SMART, FAIR, NOW

SSEN DSO Submission 2025

Scottish & Southern Electricity Networks

DSO Powering Change

DELIVERING A STEP CHANGE TOWARDS SMART, FAIR, NOW

As I reflect on the second year of our DSO accelerator programme, I'm very proud of the landmark progress we've achieved for our customers, stakeholders and wider society.

We remain committed to our **DSO principles of 'Smart, Fair, Now'**, which focus on value over volume, combining proactive investment, leading flexibility services and grid access at the right time and in the right place.

We're also delighted to see this balanced strategy, based on **whole system flexibility**, endorsed in recent ED3 policy announcements from Ofgem and the important study by the National Infrastructure Commission. We hope this will create increased alignment across DNOs to drive consistency and further benefit to customers.

Key to our progress in 2024/25 is how we've adapted to changing circumstances and integrated stakeholder feedback. By listening hard to all viewpoints, including those of the Performance Panel and our leading DSO Advisory Board (DSOAB), we've delivered significantly improved capabilities to help scale up and improve in every DSO area, delivering a record £617m in benefits during RIIO-ED2.

This includes **DNO-first activity** including the creation of long-term, regional Strategic Development Plans (SDPs) to provide greater certainty to the connecting customers, market and supply chain, supported by our now award-winning Local Energy Net Zero Accelerator (LENZA) tool.

We're also driving industry and leading by example with **new, innovative initiatives**, including our Systems for Flexibility programme, a first-of-its-kind DSO Service Statement and Operational Decision Making (ODM) framework, improving network visibility, data sharing and raising national standards for data quality.

And finally, with a focus on **continual improvement**, we've recognised ways where we can enhance some of our already leading services, such as simplifying and streamlining our flexibility contracting process, helping double the number of market participants and unlock new revenue streams.

I hope this submission demonstrates our commitment, not only to further progress in delivering the best possible DSO services but also in **enabling a Just Transition for our customers and communities** so that everyone can participate and benefit a smart, flexible system.

Chris Burchell, Managing Director, SSEN Distribution

Key to icons in this report:

First | Collaboration | New Insight | Step Change

Key achievements in 24/25

Providing data and information based on stakeholder needs ···→ p.8

- Leading the sector in network visibility, safely publishing **1.6bn** smart meter data points at a street level across our entire network.
- Enrolled **94%** of our local authorities on to our LENZA platform tripling our active users to **455**.
- Doubling the number of data portal users, with **11,500** visitors and **120,000** page views this year.
- Launching our Network Insight series of webinars to help you use our data to identify opportunities to connect more easily.
- Publishing new data sets and adding supporting methodologies for our datasets, to increase insights from our open data portal.
- Holding **three times** more data workshops as last year, providing tailored 1-2-1 support to current and future market participants.

Developing an inclusive flexibility marketplace ···→ p.15

- Enabling more capacity and faster connections, using flexibility to manage **£192m** of new infrastructure needs.
- Providing a new Flexibility Market Platform, alongside 1-2-1 support from our experts offering a tailored service.
- **More than doubling** the number of organisations participating in flexibility.
- Launching our industry-leading next generation **'Systems for Flexibility'** programme with a wide range of partners.
- Significantly reducing the effort required from new companies to join flexibility markets, cutting the number of contracts from **4 to 1**.
- Providing flexibility service providers with access to new markets through a pioneering data exchange with the NESO's Local Constraint Market.

Options assessment and conflicts of interest mitigation ···→ p.21

- Undertaken a targeted review of our governance approach to ensure it is effective, not excessive, so we can deliver timely network and flexibility solutions.
- Publishing our **DSO Service Statement**, which details how we act in stakeholders' best interests to efficiently deliver network capacity, addressing conflicts of interest.
- Become **the first DNO** to identify capacity needs for our communities out to 2050.
- Shared our proposals to communities based on local needs with our pioneering **SDPs**.
- Leveraging the support of our **active and fully independent** DSOAB, who challenge us on behalf of our stakeholders, and actioning their feedback.

Distributed energy resources dispatch decision making framework ···→ p.28

- Incorporating stakeholder feedback in the annual refresh of our **industry-leading ODM** framework so they have confidence in the decisions we make.
- Increasing transparency through our **enhanced quarterly performance reporting** to show stakeholders our progress.
- Significantly improving the flexibility market experience, working with NESO, UKPN, Elexon, and others, to **enhance data integration**, prevent conflict and drive standards.
- Openly sharing our **leading practice in ODM** and wider system coordination with other DSOs so they can fast-follow.
- Enabled **368MW** of flexibility for wholesale and NESO needs to flow through our network.

WE'VE BUILT ENDURING VALUE AND BENEFIT FOR OUR COMMUNITIES

Our three year accelerator programme, based on the principles of **'Smart, Fair, Now'**, is designed to drive DSO activities at pace. Here's a snapshot of where we are and what we've achieved:

Y1 Last year

We started at a pace, implementing new capabilities and translating innovation to BAU.

Planning strategic investment with local needs in mind to avoid delays and reduce costs for customers. Increasing engagement with **LENZA**, **Distribution Network Options Assessment (DNOA)** and **Distribution Future Energy Scenarios (DFES).**

Expanding the range of flexibility services and encouraging **participation**, engaging stakeholders to refine **standard products** and enhance our **market platform**.

Supporting the delivery of flexibility, strengthening **dispatch coordination**, delivering the first **ODM**, improving control room capabilities and accelerating **new connections**.

Increasing visibility of our networks by sharing **real-time network and planning data**, building **transparency** and trust and keeping stakeholders informed on **benefits' delivery**.

Y2 This year

We've built from strong foundations to demonstrate significant improvements across strategic planning and network development, network operation and flexibility market development.

Strengthened strategic planning and cross-sector collaboration

First DNO to deliver SDPs mapping network needs out to **2050** and identifying cost-effective modular build and flexibility options. Delivering sector-leading, dedicated support for Local Area Energy Planning (LAEP), recognised in the 2024 Utility Week awards, enrolling **94%** of local authorities in our area on to our LENZA platform, tripling our active users to **455**. Working cross-sector to support local ambition, for example the decarbonisation of the whisky industry on Islay and Jura.

Enhanced the way we share data to make it more usable

Publishing new data sets, supporting methodologies and enhancing self-serve options, alongside **first-of-their-kind** videos and practical guides to help navigate our data and portal more effectively. Doubling the number of portal users, with **11,500 visitors** and **120,000 page views** this year. Launching our Network Insight Series of webinars to help stakeholders use our data to identify opportunities to connect more easily. Leading the sector in network visibility, safely publishing **1.6bn smart meter data points** at a street level across our entire network.

Expanded how we think about transparency

Undertaking a targeted review of our governance approach to ensure it is effective, not excessive, so we can deliver timely network and flexibility solutions. Publishing our DSO Service Statement using plain English and worked examples so stakeholders can trust us to efficiently deliver network capacity and address conflicts of interest. Leveraging the support of our active and fully independent DSO Advisory Board and actioning **90 out of 98 points** of formal feedback. Validating our DNOA methodology with independent assurance.

Flexibility procurement and new market platform integration

Providing a new flexibility market platform, alongside 1-2-1 support from our experts to offer a tailored service, particularly for new market entrants. More than doubling the number of organisations participating in flexibility and significantly reducing the effort required from new companies to join flexibility markets, cutting the number of contracts from **4 to 1**. Enabling more capacity and faster connections, using flexibility to manage **£192m** of new infrastructure needs, and offered you more market opportunities through short-term flexibility.

Leading the industry in dispatch logic and coordination

Openly sharing our leading practice in ODM and wider system coordination with other DSOs, incorporating feedback and real-world experience in our latest release, and increasing transparency through our Quarterly Performance Reporting. Providing access to new markets through **pioneering data exchange** with NESO's Local Constraint Market to help manage transmission constraints; and working with NESO as the first DSO to pilot Data Sharing Infrastructure, enabling more effective operations and outage planning.

Y3 Next year

We'll build further on this momentum to:

Continue our support for RESP development, sharing experience in long-term strategic network planning.

Work with stakeholders to shape our role in **local energy**, promoting equitable access for domestic and local flexibility.

