies and continue with efforts to develop the network both in terms of regional transmission links and interconnectors with other transmission networks.

EirGrid is addressing these network needs through a programme of planned network developments. This improvement is reflected in our 2025 planned outage days performance, with 94% of the TOP completed, exceeding the CRU's 'strong' performance threshold of 90%. On a larger scale, EirGrid will continue to support the deployment of more variable renewables through increasing storage capacity on the network and through the Celtic interconnector to France.

Our efforts to address network needs are further evidenced in our performance in approving and energising transmission infrastructure. We have delivered strong performance at upstream milestones, exceeding "strong" thresholds for CA and PA in both 2024 and 2025, overall scores have remained in the "Below Acceptable" range (63% in 2024; 65.4% in 2025) due to cumulative under-delivery at the EI stage. However, in-year performance strengthened in 2025, rising from 73% to 88%, with EI performance improving from 50% to 63%, the largest year-on-year improvement to date. International benchmarking indicates that Ireland continues to perform relatively strongly in transmission infrastructure expansion, with above-average growth in both transmission circuit length and substation transformer capacity compared to most peers (see Figures 10). Through working with our delivery partner, ESB Networks, together we have rapidly deployed additional transmission circuits.

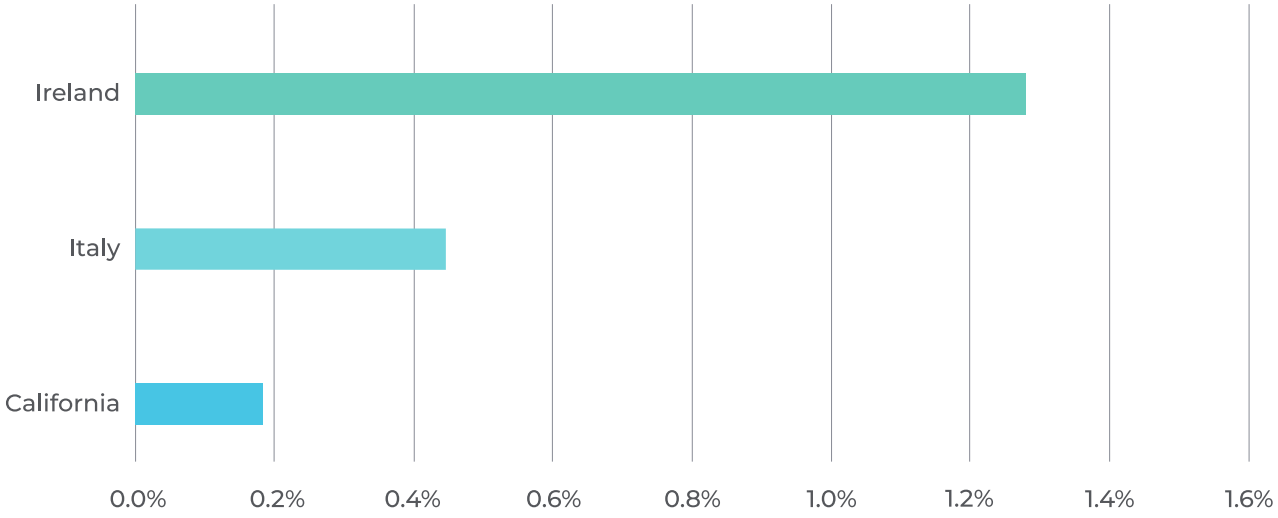


Figure 10: Average annual change in transmission circuit length, 2019-25

16.6 Key findings

By experiencing a number of system-related challenges at an early stage, EirGrid is well placed to identify practical solutions that are relevant not only domestically but also to other TSOs facing similar transitions.

This is reflected in EirGrid's approach to progressing higher SNSP limits and embedding these levels into enduring operational policy. EirGrid's experience is further supported through its active collaboration and knowledge-sharing with peer SOs via the Global Power System Transformation (G-PST) consortium, of which EirGrid is a founding member.[56] Through collaborating on research and development, sharing best practice and advocating for policy change, the G-PST consortium plays an important role in accelerating the transformation of the electricity sector to a low carbon future.

While EirGrid continues to perform well internationally across key areas of system reliability, renewable integration and network development, a number of PR5 incentive targets have proven challenging to achieve in practice. This reflects, in part, the requirement for year-on-year improvements, even in areas where performance is already at or close to international frontier levels, as well as the influence of system-level and external factors beyond direct TSO control. In areas such as RES-E, RDD and SNSP, progress is often non-linear and dependent on wider system readiness, opervational pre-requisites and demand-side capabilities.

56 Other founding system operators include National Grid ESO (GB), Energinet (Denmark), CAISO (California), AEMO (Australia) and ERCOT (Texas).

17. Engaging with stakeholders

17.1 EirGrid stakeholder engagement

Effective and impactful stakeholder engagement is a crucial part of what we do at EirGrid. By prioritising stakeholder engagement, EirGrid continues to give stakeholders the opportunity to inform decision making as we deliver key projects and changes to the grid in the run up to 2030 and beyond.

Stakeholder engagement is built into EirGrid's 2020-25 corporate strategy via the following supporting goals: Working with stakeholders for positive change & engage for better outcomes for all; and Enhance the all-island grid and market. Throughout 2025, EirGrid has been engaging with customers and representative bodies to ensure industry stakeholders are actively involved in supporting the development of the 2026-2030 EirGrid Group Corporate Strategy.

By actively engaging with all of our stakeholders, EirGrid aims to provide the following: Regular and timely opportunities for communication and collaboration; Transparency around decision making; Opportunities to resolve issues, discover gaps and increase alignment; and Innovative and efficient delivery of services (across grid and market).

Further information on EirGrid's 2025 stakeholder engagement is captured on the EirGrid website.

EirGrid's stakeholder environment is dynamic given the constant changes that occur in the energy ecosystem. Recognising and understanding our stakeholder's changing needs, demands and interests, allows us to improve our engagements by tailoring the activities to address specific stakeholder requirements. We broadly categorise our stakeholders under the following groups: industry, society, and statutory and European.

Industry engagement

Throughout 2025, EirGrid continued to work with key stakeholders including customers, market participants, and representative bodies. Through regular, timely and effective stakeholder engagement with industry, we aim to deliver our services in a way that embodies both efficiency and innovation.

As detailed in EirGrid's 2025 Stakeholder Engagement Report, there are a number of engagement methods and platforms we foster to enhance our industry engagement. These include but are not limited to: the Market Operator User Group (MOUG) Survey, the Market Intelligence Exercise, JSOP the SOEF Advisory council, along with other industry forums, workshops, panels, and taskforces. EirGrid's Account Management team enable early engagement with customers through monthly meetings, webinars, periodic interactions, and they also act as a direct line of contact throughout the connection process.

Societal engagement

As EirGrid works towards Government targets, new grid infrastructure needs to be developed — more than in the last ten years. It's important that we gain the support of individual landowners, their neighbours, and their wider communities in the areas where we are delivering strategic infrastructure. Early engagement is vital to ensure that people's concerns are listened to. We endeavour in all cases to work closely with stakeholders to ensure, where it is possible, that we optimise the most deliverable projects through engagement with local communities.

EirGrid's Public Engagement Strategy outlines how we develop relationships on-the-ground and get feedback on projects before they start so that we can achieve better outcomes for all. We use a six-step process as part of this strategy, with engagement with the public, local communities and landowners taking place between step three through to step six. This way we ensure consistency across projects and efficiency in decision making along the way. As each project is different in nature and size, we tailor our decision-making tools and engagement to best suit the project at hand. An essential part of our six-step process happens at steps five and six, where the Community Benefit Fund scheme is rolled out, and we give back to the communities that have been impacted by our work.