Expand our range of Access Products to enable more customers to connect faster.

Progress our next generation **'Systems for Flexibility'** to create a smarter, more effective network.

Seek further critical evaluation, challenge and encouragement from our DSO Advisory Board.

Expand our data and insights offering to drive **more granular solutions** for our customers and stakeholders.

WE'VE RESPONDED TO THE CHANGING MARKET CONTEXT AND STAKEHOLDERS' EVOLVING NEEDS

This year has been significant for the UK energy sector, requiring us to adapt and course-correct in response to new factors and challenges. Our initiatives have been shaped by these dynamic conditions, ensuring we remain responsive and proactive in our approach.

What has changed in the market		What we did
Change in government	• Accelerates timeframes to deliver on decarbonisation. • Launched a national AI strategy with implications for data centre related capacity growth. • GB Energy Local Power Plan.	• Accelerated our SDP roll-out to communicate our long-term strategic investment plans. ⋯→ p.22 • Engaged with DESNZ, Net Zero Hubs and local energy groups to shape policy and support. ⋯→ p.21
CP30	• Sets ambitious targets, including doubling onshore wind, tripling offshore wind and solar, and increasing battery storage fivefold. • Introduces a "ready first, connected first" approach, prioritising projects with secured planning permissions and technical designs to accelerate deployment.	• Reviewed our strategic business objectives to ensure our systems, processes, and products support future network needs. ⋯→ p.16 • Drove cross-industry collaboration with NESO, Ofgem, TOs, FSPs, suppliers, and DER customers to build a comprehensive understanding of diverse needs. ⋯→ p.19
ED3 Framework	• Emphasises significant network investment as essential to enabling the net zero transition. • Suggests DNOs need to adapt to regional needs and evolving market demands. • Requires strong partnerships with NESO, transmission owners, and stakeholders to support network planning. • Prioritises reliability, sustainability, and affordability as key principles for future network development.	• Developed SDPs for all GSPs, aligning network development with stakeholder input. ⋯→ p.22 • Engaged local communities to ensure solutions reflect regional needs. ⋯→ p.23 • Integrated stakeholders at every stage of network planning, from DFES formation to DNOA and SDP consultations. ⋯→ p.23 • Focused on quantifying DSO benefits, introducing metrics to measure consumer impact and track progress. ⋯→ p.4
System Operator remit	• Creation of NESO and strategic energy plans. • Introduction of RESP and transitional arrangements.	• Collaborated with NESO, TOs and Ofgem to improve network planning efficiency. ⋯→ p.24

This year has also seen us actively engage with our stakeholders through multiple channels, allowing their invaluable feedback to inform and refine our initiatives. By incorporating insights from surveys, focus groups, and direct consultations, we've ensured that our activities are aligned with the needs and expectations of those we serve.

Forums	What we heard	What we did
DSO Panel feedback	• Year 1 DSO benefits focused more on stakeholder views than consumer benefits. • Give more visibility of differences across SSEN's licence areas. • Include more data methodologies. • Uncertainty around our DSO/DNO governance model and trade-offs.	• Partnered with ENWL to standardise DSO benefits measurement across all DNOs. ⋯→ p.4 • Released data sets showing the detail across our north and south licence areas. ⋯→ p.14 • Added new methodologies on our portal and expanded existing ones. ⋯→ p.14 • Rebaselined flexibility targets in line with Ofgem and Government updates. ⋯→ p.17 • Implemented the DGIF process, detailed in our DSO Services Statement with real-world applications for clarity. ⋯→ p.27
DSO Advisory Board feedback	• DSO vision and key drivers could be better aligned to resonate with stakeholders. • DFES could be improved to support network planning and foster direct, value-adding engagement with stakeholders. • The DNOA process could be refined to assure its robustness and adequacy, with a focus on improving decision-making, operations, and communication. • Clearer signposting of when and where flexibility is needed could help attract more providers to the flexibility market.	• Recalibrated strategic decision-making around a Theory of Change Model linking what we do best with what stakeholders need. ⋯→ p.4 • Involved the Board in procuring independent assurance from a qualified third party. ⋯→ p.27 • Consulted on an improved DNOA methodology. ⋯→ p.23 • Created KPIs to demonstrate the true benefits of local flexibility to the system and consumers. ⋯→ p.15 • Refined customer engagement activities, driven by customer personas and use cases. ⋯→ p.6-7 • Enhanced data access and formatting by adding a search function, filters and use cases. ⋯→ p.14
Stakeholder engagement activities	• Early DSO engagement supports innovation. • Strong interest in using LENZA for net zero planning. • More guidance needed on delivering LAEPs. • Clearer alignment required between flexibility services and community generators to create flex capacity. • Better coordination from wholesale markets to local networks. • More details on capacity created by network reinforcement. • Desire for direct access to relevant staff for questions.	• Accelerated LENZA roll-out to local authorities and allowed access for third parties involved in LAEP. ⋯→ p.9 • Created a super user for LENZA, to demonstrate good practice, and shared use cases. ⋯→ p.23 • Included future flexibility requirements in the SDP process. ⋯→ p.22 • Engaged with NESO to refine and publish an updated ODM framework. ⋯→ p.29 • Published all SDP outputs for our entire network at GSP level.⋯→ p.22 • Hired more Business Relationship Managers to provide direct support throughout the connections journey. ⋯→ p.10
Satisfaction survey	• Limited understanding of DSO. • Frustration around flexibility for non-participants. • Many unaware or struggling with the Data Portal login. • Coordination with the NESO is a key theme for connection customers.	• Enhanced stakeholder engagement with webinars, newsletters, workshops, videos, and website summaries to guide users through our data. ⋯→ p.14 • Held workshops with NESO on Statement of Works, Transmission Investment Analysis, and Connections Reform. ⋯→ p.24

WE'VE ACCELERATED OUR IMPACT AND GROWN BENEFIT FOR CUSTOMERS

In this section we focus on measurable and quantifiable benefits, recognising that many of our activities act as enablers for broader goals like decarbonisation or are inherently difficult to quantify. In other sections of this submission we highlight qualitative benefits using case studies and stakeholder quotes, showcasing the wider value our DSO activities deliver. We identify and plan benefits delivery using a bespoke Theory of Change methodology and measure, track and report benefits using the following 5-step iterative process. Benefits are assessed in line with the ENA Common Glossary.

1. Engage	2. Identify	3. Value and Quantify	4. Monitor, Learn and Adapt	5. Communicate and Report
Purpose Understand the needs of each stakeholder group in the DSO journey. **Output** Benefits that stakeholders want to obtain from our DSO activities. **Methods** Roundtables, surveys and conferences; bilaterals, consultations and external advisory.	**Purpose** Link activities to relevant benefits and stakeholder groups. **Output** Logic map clearly evidencing how activities lead to benefits and the data required to track them. **Methods** Theory of Change.	**Purpose** Quantify the outputs and benefits of activities. **Output** Quantified impact from activities, both realised and unlocked. Data collection gaps identified and plan put in place to address them. **Methods** Ofgem CBA, Strategic CBA, CEM, SROI, Greenbook.	**Purpose** Track outputs and benefits to serve as input to decision making process. **Output** Planning and decision-making is informed by tracking of benefits, course-correcting where required. **Methods** KPIs (published quarterly), management meetings, DSO Board meetings, Theory of Change.	**Purpose** Communicate our impact to internal and external stakeholders to ensure accountability. **Output** Outputs and benefits published internally in SSE reporting and externally. **Methods** Performance shared with DSO Advisory Board, annual panel submission, SSE reporting framework.

How has our framework evolved this year?

We've listened to feedback from the panel and our stakeholders that benefits should be clearly attributed and calculated. They also wanted to see the direct benefits for consumers. This year we've enhanced our approach in five key areas:

- **Collaboration:** We're pleased to have worked with ENWL to initiate a DSO Collaboration Group supported by the Energy Networks Association (ENA) to standardise benefits' measurement.
- **Enhanced framework:** We developed a bespoke Theory of Change for our DSO activities and utilised this as a tool to identify and measure benefits, as well as to plan future activities at our DSO Management Conference.
- **Quantification:** We've continued the use of robust and best practice methods to quantify our impact, such as the HM Treasury Green Book approach to value carbon emissions avoided and Social Return on Investment for societal benefits.
- **Tracking and realisation:** We established internal tools and processes to better track benefits based on agreed definitions across the sector, ensuring we have a clear criteria for when each benefit is realised, and how future benefits are unlocked within RIIO-ED2 and beyond.
- **Transparency:** We've included a detailed table within this submission outlining the benefits we have quantified across each category of our strategic action plan. We also plan to publish our DSO benefits methodology outlining our robust approach to quantification.

Our impact

£69M
Year 2 realised

£617M
ED2 realised to date

£794M
Unlocked to be realised in ED2

£321M
Ambition

	Definition	Example
Realised	Benefits where the activities taken have resulted in a quantified value accrued to the relevant stakeholder.	A customer connects three years ahead of schedule due to our DSO actions. We record all benefits as realised upon connection.
Unlocked	Benefits from activities already delivered that we have high confidence will be realised in a future year.	A customer has accepted an accelerated connection offer but has not yet connected. We record these benefits as unlocked once an offer is accepted.
Ambition	Benefits from activities already delivered that could result in benefits being realised in future years, but lack the certainty of unlocked benefits.	We've made accelerated connection offers available in the market but these have not been accepted yet. We record the potential benefits from these connections as ambition.

Defining benefits

- We're proud of the scale and pace of benefits we've realised and unlocked in the first two years of RIIO-ED2, driven by activities as part of our **'Smart, Fair, Now' Accelerator Programme**.
- A significant proportion of the **£617m** realised benefits to date relate to our activities that have **accelerated customer connections, 99% of which are renewables**.
- Our activities delivered to date have already unlocked a further **£794m** in benefits that we expect to be realised by the end of RIIO-ED2. This includes the societal benefits expected from the acceleration of affordable housing in West London and savings to customers from deferred reinforcement and other reduced network spend.
- We've also forecasted an **ambition** for specific activities, remaining conservative in our estimates and only reporting on areas where we have higher confidence in our estimates and delivery. For example, we know our connections queue will change following implementation of Connections Reform, so we've been cautious in making estimates for our ambition in this space.

DSO BENEFITS WE DELIVERED IN 2024/25

The table below outlines the Theory of Change we developed for the DSO activities we delivered this year, with values for benefits Realised, Unlocked and Ambition. We've evolved our approach this year in line with the principles of the DSO Collaboration Forum. We regularly report on all our key enablers and KPIs in our quarterly Performance Reports. All values are gross benefits in 2024/25 prices.

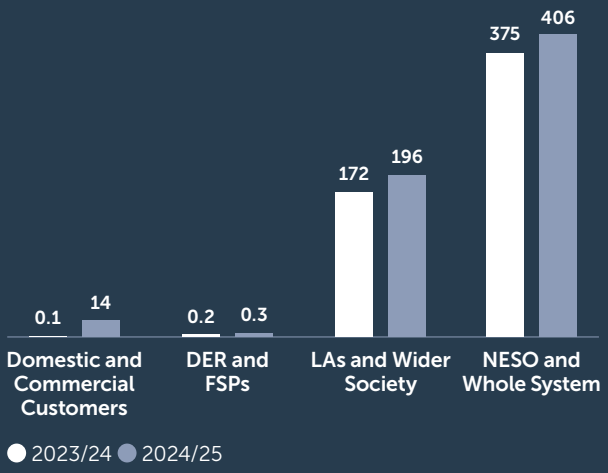
Year 2 activities identified	Year 2 outputs	Year 2 outcomes	Year 2 realised benefit	Future benefit to date Unlocked	Future benefit to date Ambition	Beneficiary	Type*	Methods
Forecasting and planning future needs								
Engagement with Local Authorities (LAs) through LENZA and Net Zero Engagement Specialists	Supported **two** LAs in developing an LAEP	Better and faster development of LAEPs to deliver net zero, with reduced efforts from LA	Avoided costs for LAs on LAEP planning and decarbonisation initiatives	**£746k**	**£20.9m**	Local authorities	D	SROI
			Societal benefits from reaching net zero through LAEPs	**£2.5m**	**£70m**	Wider society	I	SROI
Developing an inclusive market								
Offer of flexibility products	**512MWh** of flexibility dispatched	**£13.8m** deferred reinforcement in the network across ED2	Reduced consumer bills **£13.8m**	**£177.9m**		Domestic and commercial customers	D	CEM
			Revenue from participating in flex markets – FSPs **£114k**			Flexibility service providers	D	CEM
			Revenue from participating in flex markets – Domestic Customers **£82k**			Domestic and commercial customers	D	CEM
		Reduction in use of diesel generators of **60.1MWh**	Reduced carbon emissions – **15** tons CO_2e, equal to **£5k** in societal benefit			Wider society	I	Green Book
Developing network flexibility at scale								
Access Products and Technical Limits	**43.7MW** of distribution and transmission constrained generation and demand to connect through ANM and Technical Limits	**43.7MW** increase in renewables connected	Reduced carbon emissions **34,859** tons CO_2e, equal to **£12.6m** in societal benefit			Wider society	I	SROI
		43.7MW of accelerated connections	Avoided cost of delaying generation connection **£29.8m**	**£433.2m**	**£230m**	Whole system	D	SROI
		300 affordable houses accessed sooner through the West London Initiatives	Societal benefits from affordable housing accelerated **£11.8m**	**£179.5m**		Wider society	I	SROI
Refined field based ANM hardware	**0** additional ANM controllers installed (**2** in advanced development)	Avoided additional installations for capacity changes	Savings for connecting customers	**£20k**	**£100k**	DER	D	CBA
ANM Improvements	**2** standardised ANM modules installed	**56.4MW** of connections with faster ANM deployment	Reduced consumer bills due to reduced network spend **£28k**		**£169k**	Domestic and commercial customers	D	CBA
	0 generators with remote access field-base devices (**4** in advanced development)	Reduced engineer site visits						
PCNZ Fund	**£402k** awarded to vulnerable customers	Increase in renewable generation connected – to be connected in 2025/26	Reduced carbon emissions	**£104k**		Wider society	I	SROI
		Increase in LCT demand connected – to be connected in 2025/26	Societal benefits from providing LCTs (energy savings)	**£180k**		Wider society	D	SROI
			Societal benefits from providing LCTs (LCT value) **£361k**	**£315k**		Wider society	D	SROI
Data and insights								
LV monitoring data and access to half-hourly consumption data from smart meters	Communicated with **2.45m** smart meters and **1,516** increase in LV monitoring data points	Increased demand shifting leading to lower peak demand	Lower whole system costs **£604k**			Whole system	I	SROI
		2,180 avoided site visits on voltage complaints.	Reduced consumer bills due to reduced network spend **£52k**			Domestic and commercial customers	D	CBA

*D= Direct Benefit, I= Indirect Benefit

Our impact per stakeholder

Stakeholder group	Examples of quantified benefits
Domestic and commercial customers	Lower bills from reduced network spend. Revenue from participating in flexibility markets.
Distributed Energy Resources (DERs)	Avoided costs of delaying connections, such as through Access Products.
Flexibility Service Providers (FSPs)	Revenue from participating in flexibility markets.
Local Authorities (LAs)	Avoided costs due to reduced effort in developing LAEPs.
Wider society	Reduced carbon emissions. Societal benefits from affordable housing.
Whole System and NESO	Avoided system costs from accelerating connections and data visibility.