In 2025, EirGrid awarded a total of €821,265 to a total of 53 community projects in East Cork. Funding is divided into three streams to support projects across the following themes: community, sustainability and biodiversity. €240,000 was issued to community projects and €236,437 was issued to sustainability projects. Biodiversity projects received €344,828 in funding.

Through our Community Forums, we help to ensure that those being impacted have regular opportunities to directly feed into the planning of the work proposed in their area. Each community forum is independently chaired, and membership includes representatives of local community groups as well as local county councillors and chamber of commerce members. Examples of our Community Forums in 2025 include the Celtic, North Connacht, and Kildare Meath Community Forums.

Statutory and European engagement

EirGrid proactively works with specialist environmental groups, and other relevant statutory stakeholders such as Government departments and agencies, planning authorities and other prescribed bodies to ensure projects are consistent with national, regional and local planning policy. We engage through formal correspondence, bilateral engagement and participation in working groups, taskforces and meetings. EirGrid also actively engages with the UK and across continental Europe with bodies such as the ENTSO-E and the Ostend Forum as well as The North Seas Energy Cooperation and the International Energy Agency.

Examples of our statutory engagement in 2025 include, but are not limited to: Celtic Conversations, Fisheries engagement, the Dublin Infrastructure Forum, as well as engagements on LEUs, security of supply, electrified transport, heating, energy research and sustainability. We continued to engage with other TSOs across Europe, to ensure alignment with both national governmental regulatory requirements and European level.

Who are our stakeholders?

The stakeholders that we engage with most frequently are listed in EirGrid's 2025 Stakeholder Engagement Report.

Figure 11 below shows EirGrid Stakeholder Wheel exemplifies the range of stakeholders EirGrid engages with across society, industry and statutory bodies.

Figure 11: EirGrid Stakeholder Wheel

The Networks Stakeholder Engagement (NSEE) Panel

EirGrid's performance (as Ireland's TSO) in relation to the PR5 Stakeholder Engagement Incentive is assessed annually by the NSEE Panel, which is convened by our regulator, the CRU. The panel is composed of representatives from industry, academia and wider stakeholders and is tasked with assessing the quality, implementation and effectiveness of EirGrid's stakeholder engagement strategy on an annual basis. The NSEE Panel's feedback and recommendations are key considerations as we continue to build on and strengthen our stakeholder engagement strategy and activities.

In 2026, EirGrid was awarded a score of 6.7 out of a possible 10 by the NSEE Panel for its stakeholder engagement activities in 2025.

Improving our engagement

As we continue to develop the EirGrid stakeholder engagement strategy, one of our key focuses is to ensure consistency and clarity across all of our engagements. For example, EirGrid has continued to enhance the Future Power Market Workshops which has been positively received by participants. As a result, EirGrid is now reflecting many of these enhancements across other areas of the business including the Market Operator User Group (MOUG). In May 2025, Stakeholder Engagement team invited Market Participants to share their feedback through our first MOUG survey. We received positive feedback and valuable suggestions, many of which can be brought forward to future meetings.

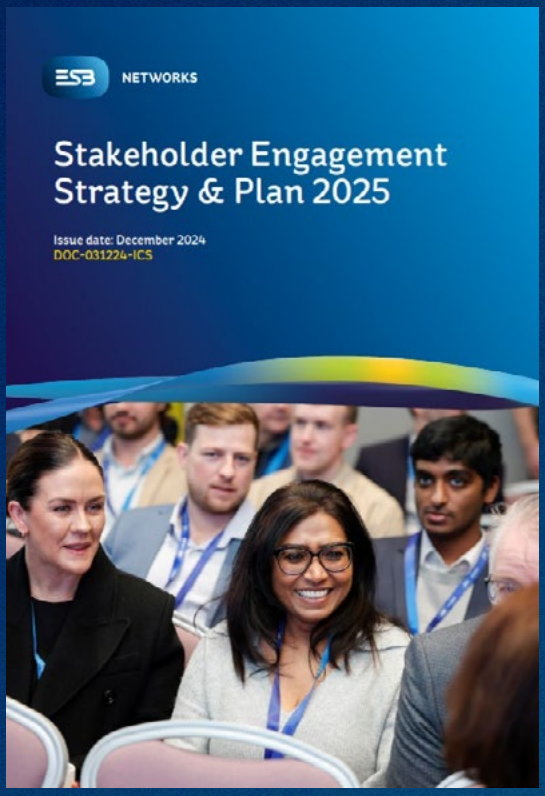
In December 2021, EirGrid launched a three-year research programme with the Research Ireland Centre for Energy, Climate and Marine (MaREI) research team. This aim of this research was to comprehensively evaluate the impact of community engagement activities on the construction of electricity infrastructure in Ireland and its effect on the acceleration of the wider energy transition. MaREI is the world-leading Science Foundation Ireland Research Centre for Energy, Climate and Marine, coordinated by the ERI at University College Cork. Key findings of this programme and research highlights the importance of early, inclusive, and adaptive community engagement in the delivery of Ireland's energy transition. MaREI's research will help EirGrid refine its approach, ensuring that collaboration with communities continues to evolve robustly and strengthen as Ireland moves toward a more sustainable energy future.

Our stakeholder engagement documentation for 2025 provides further details on the progress we are making to improve our engagement processes and acknowledge the ongoing work to date.

17.2 ESB Networks stakeholder engagement

As TAO, ESB Networks is committed to working closely with EirGrid, the CRU, the electricity industry, customers, stakeholders and society to ensure that the electricity network can support national policy objectives and enable Ireland's clean electric future. Stakeholder engagement is essential for the successful management of our business and is led from the top by the Senior Leadership Team. It is integral to our day-to-day operations and a fundamental enabler of our strategy. Our stakeholder engagement programme provides key insights that help us to shape the future of our business and the development of the electricity network. It allows us to track changing priorities, tap into specialist or local knowledge and gives us the opportunity to 'road-test' proposals or initiatives with stakeholders. It also helps us to identify emerging issues and risks and enhance our services to electricity customers.

For our customers and stakeholders, engagement provides opportunities to contribute to projects and programmes, have their issues heard and inform the decision-making process. It gives these groups better understanding of our priorities, increased ownership of outcomes and greater capacity to engage in how energy will be used in the future. Given the pace of change in the electricity sector, we tailor our engagement approach to meet the needs of a dynamic and diverse stakeholder base. We continually review and improve our engagement methodology and benchmark our systems and processes against international best-in-class practice in this field. Our stakeholder engagement strategy and plans are published on an annual basis and contain our proposed engagement priorities, activities for the year ahead and channels of engagement.



17.3 Our Strategy

Our stakeholder engagement programme directly supports the objectives set out in our Networks for Net Zero Strategy, which outlines ESB Networks' role in facilitating the implementation of key national policy objectives, including housing, economic growth and climate action. ESB Networks is committed to delivering a net zero-ready electricity distribution network by 2040, enabling Ireland to meet its legally binding target of net zero emissions by 2050. Achieving this ambition will require deep collaboration across Government, industry, and society. Ongoing stakeholder engagement is crucial as we work in partnership to deliver the infrastructure, innovation, and engagement needed to support a sustainable energy future.

Our Stakeholder Engagement strategy is focused on supporting the delivery of ESB Networks' three strategic objectives:

- Decarbonised Electricity
- Resilient Infrastructure
- Empowered Customers

These priorities reflect the needs of the Government, the CRU, our customers, and wider stakeholders, at a time of rapid and unprecedented transformation in the energy sector.

Please refer to ESB Networks Stakeholder Engagement Strategy & Plan 2025 and ESB Networks Stakeholder Engagement Report 2025 FA for more information.