Cumulative realised benefits (£m)

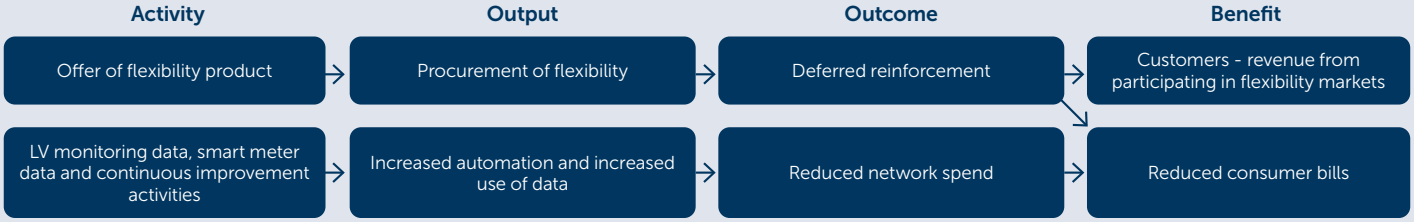


Benefits per stakeholder

Domestic and commercial customers

£14M
Realised ED2 to date

£178M
Unlocked (to be realised in ED2)



How we've delivered value

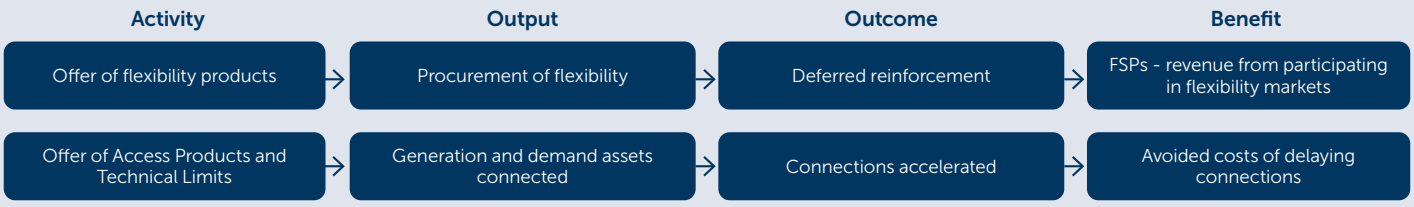
- **Reduced bills from reduced network spend –** Since the start of ED2, we've used flexibility to manage **£192m** of new infrastructure needs (exceeding our **£32m ED2 target**), releasing more capacity and enabling faster connections. Adjusting for the cost of purchasing these flexibility services, the time-cost value of money, and application of the Totex Incentive Mechanism (TIM), the net impact results in an **average bill saving of £7.23** per customer in 2026-27 monies*.
- **Revenue from participating in flexibility markets –** We've continued to grow our flexibility market, with over a third of our spend for flexibility services dispatch this past year estimated to be for domestic customers (see ⋯→ p.17). We're also investing in new ways that will increase benefits for our domestic customers in the coming years through projects such as the Local Energy Market Alliance (LEMA),which focuses on accelerating new-build housing connections by introducing a new access right, which is contingent on a flexibility service (see ⋯→ p.16).
- **Investing to create capacity where its needed –** Though not quantified currently, a key benefit we deliver to customers as a DSO is providing the capacity to connect when, and where they need it. We use flexibility to release capacity when economically viable, but we also invest when required. We've submitted a Load Related Expenditure Reopener to allow us to execute immediate investment decisions for significant asset upgrades (see ⋯→ p.22).

*2026-2027 is the most recent tariffs published

FSPs and DERs

£329K
Realised ED2 to date

£20K
Unlocked (to be realised in ED2)



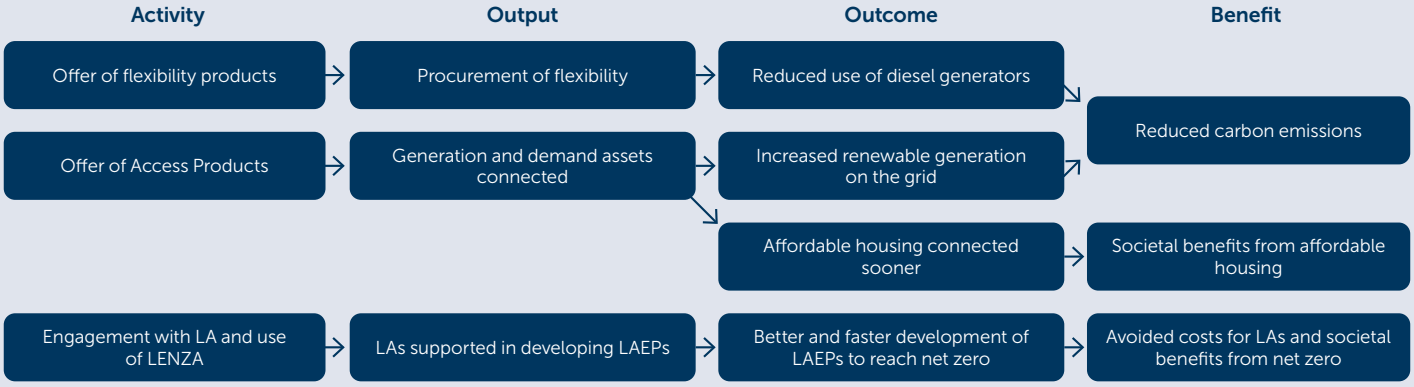
How we've delivered value

- **Revenue from participating in flexibility markets –** We've dispatched over **512MWh** of flexibility this past year, our market has grown with double the companies from Year 1 participating and we've made significant improvements to the customer journey through extensive engagement with FSPs, such as the launch of ElectronConnect, streamlining market entry (see ⋯→ p.18).
- **Avoiding delays for connecting customers –** One of the main benefits we're delivering for DERs is to provide early grid access and avoid delays. Since this is a benefit both for the connecting customer and the system as a whole by increasing available capacity, we're including it in both stakeholder groups whilst making sure we're not double counting benefits when providing total values.

Local authorities and wider society

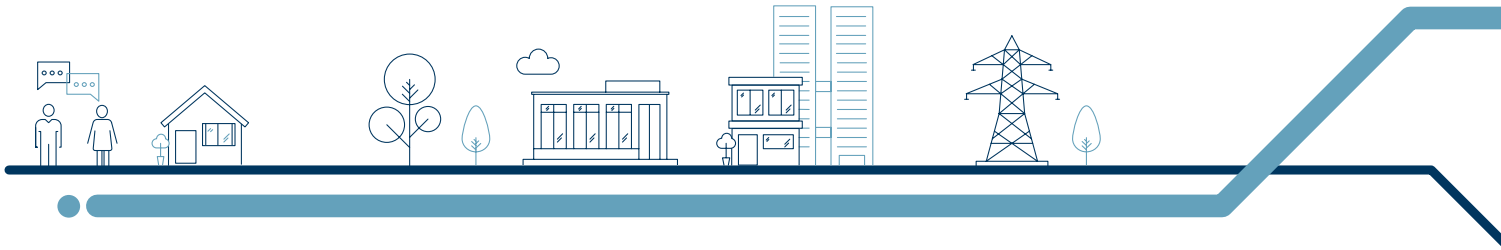
£196M
Realised ED2 to date

£181M
Unlocked (to be realised in ED2)



How we've delivered value

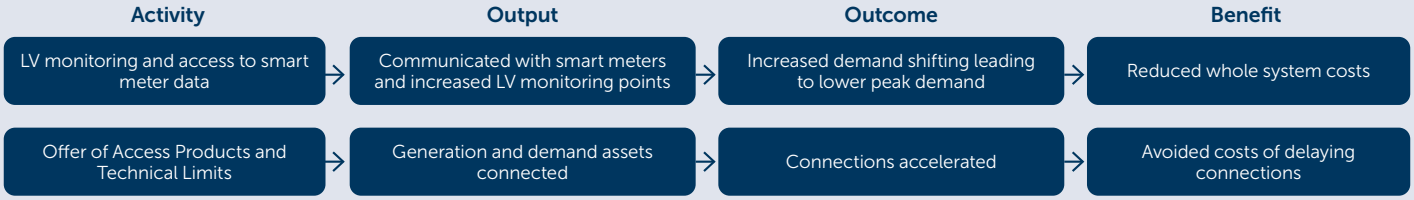
- **Reduced carbon emissions –** Through accelerating connection of renewable generation in our network, we estimate we've avoided **almost 35,000 tons of CO_2e**, this equates to the energy related emissions from over **14,000 homes**. We've also reduced our reliance on diesel generation for islands, which not only reduces emissions but also other impacts such as noise.
- **Societal benefits from supporting LAEPs –** The engagement we provide to local authorities through our Net Zero Specialists and access to LENZA makes the LAEP process more cost-effective, leading to a direct benefit to LAs. We've also estimated the societal benefits we're unlocking through our support to the LAEP process and achieving net zero (see ···→ p.23). We've used studies on the impact of local climate action, attributing a small proportion of those benefits to SSEN given the key role that electricity will play in enabling net zero. The approach follows a SROI methodology, and we'll review this estimate as further research strengthens our methodology.
- **Affordable housing accessed sooner –** We highlighted the acceleration of West London connections in our last DSO submission, and can report that **300** of the affordable houses accelerated last year have already been built, and we've unlocked an additional 3,315 homes, **2,888** of which are affordable homes (see ···→ p.25).



Whole electricity system and NESO

£406M
Realised ED2 to date

£433M
Unlocked (to be realised in ED2)



How we've delivered value

- **Contributing to NESO benefits across GB –** Last year we reported on key outputs we're delivering which contribute to GB-wide benefits for NESO. We continue to make progress in these activities, in particular:
  - We maintain network visibility through a blend of smart metering, LV monitoring and the load model. This aligns with our ED2 target.
  - **1,301MW** already connected registered capacity made available to NESO since start of ED2.
  - **563MW** of generation connected ahead of transmission reinforcement through Access Products since start of ED2.
  - Of the **750MW** of new connections offered early grid access through technical limits, **84%** of them have been accepted and **17MW** have already connected.
  - We've published or shared **over 110,000 real-time and half-hourly data points**.
- **Avoiding connection delays –** We have accelerated close to **600MW of connections** in distribution and transmission-constrained areas since the start of RIIO-ED2 (see ···→ p.28). This has a benefit to the connecting customer (see DER section) and the whole system which we've calculated as the economic value of avoiding the delay, using estimates from an analysis that NERA produced for SSEN in 2023. We've assumed that all benefits realise at point of connection, e.g. if a customer connects three years ahead of time, we calculate the total benefit from connecting and allocate them to the year of connection, rather than spreading the benefits over three years.
- **Working with NESO –** Collaborating on and supporting the RESP process and establishing leading data exchanges with for LCM (see ···→ p.19 and p.24).

WE'RE LEADING THE WAY ON DATA QUALITY

We've worked with stakeholders to ensure our data delivers

Data facilitates coordination and powers continued innovation. **The strategic aim of our three-year accelerator for data and information provision is to:**

- Prioritise data provision based on stakeholder needs, ensuring the right quality and granularity to empower network users in decision-making.
- Ensure adaptable data-sharing infrastructure enhances the customer experience across DSO services, keeping pace with evolving AI and processing capabilities.

Y1

In Year 1 we became the first DSO to publish and share smart metering data; we launched our Open Data Portal and we're the first DSO to become Icebreaker One Level 1-assured.

Y2

In Year 2 we've built on our Year 1 initiatives and continued to improve our data portal, NeRDA and LENZA, along with our market-leading provision of smart meter data by:

- Improving the accessibility and usability of the data we share by empowering stakeholders to unlock its full potential.
- Increasing our data quality, underpinned by a newly-formed Data Governance Steering Group and leveraging the ongoing partnership with Icebreaker One.
- Continuing to drive the industry forward in leveraging smart meter data to enhance internal operations and create opportunities for collaboration.
- Enhancing the provision of comprehensive data across planning, operations and market focusing on areas that delivers most value to data users.

Data benefits for customers and stakeholders

Utilised smart meter data to shift peak demand and reduced site visits

£1.2m
in benefits*

Leading to lower whole system and network costs

* comprises realised gross benefits in Year 1 and Year 2 plus unlocked benefits (see page 5) in 2024/25 prices.

Our stakeholders have driven change

Our approach involves publishing datasets and tools focused on stakeholder needs:

Feedback	Action
Stakeholders asked for sessions on specific data sets that are published with walkthroughs etc	Introduced tailored data surgeries focusing on LTDS, ECR and smart meter data (see ···→ **p.14**).
DER customers wanted to understand how the Data Portal could support future connections to the network	Instigated a Network Insights series which walks them through relevant data and focuses on specific network locations (see ···→ **p.14**).
DER customers wanted to better understand where and when they may be constrained	We share real-time power flow related to their curtailment which also helps FSPs plan their investments (see ···→ **p.14**).

Highlights of what we've delivered in 2024/25

Year 2 focus	Initiatives
Increasing reach and usage	• Focused on creating comprehensive support through new materials, how-to guides, events and surgeries to encourage participation. • Welcomed **11,000 new users** to our data portal from April 2024 demonstrating the success of our engagement.
Expanding access to high quality data	• Published **24 data sets**, supporting decision-making and innovation for data users. • Provided comprehensive analysis opportunities by publishing **93 data sets** covering current and historic data. • Published **99 supporting resources**, including data dictionaries, maps, and reports, ensuring users have the context they need. • Achieved Icebreaker One Level 1 assurance for **11 data sets**, providing greater confidence in data accuracy and reliability. • Enabled interactive and intuitive data exploration through our SSEN Embedded Capacity Register GIS Dashboard.
Leveraging smart meter data	• Continued to lead the sector in publishing of smart meter data with **1.6 billion** rows of data, updated daily providing near-real time insights to our stakeholders.
Enhancing transparency with methodologies and documentation	• Offered clear insights into our data processes and how we collect and process data by publishing 16 methodologies. • Ensured customers could maximise the value of data in their projects by curating links to reports (both internally and externally) and third-party resources.
Engaging with users to drive better outcomes	• **3 data surgeries** hosted, creating spaces for detailed discussions on LTDS, ECR and smart meter data at the specific requests of our stakeholders. • In partnership with Oxford University we explored new innovative uses of our data through an Oxford data hackathon. • Undertook a User Feedback Survey, ensuring our data services evolve to meet customer needs. • Responded to **79 data requests** from users within the 12-month period. • Published new support videos, improving accessibility and understanding of LTDS and smart meter data.

We've delivered comprehensive data across our planning, operations and market roles to support net zero plans

We've enabled access to a wide range of meaningful data so customers, stakeholders and communities can unlock their net zero ambitions. Our focus on providing the right data, in the most useful format, is in response to overwhelming stakeholder response.

We've empowered local authorities to produce data-driven LAEPs

Why it matters

This important geospatial planning tool enhances the consistency, quality, and granularity of LAEPs submitted by local authorities so we can better understand and plan for their future network needs.

Addressing our users needs

We conducted surveys, roadshows and created a super user group to get feedback and test new features in LENZA resulting in an expansion of capabilities and additional local authority support to operationalise the tool.

Launched two new features:

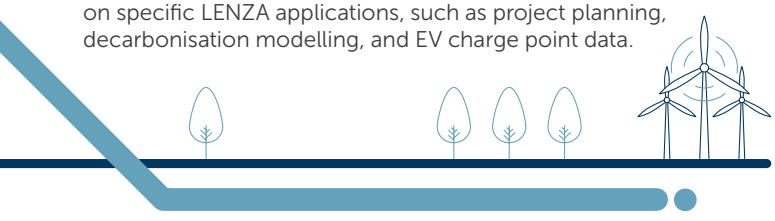
- **Portfolios:** this function streamlines asset modelling across multiple builds by applying filters and comparing forecast options for technology uptake (e.g., heat pumps, solar PV) across geographic regions.
- **Master Plan:** this function consolidates selected portfolios into a single net zero plan with graphs and charts to explain forecasts and track progress against targets; data from the Master Plan informs our DFES.

Integrated seven new data sets into LENZA, including:

- Onshore wind and solar modelling, DNOA information on future network capacity, generation headroom at primary substations, pipeline capacity from our headroom report, transport and mobility data from Field Dynamics, postcode-level income data from Urban Tide, and SPEN electricity supply areas for secondary and primary transformers.

Helped local authorities use LENZA:

- Our local authority support was recognised as award winning by Utility Week. This included **18 LENZA dedicated sessions** consisting of demos, drop-ins, Q&As and sessions focused on specific LENZA applications, such as project planning, decarbonisation modelling, and EV charge point data.



Outcomes and benefits

- **94%** of eligible local authorities have at least one active account.
- Recorded **33 users** for one local authority.
- **10,594** data sets downloaded.
- **3 LAEPs** created.
- In April 2024, there were **122 users**, increasing to **455** by March 2025.