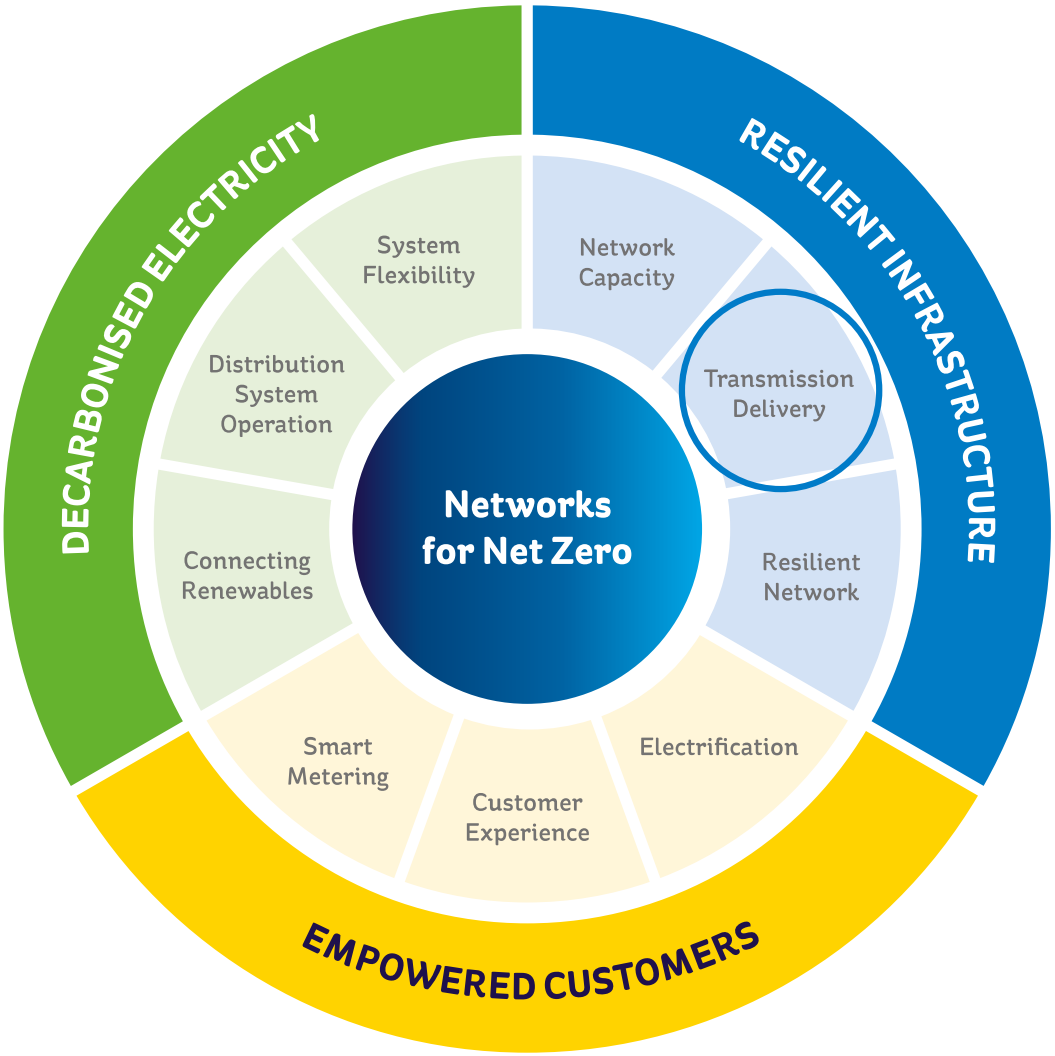


Figure 12: Networks for net zero strategy - Transmission Delivery

2025 Stakeholder Engagement Summary

Throughout 2025, stakeholder engagement played a central role in enabling us to address the major national priorities shaping Ireland's energy and infrastructure landscape. We undertook extensive engagement on key Government initiatives across housing, transport and energy policy, including active participation in the Accelerating Infrastructure Report and Action Plan, ensuring that our expertise and operational insight into the electricity network were effectively represented. The PR6 Business Plan was approved in December 2025 following sustained engagement throughout the year with customers, communities, Government, industry partners, EirGrid and the CRU.

We continued to work closely with customers and stakeholders across multiple sectors, from domestic households to housing developers, large employers and infrastructure providers. We also engaged extensively with renewable customers, from developers to community generators, to accelerate Ireland's renewable ambitions. This collaborative approach was reflected in the significant milestone of 2 GW of solar connected by year end, a testament to strong partnership and shared progress.

17.4 Transmission Delivery

ESB Networks is the licenced onshore TAO in Ireland. As TAO, ESB Networks is responsible for building and maintaining the transmission network according to the capital and operational investment plans and policy decisions advised by EirGrid, the TSO. Network assets are constructed and maintained by ESB Networks in line with maintenance policies set out by the TSO. The transmission network is critical to ensuring a safe, secure, and reliable supply of electricity to all electricity customers in Ireland in real time.

17.5 TAO Engagement Highlights 2025

ESB Networks (TAO) and EirGrid (TSO) developed and agreed a joint, integrated, multi-year transmission programme to optimise transmission investment and prioritise project delivery. This programme formed the joint basis for both organisations' submissions to the CRU for Price Review 6 and informed the final determination.

Some key achievements supported by transmission-related stakeholder engagement in 2025 include:

- Undertook ongoing stakeholder engagement and communications in our role as TAO, ensuring transparency and coordination on all transmission construction and maintenance works defined by EirGrid.
- Implemented outage-related improvements through the JOTP, reducing outage requirements, increasing outage availability, maximising utilisation and improving overall outage effectiveness. We provided regular updates to stakeholders on these initiatives.
- Hosted JOTP Customer Group forums with transmission customers and industry participants to promote awareness, clarify connecting party responsibilities, and strengthen programme management and outage performance.
- Transitioned nine of the eighteen Joint Outage Transformation Programme (JOTP) interventions into BAU within both the TAO and TSO, marking 50% completion of the JOTP and embedding more efficient processes into daily operations.

Continued engagement is of vital importance in delivering on national policy targets and outcomes, and both organisations are committed to working together to meet our strategic objectives and making the Ireland's goal of net zero by 2050 a reality.

18. How we monitor expenditure against PR5 allowances

Every five years the CRU determines the revenue price control for EirGrid and ESB Networks as TSO and TAO for the following five-year period. The price control sets out the amount of revenues the companies are allowed to recover through tariffs. The allowances are designed to ensure that we, both EirGrid and ESB Networks, have adequate revenues to carry out our activities as TSO and TAO respectively while delivering value for all our stakeholders.

In the interest of delivering value to our customers more efficiently, PR5 placed more emphasis on the results of the network companies' work, while building in agility to adapt to the changing needs of the system.

Within the price control periods there is an opportunity each year for the companies to submit adjustments in advance of tariffs being set. This is to make sure that the most up to date information is used. The CRU publishes updated information on the approved revenues on an annual basis.

After each year, EirGrid and ESB Networks carry out a review of what was required to carry out our functions. Updates would include any changes to costs outside of our direct control, updates for inflation rates and incentive payments. We also look back on the previous year and compare the amount the CRU approved to be recovered against the amount that was recovered through the tariffs in that year. Any under or over recovery of monies against those approved by the CRU is fed into future tariffs. This is done using the k factor mechanism.

The k factor captures the difference between what was required by the TSO and TAO to carry out their responsibilities and what was recovered through the tariffs. This figure is then included as a line item in the following year's tariffs. If there was an over-recovery, meaning that the amount recovered was more than required, this figure is taken off the next year's revenue allowance. Likewise, if there is an under-recovery this figure is added to the next year's revenue allowance.

Please see below tables setting out the TAO and TSO's k factors for 2025, which are included in the 2027 revenue allowance.