In action Complex modelling by a community group using new capabilities in LENZA

Energise South Downs (ESD) used LENZA's User Upload tool to combine datasets from the University of Southampton, WeWantWind.org, and others to pinpoint optimal wind sites. They visualised and refined this data for feasibility studies and integrated it with protected land and network data. By overlaying a 'Fuel Poverty' dataset from LENZA's socio-demographic folder, ESD identified sites where onshore wind could benefit fuel-poor communities.

> *"SSEN Distribution have provided the tools we needed to assess sites which might be suitable for renewable energy projects – the first step towards helping the growth of community owned, locally produced energy."*
>
> **Catriona Cockburn,** CEO, Energise South Downs

What's next?

- Publish additional use cases and implement a customer success plan to ensure all local authorities achieve the same high satisfaction as those with LAEPs and net zero plans.
- Leverage LENZA as a standardised DFES submission tool, integrating local energy plans into regional and national frameworks to improve energy demand forecasts.
- Partner with Cadent and National Gas Transmission to standardise local authority data, enhance cross-network integration, and refine forecast accuracy.
- Collaborate with other DNOs and explore integration opportunities with DSO planning tools to ensure seamless data sharing across planning frameworks.

We're providing open access to DSO data

Data portal dataset	Planning	Operations	Market
SHEPD & SEPD Network Development Report	✓		
SHEPD & SEPD Long-Term Development Statement	✓		
Embedded Capacity Register	✓	✓	✓
Smart Meter LV Feeder Usage		✓	✓
SSEN Substation Data, Grid Supply Point & Bulk Supply Point		✓	
NeRDA Opengrid Dashboard		✓	
Real Time Outage & NaFIRS Yearly Export		✓	
Generation Availability & Network Capacity	✓	✓	
Orkney & Isle of Wight Active Network Management		✓	
Distributed Future Energy Scenarios	✓		✓
Flexibility Services, SLC31E, Flexibility Market Price, & Contract Award Notice	✓		✓

We're accelerating connections with enhanced data visibility

NEW

We've listened to our stakeholders and focused on providing easier information about connection opportunities on our network to support decision-making.

Why it matters

Our customers value clear information and insight to help them make faster decisions. We've tested, developed and refined our approach by working with them through regional conferences, workshops, bilateral meetings, user groups and webinars. Our DSOAB also emphasised aligning data to the decision-making journeys of our customers.

Activities

- Our Autumn Series and Connections Customers Conference focused on data sharing needs, gathered insights into decision-making processes, and identified critical requirements for stakeholders.
- Our DSO director has held one-on-one discussions and attended workshops with key connection specialists and customers.
- We've initiated a heatmap revision process covering our Embedded Capacity Register and Capacity Heatmaps.
- In collaboration with other DNOs and Ofgem, we're defining standards for CIM models for the LTDS in response to new license conditions. We've been working with DSOs to test CIMs, interoperability, and data quality.
- We've hired more Business Relationship Managers to provide direct support and added tailored navigation on our portal using customer personas to support our stakeholders' requirements for easy access.

What's next?

- We're working on LTDS improvements including geospatial functionality which will allow connections customers to run power flow models on the network.
- We'll create a user-friendly online tool for stakeholders to identify network capacity quickly, understand growth areas, and view investment plans. It will provide detailed features for complex decisions.

Outcomes and benefits

Addressing stakeholder needs we focused on providing easier information about connections opportunities to support decision making.

Customer needs	What we delivered
Guidance through our data	• Quarterly Network Insight series that helps stakeholders use our data to identify opportunities to connect or offer services to the network.
Better insight to consider options	• Addressed the discrepancies between our ECR and capacity heatmaps so our publications provide a consistent view of capacity information which has: – Improved self-serve connection applications by helping them avoid constrained areas and secure earlier connection dates. – Supported the development of flexible solutions based on network constraints, helping us manage its network more efficiently and reduce constraint costs. • Launched a new information pack – in response to direct customer feedback – to accompany curtailable connection offers providing the site-specific data to complete a curtailment limit calculation. Co-created with the support of specific customers and customer agents it includes NeRDA, the distribution queue and asset ratings. • Delivered the data needed to raise investment on schemes e.g. historical curtailment via enhancements to our NeRDA dashboard supporting live ANM scheme performance events, reason, amount and durations.
Earlier insight to support your decisions	• Within our Flexibility Roadmap we signpost the availability of upcoming Access Products for accelerating connections. • The Data Roadmap offers visibility of the data we plan to provide and influence our data priorities.

We've provided accurate, user-friendly and comprehensive market information for our flexibility service providers

Why it matters

Having the right data helps market participants calculate the benefit to them of providing Flexibility Services and support their economic assessments.

This year we've:

- Introduced a new flexibility market platform (ElectronConnect) which visually details requirements ahead of bidding.
- Reported on Flexibility Service dispatch volumes, shared Risk of Conflict Reports with NESO, and provided visibility of DSO actions (e.g., curtailment under non-firm connections) through our Seasonal Operability Reports.
- Actively applied our published operational decision-making methodology and updated it based on provider feedback and operational experience.

What's next?

- We plan to increase data availability based on stakeholder feedback to include more granularity on dispatch data and increased detail on expected procurement (which is already included in our procurement statement).
- We plan to further develop APIs with the Flexibility Market Platform to increase interaction options.

Our network visibility strategy is unlocking net zero goals

Our approach provides a flexible and affordable level of visibility across our entire network by sharing real-time network and planning data, building transparency and trust in our operations.

Why it matters

Driven by our network visibility strategy published in February 2024, enhancing network visibility for both our operations and our customers remains a key priority. Greater visibility enables more accurate load forecasting, real-time monitoring, and faster fault detection, while also improving system coordination with FSPs and NESO. These advancements drive greater network efficiency, reliability, and customer service—critical as the number of DERs connecting to our network continues to grow.

Maximising network visibility through external partnerships

Guided by our digital and network strategy, we've focused on strengthening our data provision by partnering with sector-leading energy technology companies.

Why it matters

- Collaborating with new partners enables our DSO to leverage cutting-edge technologies, data-driven insights and stay ahead in a rapidly evolving energy sector.
- Our work with Weave focuses on advancing the application of data science and AI to accelerate access to smart metering data, drawing on our leadership in access to smart metering data. Our priority is to work through data dictionaries explaining key metadata terms, as well as aiming to drive interoperability across published data sets.
- Our pilot of Data Sharing infrastructure, partnering with NESO and transmission operators, is laying the foundations for data sharing across electricity system participants and is informing the MVP for national use.

In action Shedding light on EV charger faults in partnership with Ohme

This year we've worked closely with Ohme in a new innovative data-sharing partnership. We provide smart meter data to obtain granular insights about usage, voltage and power flow demand which has improved our load forecasting.

Our teams are therefore able to provide near-real time updates on faults and voltage issues to EV chargers, enabling us provide better customer escalation through our customer call handling team.

What's next?

- Work with Ohme on calibration of insights against monitoring equipment data and Smart meter data sets.
- Develop customer profiles for EVs, solar generation, battery and heat pump users across our network.

Percentage of LV monitors installed against 20k ED2 target

4,318

Total LV monitors installed

27%

installed by end of Year 2

NeRDA

Through NeRDA we openly publish near real-time data across voltage levels, with graphical and API access driving transparency and setting new standards for open real-time data. NeRDA is a tool for FSPs, innovators and NESO, which serves as a foundation of system coordination. Our goal is to build its capability so that it can be fully integrated into network operations and decision-making across NESO and the wholesale flexibility market.

This year we expanded our operational data provision on NeRDA aligned to stakeholder needs and the influence of CP30 – ensuring that NeRDA evolves in alignment with the future energy needs. We've expanded NeRDA coverage to all available monitored secondary substations and added specific real-time data for ANM customers.

We actively engaged with stakeholders in small focused discussions through our DSO in Action autumn series driving new understandings and identifying future improvements to the platform.

- In response to positive feedback last year, we transitioned NeRDA from beta into full production.
- Publish live curtailment data to help FSPs make more informed operational and trading decisions.
- We've made it easier for users to search and navigate all our electrical assets by users, to filter data and voltage levels and to access relevant monitoring data – this enables faster, more efficient data access.

What's next?

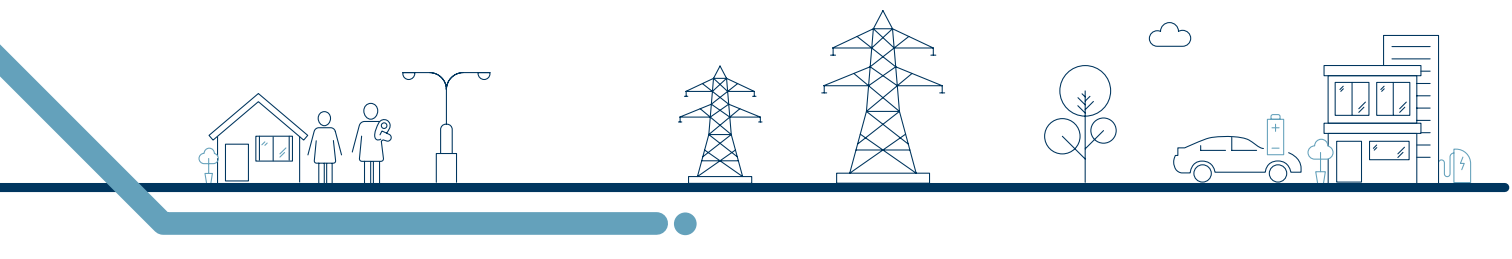
We're exploring integrating ANM constraint information, alongside relevant ONS data, into NeRDA in Year 3. This would allow customers with an ANM connection to make more informed operational and trading decision to maximise their revenue.

In action Octopus

Octopus Energy have been actively using our NeRDA data via API to design and test their dynamic grid tariff, enabling a whole system benefit from costs and carbon reduction by shifting customer behaviours to specific times, away from peak demands.

Additionally, they've been exploring UK network utilisation against European DSO's performances through this data to predict trends and explore new opportunities in the market.

We think access to real-time information is key to unlocking wider market access and system coordination (see ···→ p.19).



We lead the way in the use of Smart Meter data

Why it matters

As the only DNO publishing daily HH smart meter consumption data, we're setting a benchmark for transparency and innovation in the energy sector. Combining smart meter and LV monitoring data enhances network visibility, reducing reliance on costly modelling and equipment. We've used this position to improve our operations, guide the industry and provide granular insights to our customers.

Our daily upload of HH smart meter consumption data to our open data portal, provides upwards of **1.6 billion data points** – the most historical records available across all DSOs for our stakeholders. We've harnessed the benefit of third-party data for our own operational needs and making it available to all customers in the common standard now adopted across GB DNOs.

Our high-quality smart meter data is transforming our operations

We've used smart meter voltage alerts to identify and address outages remotely which has reduced response times, reduced downtime and customer complaints, and provided a more reliable network overall. This will create the ability to avoid site visits to the c.**2,400** voltage complaints received each year. This should enable savings of c.**83k** per year based on avoided visits.

In action **Exploring new ways of using smart meter data**

We hosted a smart meter data hackathon to develop innovative solutions to industry challenges, stress-test our data and tools and discover new talent to recruit and collaboration.

"This hackathon provided a valuable platform for students from the University and SSEN, leading to impressive breakthroughs in data-driven load monitoring and forecasting."

Dr Elnaz Azizi, University of Oxford

Our high-quality smart meter data is driving benefits across the industry.

We're addressing energy theft through smart meter data and are the sole DSO collaborating with the Retail Energy Code (REC) to proactively identify energy theft using this data. This initiative has demonstrated its potential in identifying fraudulent activities and reducing energy costs. We have supplied REC with the pertinent data and alerts for specific sites and are awaiting formal outputs in the forthcoming months.

Moreover, we are sharing detailed smart meter data for a trial with Energy UK, hosting smart meter workshops, and partnering with academic institutions to integrate this data into their research, gather feedback, and drive innovation. We also play a pivotal role among DSOs in discussions with DESNZ, contributing to the development of the smart meter data repository to ensure accurate and valuable integration of smart meter data and promote industry-wide usage.

Lastly, we respond to community requests by working collaboratively with individual groups. One such instance involved providing an ad hoc dataset related to our network and smart meter penetration in Orkney. This supplementary dataset was made available on our data portal, and we worked with the requester to facilitate its application.

"Thank you so much for your effort in putting this dataset together and it's exactly what we want. It's great to see that you are incorporating the feedback from the community and improve the data service accordingly."

Meng Wu, Heriot-Watt University

What's next?

- We led industry collaboration on voltage management at our event with Utility Week and are exploring using smart meter data with innovative deployments such as low cost secondary substation monitoring, to inform a new, flexible voltage policy. Shifting from a fixed standard to an adaptive framework will better support renewable integration, reduce voltage costs, and drive progress toward net zero.
- With the rising demand for LCTs, we can leverage smart meter voltage data to identify barriers to LCT adoption and flexibility inclusion, informing our ED3 planning. Different LCTs impact voltage in varying ways, potentially requiring upgrades to protect the network and ensure safe participation. By analysing voltage data, we can proactively prepare the infrastructure, align with customer needs, and uphold ESQR health and safety standards for a secure and reliable network.

Improving the accuracy of our phase connectivity model to enhance our forecasts

Why it matters

Accurate phase connectivity is a key enabler for flexibility in the LV network as it enables more precise forecast of our network capacity. It allows us and FSPs to make more informed planning decisions and enhances our ability to deploy flexibility accurately.

This year we've:

- Drawn learning from previous innovation trials that proved valuable insights but not scalable solutions.
- Built on trials by running automated algorithms against our total smart meter estate, resulting in the phase prediction of over **1.7m MPANs**.
- Used these profiles to inform the phase-level grouping of meter points on models.
- Aligned meter points to circuits defined in the GIS system (Electric Office).

What's next?

Analysing data internally to understand successes against areas of our network to enable us to create an enduring process as more smart meters are installed.

We've delivered a step-change in the quality, consistency, and security of our data

Underpinning our data provision, we've significantly improved the quality, consistency and security of our data, ensuring it meets higher standards for both internal and external use. By addressing data gaps through a well-defined governance, leveraging advanced analytics – including smart meter data – and building on our collaboration with Icebreaker One – we've enhanced our ability to manage, improve and share data effectively.

Managing data as an asset has delivered improved quality

This year we've established a Data Governance Steering Group (DGSG) which has driven better data management processes to address gaps and drive up standards. This year we have:

- Strengthened governance by restructuring our DGSG, to ensure business-led accountability.
- Introduced our new data quality framework enables proactive identification and resolution of data quality issues, automating data quality assessments to enhance reliability.
- Formalised the roles of data owners and stewards within the business, clearly defining their responsibilities for quality, compliance, and accountability so data is managed effectively through its lifecycle.
- Increased our data management maturity through assessment to assure better decision-making, operational efficiency and reduced risk.
- Created conceptual data model and logical data models to provide a single structured view of our data, ensuring consistency across systems and improving integration with external platforms.
- Implemented stricter access controls, improved classification mechanisms, and adherence to data best practice.
- Applying the benefits of GB innovation, we've implemented Network Model Manager, originally developed under SPEN innovation, to drive coordination and consistency in data between core systems.

What's next?

GBE CIM Governance Group – leading industry readiness for Connections Reform.

As part of Connections Reform, applying the CIM model to our data is a key requirement for improving data interoperability, ensuring more consistent and accessible information for connections customers.

- Our systems are already prepared to apply the CIM model, positioning us ahead of some of the other DSOs in readiness so we play a leading role in the GBE CIM Governance Group.
- We are collaborating with the DSOs and software vendors in weekly sessions to define essential network model elements and conducting CIM model testing.
- Internally, we are doing a threat assessment to enhance the methodology and ensure sharing this data is not a security issue. We will share the learning with the other DSOs.