The Agile Investment Framework (AIF) was one of the main components of the delivery phase of PR5. The AIF comprises of mechanisms to allow access to additional revenues in response to the changing needs of the electricity system.

The mechanisms relevant to the TSO and TAO include:

- Uncertainty Mechanism – requests for additional revenue arising from newly identified system requirements;
- Capex Adjustment Mechanism retained from Price Review Four (PR4) and allows the TSO and TAO to request adjustments to the overall infrastructure development capital allowance;
- Innovation and Research and Development Mechanism; and
- The TSO Monitoring Committee.

Please note that the tables below will be updated following the CRU's publication of the Electricity Transmission Network Allowed Revenues for 2027 and Demand Transmission Use of System (D-TUoS) Tariffs 2026/27 information paper.

Table 29: TAO 2025 allowed outturn and resulting k-factor			
	PR5 Allowance for 2025 (ex-ante)	CRU Outturn Allowance (ex-post)	2025 Adjustments
	€m	€m	€m
Pass through/external costs			
CRU regulatory levy			
Local authority rates			
Uncertain costs: non-capitalised			
Additional use of system (AUoS)			
PR5 Audit Costs			
Incentives			
Inflation correction			
Uncertain costs: capitalised			
Depreciation			
Return			
Total k-Factor adjustment (before interest) in 2025 prices			
Total k-Factor (after interest) in 2025 prices			

Table 30: TSO 2025 allowed outturn and resulting k-factor		
Area of expenditure	CRU Tariff Decision for 2025 revenues €m	CRU approved updated actual costs of 2025 €m
Onshore activities		
External Costs		
CRU Regulatory levy		
DUoS Costs		
Inter TSO Compensation		
Ancillary Services		
DS3 System Services		
CORESO Subscription		
Dublin Security of Supply		
TAO Charge		
Total External		
Interconnection		
Interconnector Services		
East West Interconnector (EWIC) Revenue Recovery		
Greenlink Readiness		
Celtic Readiness		
Celtic Debt and Liquidity Costs		
Total Interconnection		
TSO Operating Revenues		
Depreciation		
Return on Stage 1 (Side RAB) Working Capital		
Return on Other Working Capital		
Return on Fixed Assets in the RAB (capex non network)		
Internal Opex		
SMP		
SONI Demerger		
Total TSO Operating Revenues		

Area of expenditure	CRU Tariff Decision for 2025 revenues €m	CRU approved updated actual costs of 2025 €m
Approved Adjustments		
Guarantees of Origins		
Constraints Arrangement Fee		
PR4 Adjustments		
Land Acquisition		
TSO Market System Release Capital		
Security of Supply Project		
LCIS		
National Resource Adequacy Assessment		
Common Grid Model		
FASS		
Scheduling and Dispatching		
TSO TAO Data Exchange		
Cyber		
Long Duration Energy Storage		
Corporate Social Responsibility Directive		
Article 13.7 / CEP		
Total Approved Adjustments		
Incentives		
Agile Investment Framework		

Area of expenditure	CRU Tariff Decision for 2025 revenues €m	CRU approved updated actual costs of 2025 €m
Offshore Activities		
External Costs		
Offshore External Delivery - Contract & Agency		
Offshore Delivery Professional Fees		
Audit Costs		
IT Opex		
TSO Operating Revenues		
Depreciation		
Return on Offshore RAB		
Offshore Opex - Payroll and Pensions		
Total Offshore		
2022 Over/Under recovery		
Total		
Collected TUoS		
K-Factor		

18.1 Network development costs

As part of the revenue price control for PR5 the CRU sets a revenue envelope to cover the development of the national transmission grid. This is referred to as network CapEx under which EirGrid and ESB Networks carry out their capital works programme over a five-year period. This envelope can be adjusted, if necessary, during the five years to allow for the changing needs of grid development. The costs associated with development of the national transmission grid are recovered over a 50-year period consistent with the expected network asset life.

Funding arrangements for the construction of the national transmission grid (network capital works) are the responsibility of ESB Networks. Costs incurred by EirGrid as part of the development of network capital works are ultimately recovered by EirGrid from ESB Networks.

The total TSO and TAO network capex allowance for the PR5 period was determined by the CRU in the PR5 Final Determination, CRU/20/152, as €1,048m (2019 Prices), of which €172m (2025 prices) was allocated to 2025.

The CRU does not approve individual projects. The CRU monitors our actual spend against the overall envelope, with the monies identified by the CRU being provided via the regulated Use of System Tariffs on an annual basis. EirGrid and ESB Networks jointly submit detailed reports to the CRU annually on our network expenditure as required under the enhanced PR5 reporting arrangements.

The total regulatory spend on transmission capital projects for 2025 was €302m, an increase of €81m when compared with 2024. The variance of 2025 outturn versus the 2025 allowance in the PR5 determination was €130m (expressed in nominal 2025 money).

Expenditure in relation to the network is covered in more detail in our IPD Report 2025.

The annual investment by ESB Networks in new or refurbished transmission assets is known as Capital Expenditure and is shown in Table 31.

Table 31: TAO capital expenditure (nominal)

	PR5				
	2021 €m	2022 €m	2023 €m	2024 €m	2025 €m
Gross capital expenditure	182	204	258	245	339
Customer contributions	(37)	(28)	(23)	(24)	(38)
Total regulatory spend	**145**	**176**	**235**	**221**	**301**

This capital investment less the annual depreciation of the asset gives the net value of the transmission assets also known as the Regulated Asset Base (RAB) shown in Table 32.

Table 32: TAO Regulated Asset Base (RAB) (nominal)

	PR5				
	2021 €m	2022 €m	2023 €m	2024 €m	2025 €m
Closing net book value	2,663	2,713	3,272	3,432	3,710

Day to day expenditure not related to building assets are referred to as Operating Expenditure or Opex. The TAO Opex is shown in Table 33.

Table 33: TAO operating expenditure (nominal)

	PR5				
	2021 €m	2022 €m	2023 €m	2024 €m	2025 €m
Transmission operations	3	3	3.6	3.3	3.1
Planned & fault maintenance	18	23	26	27.5	31.8
Asset management	1	1	0.1	0.1	0.0
Non-controllable costs	33	29	32	33.4	40.6
Controllable costs	14	12	9.6	13.2	15.4
Total	**69**	**68**	**71.3**	**77.5**	**91**

19. How we ensure safety

19.1 EirGrid Health and Safety

EirGrid is committed to achieving and maintaining the highest standards of health, safety and welfare for all of its staff and for any other persons who may be affected by our activities, and to the protection of the environment.

EirGrid health & safety management system

EirGrid operates a Health, Safety & Environmental (HS&E) Management System based on the requirements of the International Occupational Health & Safety Standard: ISO45001:2018. Our HS&E Management System enables us to consider various risks associated with our activities, to staff and others who may be affected by these activities, and those to the environment; and to place these risks in the context of any relevant legal or other requirements, thereby ensuring that preventative and control measures are adequate and meet best practice standards.

EirGrid aims to ensure that all operations and activities are carried out at all times in such a manner as to minimise the health, safety and welfare risks to workers and others who may be affected by our activities. EirGrid are committed to ensuring compliance with statutory and TSO licence requirements which are associated with its business.

2025 health and safety update

EirGrid maintained safe Management Controls in relation to Health & Safety which was successfully achieved. The proactive monitoring (audits and inspections) continued to provide opportunities to improve the system and overall HS&E performance.

A major milestone during this period was the successful recertification for ISO45001 accreditation and our EirGrid TSO technical and safety audit with zero non-conformances identified on all external audit reports.

2025 health and safety initiatives

Developments of note in 2025 included:

- Successfully completed recertification audit for ISO Health & Safety 45001 / 14001 Environment accreditation standards with no findings.
- Health and Safety strategic partner ensured that EirGrid continually had access to up-to-date professional skills and capability in this area of expertise.
- Legal Compliance registers were updated with the latest legislation requirements for all jurisdictions for EirGrid.
- Construction stage of the Celtic project involved civil contractors appointed for both the convertor station and the onshore cable contract with system audits completed in relation to the construction regulations 2013.
- Regular ESB Networks / EirGrid executive meetings took place together with quarterly H&S meetings to discuss operational issues for the purposes of information sharing and H&S collaboration.

Electric and Magnetic Fields (EMFs)

Electric and Magnetic Fields are produced when electric current flows. EMFs are created from electrical appliances and power lines which produce extremely low frequency in the electro – magnetic spectrum. Following research, measurement and monitoring the consensus from health and regulatory authorities is that EMFs do not present a health risk. However, some people have genuine concerns about the EMFs found near electricity lines and cables. Information on the EirGrid website here explains the facts about EMFs, based on current information from health and scientific agencies.

19.2 ESB Networks' safety

ESB Networks' safety

Protecting the safety, health, and wellbeing of our people—employees, contractors, and the communities we serve—remains a fundamental strategic focus for ESB Networks. Our Public Safety Strategy sets out a roadmap to enhance safety outcomes for the public, stakeholders, and ESB Networks staff, while supporting Ireland's energy transition. It outlines how we proactively safeguard the public from electrical hazards through education, engagement and operational excellence, embedding safety across all ESB Networks activities. In 2025, we made key improvements in the areas of safety compliance, engagement, communications, safety culture transformation, road safety and public safety, while continuing to provide a safe and reliable electricity service to our communities.

External validation of safety management system

ESB Networks successfully retained its certification to the international ISO 45001 Occupational Health and Safety Management System standard in 2025. ESB Networks was also found to follow the public safety conditions set out the in the Transmission System Owner licence issued by the CRU. The National Standards Authority of Ireland commended the proactive approach to risk management, senior leadership promotion of public safety and the drive to continuously improve safety standards in ESB Networks.

Safe & Sound – Safety Culture Transformation Programme

During 2025, Safe & Sound continued to advance safety culture across ESB Networks. Our safety culture work supports the development of a proactive and engaged approach to safety across the organisation, with a focus on leadership, learning and local ownership.

A key milestone during the year was the completion of the nationwide safety culture survey, which provided insight into how safety culture is experienced across the business. The findings directly shaped the Safety Culture Improvement Plan, focused on four areas: Safety Culture, Safety Leadership, Safety Learning and Human Factors. In Q4, the plan was introduced to Safe & Sound Leadership Teams to guide the next phase of safety culture improvement in 2026.

Throughout the year, Safe & Sound Leadership Teams continued to work across local, regional and functional areas to identify local priorities and progress improvement actions. These teams remain a key part of the programme and play an important role in supporting ownership of safety culture work across ESB Networks.

We also delivered supervisor training in leadership and communication and continued to engage with new hires and apprentices on the Safe & Sound approach and the wider safety culture in ESB Networks. This work will continue into 2026 through the delivery of the Safety Culture Improvement Plan.

19.3 Road Safety

In 2025, there were 54,000 road traffic incidents reported to An Garda Síochána. The number of serious injuries and fatalities from road traffic incidents continues to trend upwards. Road safety is a significant risk to our ESB Networks employees and delivery partners, and for many in ESB Networks it is the top risk they will face in the workplace. Sharing a roads network with members of the public brings an added responsibility to protect members of our communities through our transport choices and road user behaviour.

In ESB Networks, we continue to embed a strong road safety culture through road safety risk management, system change, safety interventions, digital solutions, and regular communications and engagement.

ESB Road Safety Strategy and Action Plan 2026 – 2030

Over the course of 2025, the ESB Road Safety team commenced development of the ESB Road Safety Strategy and Action Plan 2026 – 2030, engaging extensively with staff in ESB Networks and with key external stakeholders and our delivery partners. The strategic priorities – Compliance, Competence, Commitment, Collaboration and Culture – are reflected in the objectives of the strategy and action plan, which takes a Safe Systems approach to road safety.

Digital Solutions

To aid compliance with ESB Networks procedures and company standards relevant to road safety, the ESB Road Safety team developed a number of digital solutions. These will provide more usable data, valuable insights and help people managers deliver road safety risk management, particularly in the areas of fleet driver safety behaviour, exposure to road safety risk for both yellow and grey fleet due to kilometres driven, and compliance with driving licence recording.

In addition, the Road Safety team engaged across ESB Networks to see where alignments and co-benefits could be achieved through innovative projects and knowledge sharing, including with employees involved in sustainability, emissions reporting, health and wellbeing, continuity of supply, drone technology and fleet.

Incident Reporting and Learnings

The ESB Road Safety team reviewed employee road safety incidents while travelling for work, as reported by employees through our safety reporting platform, and participated in a number of road traffic incident investigations.

Quarterly, the Road Safety team presented updates on reported road safety incidents to the ESB Road Safety Centre of Competence.

Communication and Engagement

The ESB Road Safety team contributed to each monthly safety briefing distributed to all ESB Networks staff, to bank holiday traffic and storm road safety SMS alerts and used our internal social media channels to communicate timely road safety messaging. There was also extensive in-person and online staff engagement throughout 2025.

The format for this engagement was varied and included in-person and online presentations at ESB Networks Safety Days, Transport Appreciation Days, Business Support team days and SHW team days. External engagement with key domestic organisations including HSA, Irish Rail, Uisce Eireann, Irish Blood Transfusion Service, Office of Public Works (OPW) and HSE allowed for knowledge sharing, as did attendance at the Cross-Industry Road Safety Forum in October 2025.

Competence and assurance

In line with our commitment to the safety of our staff, delivery partners and the public and to ensure compliance with standards, policies and procedures, the Competence & Assurance team continued to carry out independent audits across key risk areas for ESB Networks, with over 90% of audits unannounced. The main strands of audit focus delivered by the team are:

- Safe Behaviour Audits
- Competence Audits
- Compliance Inspections

We have seen a significant level of conformance across all of the focus areas year-on-year. A key driver of this improvement is the use of feedback and coaching style audits by the Competence & Assurance team when interacting with ESB Networks front line staff, their management and our delivery partners.

Critical safety processes

We continued to implement critical public safety interventions by serving ‘Notifications to Stop Work’ where ESB Networks staff became aware of unsafe work near electricity networks of all voltages up to an including transmission assets. The ‘Notifications to Stop Work’ were forwarded to the HSA for further action where appropriate.

The ‘Dial Before You Dig’ service provided maps of the overhead and electricity networks to construction companies to support compliance with the Code of Practice for Avoiding Danger from Overhead Electricity Lines and the Code of Practice for Avoiding Danger from Underground Services.

Public education and awareness

At ESB Networks, public safety is at the heart of everything we do. We embed public safety into every aspect of our operations, ensuring that we continue to provide a safe and reliable electricity service to our communities.

In 2025, we continued to implement our Public Safety Strategy (2021 – 2025), which sets out our commitment to keep our network safe, and raise awareness about the dangers of coming into contact with or in close proximity to our electricity network and equipment.

We progressed the development of the Public Safety Strategy for 2026-2030 through a review of the existing strategy, benchmarking against other utilities, listening tours across ESB Networks, implementation of a working group for the Strategy update and consultation across ESB to ensure alignment with the overall ESB Safety Health and Wellbeing Strategy and coordination of public safety across ESB business units.

We continued our advertisement campaign, 'Are You Sure It's Safe?' in 2025. The simple and clear 'Are You Sure It's Safe?' and 'Stay Safe, Stay Clear' messaging encourages the public to act safely when in close proximity to the electricity network. This campaign continues to strike a chord with our key at risk groups since its creation in 2016.

In 2025, safety advertising ran across TV, video-on-demand, radio, digital audio, social media, digital media, print media, display, and paid search platforms. English and Irish language creative was used across these platforms. Our campaign includes the following risk scenarios:

- Using scaffolding near OHLs.
- Flying drones near OHLs.
- Digging near underground cables.
- Hedge cutting near OHLs.
- Hanging flags and bunting on electricity poles; and
- Encountering fallen OHLs.

Awareness figures for the campaign remained high. Our research indicates awareness level of the campaign averaged 86% in 2025.

ESB Networks promotes electrical safety in primary schools nationally. Primary school children are given the opportunity to create posters promoting electrical safety as part of the 'Stay Safe, Stay Clear' primary school poster competition. Electrical safety awareness educational material is provided to teachers as part of this initiative. In 2025, a total of 1,815 entries were received from 122 primary schools across Ireland.

In 2025 we launched our Public Safety School Pack programme which empowers ESB Networks staff to educate primary school children on electrical and road safety. Over 2,800 pupils have been reached to date as part of this programme.

ESB Networks ran specific tailored advertisement campaigns in advance and during adverse weather events including Storm Éowyn. These campaigns highlighted the specific electrical network safety risks that occur during these events e.g. fallen wires and the steps that should be followed to mitigate these safety risks.

We issued press releases and completed radio interviews to raise awareness of topical electrical safety awareness issues including erection of election posters and Christmas decorations.

We continued to update the ESB Networks website with the latest information and publications, ensuring the content is accessible to all users.

Farm safety

In 2025 we issued an updated version of the Farm Safety Booklet. The updated booklet includes enhanced safety information on electrical hazards associated with agricultural activities.

ESB Networks partnered with the Irish Farmers Journal (IFJ) to include 66,000 copies of the Farm Safety Booklet and an accompanying article in the December 4th edition of the IFJ. ESB Networks participated in the IFJ Farm Tech podcast series reaching an audience of over 22,000. Press and digital advertisements were ran in the IFJ throughout 2025 reaching a monthly audience of 750,000.

ESB Networks ran seasonal online campaigns with Agriland throughout 2025 along with tailored safety messaging during adverse weather events. This resulted in over 2.5 million impressions.

ESB Networks attended agricultural events including the Teagasc Moorepark Dairy Open Day. Electrical awareness presentations were given to members of the agricultural community throughout the country.

Safety talks were delivered to students in agricultural colleges and University College Dublin's Agriculture and Food Science School as part of the 'Champions for Safety' initiative, in collaboration with the Health and Safety Authority (HSA) and FBD Insurance.

ESB Networks safety messaging featured in multiple agricultural and agricultural machinery publications.

Construction Safety

ESB Networks attended the Construction Industry Federation Safety Conference in May 2025 and participated in collaborative events with key stakeholders as part of the CIF Construction Safety Campaign in October 2025.

ESB Networks gave in person electrical awareness training to construction companies across the country and ran construction focused safety advertisements in a number of construction publications.

Local Authorities, State Agencies and Emergency Services

Electrical awareness sessions were delivered to front line operational staff and contracting partners of Uisce Eireann, local authorities and the OPW in 2025. In addition to this, the ESB Networks' Training Centre hosted an electrical appreciation session with the Health & Safety Authority inspectors to increase awareness of the electrical hazards that can be encountered on construction sites. ESB Networks ran a joint safety advertisement campaign with the HSA to highlight the electrical safety risks when working on construction sites.

ESB Networks continue to engage with Uisce Eireann and Gas Networks Ireland as part of the Joint Utility Safety Forum. A joint video on safe digging practices was developed in 2025.

Electrical safety awareness training was provided to Fire Services across the country.

ESB Networks continued to participate in the An Garda Síochána-led metal theft forum, which met during the year to share information and coordinate responses to break-ins and metal theft.

ESB Networks worked closely with An Garda Síochána on the development of a pro forma of standard questions to be asked when the An Garda Síochána contact centre receives reports of fallen or broken ESB Networks poles, low hanging electricity cables or cables that are in contact with the ground. This standardised information allows An Garda Síochána and ESB Networks to provide an optimised emergency response.

20. How we manage our environmental footprint

20.1 Minimising EirGrid's impact on the environment

EirGrid's Emissions

While EirGrid's role in energy system transformation is its most material contribution to mitigating climate change, we also have two sets of climate-related targets: our mandatory 2030 Public Sector Carbon Targets, and our voluntary 2030 Science-Based Targets (SBTs). SBTs provide a clearly defined pathway for companies to reduce greenhouse gas (GHG) emissions, helping prevent the worst impacts of climate change and facilitate sustainable business growth.

Our SBTs are as follows:

- EirGrid Group commits to reduce absolute scope 1 and 2 GHG emissions by 50% by 2030 from a 2019 base year.
- EirGrid Group also commits to reduce scope 3 GHG emissions from dispatch balancing services by 35% per MWh of overall system demand within the same timeframe.
- EirGrid Group further commits to reduce all other absolute scope 3 GHG emissions by 30% by 2030 from a 2019 base year.

EirGrid Group has also committed to the following public sector 2030 carbon targets:

- 50% energy efficiency improvement compared to 2009.
- 51% absolute emissions reduction compared to 2016-2018 baseline.
- 51% Fossil emissions reduction compared to 2016-2018 baseline.

Scope 1, 2 and 3 categories include direct and indirect emissions namely mobile combustion, stationary combustion, fugitive emissions, purchased electricity and heating, business travel, employee commuting, purchased goods & services, capital goods, fuel and energy related activities and waste.

In light of substantial developments to both policy and EirGrid as an organisation, we are currently undertaking a comprehensive assessment of our carbon footprint and SBTs.

Electricity consumption at our offices drives the vast majority of the emissions in Scope 1 and 2. In 2025, EirGrid consumed 2,829 MWh of electricity and 481.92and 95.53 MWh of purchased gas and direct gas, respectively, across all our offices and EWIC sites. In 2025 EirGrid continued to implement targeted energy efficiency measures to manage increasing electricity and heating demand driven by organisational growth. These measures include enhanced building energy management, alongside initiatives such as the installation of solar control window film. Additionally, EirGrid procures renewable electricity for purchased electricity across our offices through certified renewable energy arrangements where applicable.

Further details on EirGrid's progress against SBTs and Public Sector targets are outlined in the EirGrid Annual Report 2025.[57]

Climate Risk (Physical & Transitional)

EirGrid has identified Climate Change and Adaptation as a Principal Risk with the following definition: Ability to deliver a resilient and future-proof transmission system, with regards to both physical and transition climate risks, and execute against ambitious climate action objectives. Physically, extreme weather events may damage grid infrastructure, challenge system reliability, disrupt operations, and increase capital and maintenance costs. Transitionally, evolving climate policies, accelerated decarbonisation targets, and stakeholder expectations may outpace current grid development planning to meet future extreme climate change events, leading to potential stranded assets, regulatory misalignment, and reputational exposure. Climate-related risks are actively identified, managed and monitored across the organisation in alignment with EirGrid's Enterprise Risk Management Framework .

Strengthening Assurance, Governance and Compliance in Sustainability Reporting

Business in The Community Ireland, (BITCI) is a long-standing sustainability partner for EirGrid. During 2024-25, EirGrid prepared for the three-yearly recertification audit to the Business Working Responsible (BWR) Mark standard. The BWR Mark is an independently audited standard, certifying excellence in responsible and sustainable business practices. EirGrid obtained its sixth certification of the BWR Mark in November 2025 which further evidences our primary goal and demonstrates our position amongst leading companies committed to sustainability.

EirGrid has committed to reporting annually on our performance against each pillar outlined in our sustainability strategy, including performance against our Science Based Targets outlined above. In March 2023, EirGrid made its first submissions to the NewERA Commercial Semi State Bodies Climate Action Framework and continue to do so on an annual basis. This framework outlines our progress in relation to the following commitments:

- **Commitment 1:** Governance of Climate Action Objectives
- **Commitment 2:** Emission Measurement and Reduction Target
- **Commitment 3**: Emissions Valuation in Investment Appraisal
- **Commitment 4:** Circular Economy and Green Procurement
- **Commitment 5:** Climate-Related Disclosures

In 2025, we continued our preparation to align our sustainability reporting with the EU Corporate Sustainability Reporting Directive by developing targeted action plans to close gaps in sustainability data and disclosures, enhanced internal controls to support reporting accuracy and reliability, and advanced our ESG strategy, governance model, and data scoping. Due to recent developments of the Omnibus Proposal[58], EirGrid will now be required to report under this directive on FY2028. This directive will elevate all areas of our Sustainability Programme, under the pillars of Environmental, Social and Governance.

Our commitment is to conduct our activities in an environmentally responsible manner to protect the environment from harm and degradation, prevent pollution, deliver nature restoration and continually improve the management systems performance.

In the context of climate change and the need to de-carbonise the electricity supply, EirGrid is playing a key role in connecting high levels of renewable energy and in developing the electricity grid to connect renewable sources, in line with EU and Government targets. EirGrid is developing the Transmission System with due regard for the environment through sound environmental practices and full compliance with its environmental obligations.

58 Omnibus Package - European Commission

How EirGrid manages its environmental impact when planning the network

Respect for the environment is a key part of the development and operation of the transmission system. Electricity transmission infrastructure (OHL, underground cables, substations) interacts with many environmental factors including biodiversity, landscape and cultural heritage.

Our grid implementation plan integrates Ireland's Grid Development Strategy and the latest and approved Transmission Development Plan (TDP), and identifies policies and objectives that guide sustainable grid development and drive nature protection and restoration, onshore and offshore. In accordance with European and National law, we undertake Strategic Environmental Assessments (SEA) of our Grid Implementation Plans (GIP) and Appropriate Assessment of projects. SEA monitoring output data is accompanied by recommendations and mitigations to ensure the GIP is in line with best environmental practice.

The Grid Implementation Plan 2023-2028 was published in September 2024[59] along with the SEA.[60] This was following an extensive consultation process which included Irish Environmental Authorities for SEA, the general public and a wide range of public authorities, as well as Government departments in Ireland, the UK and France.

Between the five yearly SEAs, an annual Environmental Appraisal Report (EAR) has historically been produced by EirGrid for each TDP. This ensured any new projects in TDPs, not subject to SEA, were consistent with the strategic environmental objectives of the SEA. We have now evolved our approach to environmental monitoring and assessment during the cycle of our Grid Implementation Plans: The EAR process is to be replaced by our SEA Monitoring Methodology, having regard for statutory obligation for plan-makers to monitor plan implementation under the SEA Directive 2001/42/EC. To account for new projects in TDPs published since implementation plan adoption, SEA monitoring inputs will include new projects listed in TDPs published during the monitoring cycle - particularly those projects where a new (i.e., not previously deployed in Irish transmission network) technology is introduced. Mitigations and recommendations will be added/edited where needed.

Further details on the SEA of our Grid Implementation Plans, SEA monitoring and associated documents are published on the EirGrid Group website.

59 Grid Implementation Plan 2023-2028
60 SEA Statement for EirGrid Grid Implementation Plan 2023-2028

At project level, individual projects are all subject to environmental assessment outside of the SEA process. Some projects fall under a class of development requiring an Environmental Impact Assessment (EIA) Report. In these situations, we submit an EIA Report to the relevant planning authority. EirGrid submits a non-statutory Planning & Environmental Considerations Report, where an EIA is not required.

In 2025, in response to the Wildlife (Amendment) Act 2023, EirGrid published the Biodiversity Strategic Plan 2025-2035. The Strategic Plan formalises policies and associated metrics for the many existing nature protection and restoration activities which now form 'BAU' at EirGrid'. The Plan also identifies many new initiatives EirGrid is undertaking to benefit nature, people, and the wider ecosystem. The Plan is closely aligned with relevant Objectives and Actions outlined in Ireland's 4th National Biodiversity Action Plan and will be updated in response to key milestones or policies, such as the work of the Citizens Assembly on Biodiversity Loss. Prior to the drafting of the Plan, biodiversity policies were captured in the GIP (2024) and the associated SEA Statement.

Our Biodiversity Strategic Plan details five Objectives with associated policies and metrics committing to biodiversity protection and restoration. Metrics and findings associated with the Biodiversity Strategic Plan Objectives are reported in the EirGrid Annual Report. Additionally, the Strategic Plan Objectives are outlined in the Biodiversity Duty Reporting feedback form submitted to the Department of Housing, Local Government and Heritage, fulfilling EirGrid's requirement to report to the Department on the implementation of the 4th National Biodiversity Action Plan.

20.2 Minimising ESB Networks impact on the environment

Minimising our Impact on the Environment

At ESB Networks we are committed to operating our business so that we can be proud of our environmental performance. We recognise that our activities have environmental impacts and that we have a responsibility to manage these impacts in a manner that prevents pollution and provides a high level of protection for the natural environment. ESB Networks' Policy Statement on the Environment is available on our website.

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.

During 2025, ESB Networks' EMS underwent a recertification audit by an external Certification Body against the requirements of the ISO 14001:2015 standard. This audit sampled a large range of activities within the scope of ESB Networks' certification. No non-conformances were identified by the Auditors during the recertification audit. ESB Networks EMS continues to be certified in line with ISO 14001:2015.

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 Authority (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 provides 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 endoflife. This is framed through sustainability by design, embedding environmental considerations into engineering solutions, project delivery, and daytoday 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 can better identify where carbon is generated and how design decisions influence longterm environmental performance.

The baseline LCAs carried out for standard 110 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 lowcarbon alternatives. While challenges remain, such as inconsistent or outdated data, rapidly evolving materials, and the need for specialised expertise, ESB is already building inhouse 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, datadriven approach ensures that sustainable construction becomes a practical, measurable, and continuously improving part of infrastructure delivery across the network.

ESB is also advancing sustainable construction through the transition from traditional creosotetreated 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 longterm 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 OHL applications and are fully compatible with ESB's design standards, they provide a practical and lowcarbon alternative that supports the company's broader sustainability and circular design goals.

Enduring Environmental monitoring

ESB Networks has a Supervisory Control and Data Acquisition system which is continually monitoring the network. Faults on our system are notified to staff in our 24/7 control room in Leopardstown Road.

In 2025, ESB Networks had one Local Authority notifiable leak totalling 938 litres related to the Transmission fluid-filled cables Network.

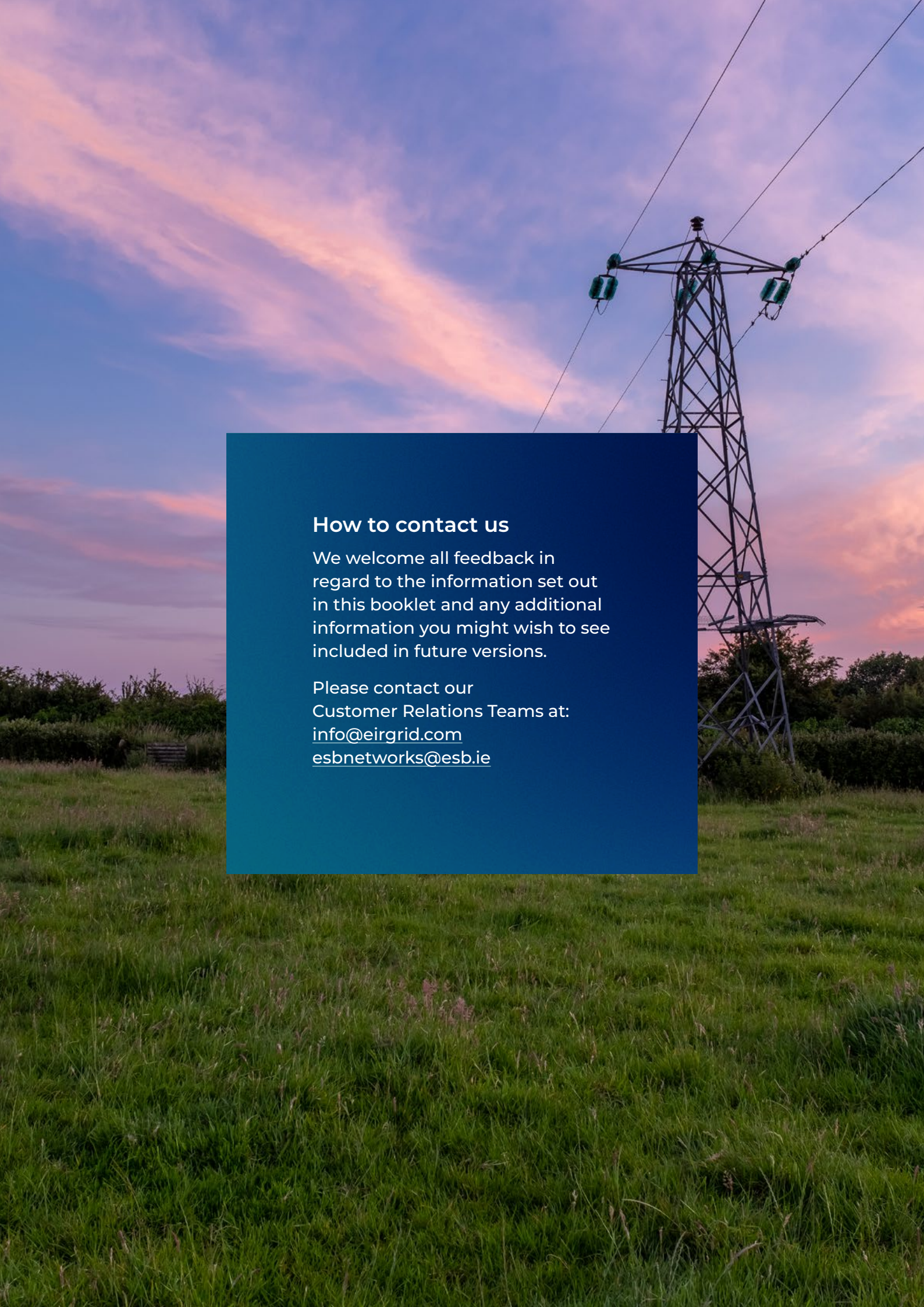
In 2025, 61.4 kgs of sulphur hexafluoride (SF6) was emitted due to equipment faults on Transmission electrical equipment. SF6 is commonly used in ESB Networks' high voltage switchgear on the Transmission network. It is used because of its very high electrical insulating properties which facilitate efficient and safe operation of the switchgear. Emissions rates for SF6 gas are reported to the Environmental Protection Agency on an annual basis in line with Regulation (EC) No 166/2006. There has been a trend of consistent leakage reduction over a number of years, as repair techniques improve, and we replace older equipment.

21. Acronyms

AIRAA	All-Island Resource Adequacy Assessment
AIF	Agile Investment Framework
BAU	Business as Usual
BESS	Battery Energy Storage System
BPRO	Best Performing Route Option
BWR	Business Working Responsibly
CA	Capital Approval
CAP	Climate Action Plan
CapEx	Capital Expenditure
CEER	Council of Europe Energy Regulators
CPP	Committed Project Parameters
CRU	Commission for Regulation of Utilities
CSRD	EU Corporate Sustainability Reporting Directive
DAM	Day Ahead Market
DASSA	Day Ahead System Services Auction
DCEE	Department of Climate, Energy & the Environment,
DSO	Distribution System Operator
DSU	Demand Side Unit
D-TUoS	Demand Transmission Use of System
EAR	Environmental Appraisal Report
ECP	Enduring Connection Policy
EI	Energisations
EIA	Environmental Impact Assessment
EMFs	Electric and Magnetic Fields
EMS	Environmental Management System
ENTSO-E	European Network of Transmission System Operators
ENS	Energy Not Supplied
EPA	Environmental Protection Agency
EWIC	East West Interconnector
FASS	Future Arrangements for System Services
FRT	Fault Ride Through
GB	Great Britain
GHG	Greenhouse Gas
GIP	Grid Implementation Plans
G-PST	Global Power System Transformation
HLTA	High-Level Technical Assessment
HS&E	Health, Safety & Environmental
HVDC	High Voltage Direct Current
IA	Infrastructure Agreement
IFJ	Irish Farmer's Journal
IPD	Investment, Planning and Delivery
JOTP	Joint Outage Transformation Programme
JPMO	Joint Programm Management Office

JSOP	Joint System Operator Programme
LCA	Life Cycle Assessment
LEUs	Large Electrical Users
LOLE	Loss of Load Expectation
LPF	Layered Procurement Framework
LSoS	Local Security of Supply
KPI	Key Performance Indicator
MARA	Marine Area Regulatory Authority
MEC	Maximum Export Capacity
MIC	Maximum Import Capacity
MOUG	Market Operations User Group
MUON	Minimum number of conventional units online
MVA	Megavolt Amperes
MW	Megawatt
NCC	National Control Centre
NCSC	National Cyber Control Centre
NECC	National Emergency Coordination Centre
NECG	National Emergency Coordination Group
NSEE	Networks Stakeholder Engagement Evaluation
OARP	Offshore Asset Readiness Programme
OECD	Organisation for Economic Co-operation and Development
OHL	Overhead Line
OPW	Office of Public Works
ORESS	Offshore Renewable Electricity Support Scheme
PA	Project Agreement
PIPs	Project Implementation Plans
PR4	Price Review 4
PR5	Price Review 5
PR6	Price Review 6
RAB	Regulatory Asset Base
RAs	Regulatory Authorities
RDD	Renewables Dispatch Down
RES	Renewable Energy Source
RES-E	Renewable Energy Source - Electricity
REU	Retained Energy Unit
RoCoF	Rate of Change of Frequency
RPP	Risk Preparedness Plan
RTE	Réseau de Transport d'Électricité
SAPs	Sectorial Adaption Plans
SBTs	Science-Based Targets
SDP	Scheduling and Dispatch Programme
SEA	Strategic Environmental Assessments
SEM	Single Electricity Market
SEMO	Single Electricity Market Operator
SF	System Frequency

SF6	Sulphur Hexafluoride
SML	System Minutes Lost
SMP	Strategic Markets Programme
SNOAM	Short Notice Outage Adjustment Mechanism
SNSP	System Non-Synchronous Penetration
SOEF	Shaping Our Electricity Future
SOs	System Operators
TAO	Transmission Asset Owner
TCG	Transmission Constraint Group
TDP	Transmission Development Plan
TLA	Transmission Line Assessment
TLAFs	Transmission Loss Adjustment Factors
TOP	Transmission Outage Programme
TOP25	Transmission Outage Programme 2025
TRL	Technology Readiness Level
TSO	Transmission System Operator
WERLA	Waste Enforcement Regional Lead Authorities



How to contact us

We welcome all feedback in regard to the information set out in this booklet and any additional information you might wish to see included in future versions.

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