11 data sets

now Level 1-assured
Providing greater confidence in data accuracy and reliability

Industry-leading data standards are at the heart of our approach

Our continued partnership with Icebreaker One has delivered the following outcomes in Year 2:

- Trained our data owners and stewards to embed best practice in data sharing across the organisation. We now apply the same standards when sharing data internally as we do when we share data externally. This guarantees that at every stage of the process, we're properly managing accuracy, consistency and security of our data.
- Increased assurance of our data with **45%** of datasets now Level 1-assured. We've updated our data processes and delivered a **4-fold increase** in Level 1-assured datasets meaning that we have right data governance, and our data is being published in the most accessible way.
- Enhanced data literacy and strengthening our influence on key consultations such as Ofgem's guidance on AI ethics, data licensing, metadata standards, and consumer consent.
- Enabled us to play a key role in industry discussions about the future of data sharing such as the development of NESO's Virtual Energy System (VES). Our leading position in data-sharing principles, and experience of developing and operating NeRDA means we are ready to shape and adopt new processes.
- Sharing our expertise as the pioneering DSO to implement the Icebreaker One's Trust framework. We have provided extensive support to facilitate NGEDs onboarding to the programme, as well as provided guidance to other industry peers on the enabled benefits through our collaboration with Icebreaker One.

> *"It is crucial that networks make their data shareable and adopt the presumed open principle, and SSEN is doing some exciting work here with Icebreaker One."*
>
> **Laura Sandys CBE,** Chair of the Energy Digitalisation Taskforce

What's next?

We'll continue collaborating across industry to drive data sharing principles, consistency and quality.

- With NGED and Icebreaker One, we're leading on the development of a Strategic Innovation Fund (SIF) Project to deliver the step-changed required to enable the digitalised exchange of data through Trust frameworks and schemes.
- We'll continue to work with and guide DNOs, TOs, and GDs, via the Energy Networks Association (ENA) to create a common shared data licence to ensure internal and third-party data sharing is secure and consistent across the industry, enabling data consumers to understand exactly their opportunities and limitations when working with shared data.
- Looking into ED3 we'll enhance our network visibility of low carbon technology data. We're already engaging with NGED and UKPN to adopt best practices in obtaining more granular asset data. By leveraging industry insights, we're enhancing network visibility for ourselves and our stakeholders, supporting network planning, asset investment, and the continued provision of a safe and secure network.

We've improved the accessibility and usability of our data and empowered stakeholders to unlock its full potential

Our role in the future energy system is underpinned by digital innovation, data provision and access. We're committed to making our data more accessible, usable and tailored to the needs of network users, ensuring it's delivered in a practical and effective format.

Last year, we published a data roadmap focused on expanding data provision in response to panel feedback. While increasing access remains a priority, our continued customer engagement has highlighted a strong demand for greater support in understanding and using the data we publish.

In response, we released an updated data roadmap that prioritises improving the usability of our open data updates to portal, published data sets and estimated next published date. To drive this effort, we've appointed a DSO Data Product Manager, who is leading the development of our open data portal to ensure it meets the evolving needs of our stakeholders.

"Our DSOAB recommended a persona-driven, use-case-based approach to improve customer interaction and accessibility of our data. Over the past year, we have launched three new forums to enhance stakeholders' understanding of our data, enabling them to use it more effectively. These activities also provide valuable insights into additional information needs, ensuring our data offerings continue to evolve in line with stakeholder requirements."

Jeff Alexander, DSO Data Product Manager

Engagement activities and purpose	Outcomes and benefits, stakeholder feedback
NEW **Quarterly Network Insights series** for a broad audience to share data insights and case studies for data use.	• Improved understanding of our SDPs and enhanced our capacity heatmaps among connections customers and local authorities.
NEW **DSO Autumn and Spring Series** workshops covering various topics such as ANM systems, NeRDA and our open data portal.	• Informed stakeholders on ANM services improvements plan. • Influenced our updated data roadmap for our open data portal. • Built relationships between data consumers and our data teams. • Improved understanding of FSPs and network users of the new features, datasets and updates that are in the launch of the full production of our NeRDA tool.
NEW **Data surgeries** – deep dive in data assets, facilitated discussions and shared learnings on aggregated half hour consumption data, Embedded Capacity Register and other datasets published to the data portal.	• Built relationships between data consumers and our data teams enabling direct communication and faster feedback and response cycles. • Extended range of stakeholders coming to the data portal outside of typical data consumers.

Our data portal

We've improved the functionality of our data portal by listening to our stakeholders. Through our Autumn and Spring Series, data surgeries and online webinars we continue to engage new and existing stakeholders on their priorities and areas for improvements, so they are directly influencing our data provision and services.

- Our stakeholders told us that knowing how data sets are collected and calculated is just as important as the data itself. Therefore, we've enhanced our transparency by publishing **16 methodologies.**
- Creating a Data Portal Guidance document to help users navigate the portal with ease.

Whilst we prioritised accessibility and usability this year, we remained committed to expanding our open data offerings.

This year, we've

- Continued to grow the depth of information associated with our data, including historical data records, supporting materials and information as well as how third-party data could also support the data we publish.
- Published live curtailment data so our DER customers can better understand where and when their supply is curtailed.
- Implemented additional new tooling to present data geospatially on our data portal, such as our new visualisation of the Embedded Capacity Register.
- Improved Dataset previews incorporating features such as infinite scrolling, horizontal scrolling and optimised box sizing to display more information on the screen effectively.
- Added a "freshness" indicator on the data assets page to showcase how recently the dataset has been updated.
- Piloted a Virtual Energy System Pilot in a sandbox environment to enhance operational efficiency and informed decision-making.

Outcomes and benefits

- Published **24 data assets**, supporting decision-making and innovation.
- **1.6 billion** rows of smart meter data, uploaded daily, empowering users with near real-time insight.
- **93 datasets** covering current and historic data to provide comprehensive analysis opportunities.
- We've increased reach and usage with **11,000** new users to our data portal this year.

What's next?

- Automated data integration: reducing manual effort by **80%**, enabling faster publication cycles and improving data accuracy and stakeholder trust.
- We are sharing our real-world insights with NESO, as the only DNO with an open tool for system coordination, to support the development of the virtual energy system.
- Developing and publishing an external data portal strategy to enhance transparency, operational efficiency, and informed decision-making.

WE'RE UNLOCKING WIDER SYSTEM BENEFITS AND THE TRUE VALUE OF FLEXIBILITY

We've always focused on value rather than volume

As recently endorsed by Ofgem's ED3 Framework Consultation, we have always focused on procuring flexibility in a way that will 'deliver efficient network capacity and optimise the balance between reinforcement and flexibility for the benefit of existing and future consumers based on whole system value'. (Nov. '24 p.84)

The strategic aim of our three-year accelerator for flexibility market development is to:

- Stimulate the market through a third-party platform partnership securing a variety of procurement horizons.
- Develop tools and processes to build trust in the domestic flexibility market.
- Facilitate a smarter grid through our flexibility toolkit of Access Products, flexibility services and price signals.

In Year 1 we've: Y1

Expanded the range of flexibility services and encouraged participation, engaging stakeholders to refine standard products and enhance our market platform.

Building on this success in Year 2 we've: Y2

- Launched a new flexibility market platform which has simplified participation, catering to both large generation customers in the North and demand-driven customers in the South, including diverse island and mainland communities.
- Expanded bidding opportunities, now offering long-term bidding windows 2-3 times a year, alongside monthly short-term windows and an adaptive procurement model.
- Enhanced access to electricity markets through our novel Access Products.
- Driving standardisation and data sharing through strong collaboration with NESO and Elexon to unlock flexibility at scale.
- We're unlocking the value in nascent areas like energy efficiency and LV, by using innovation learning to tackle challenges in BAU.

Flexibility benefits for customers and stakeholders

Accelerated connections, reduced use of diesel generation and flexibility procurement

£639m
in benefits*

from avoided costs of delayed connections, deferred reinforcement and reduced carbon emissions

* comprises realised gross benefits in Year 1 and Year 2 plus unlocked benefits (see page 5) in 2024/25 prices

Our stakeholders have driven change

Our approach involves co-creating flexibility solutions with our partners and stakeholders for wider system benefits:

Feedback	Action
Our DSOAB called for clearer signposting of when and where flexibility is needed	Updated our flexibility roadmap and invested in a new third-party market platform (see ···→ **p.17-18**).
Stakeholders wanted better coordination with other flexibility markets and generators	Invested in ICCP links and established capacity envelopes data sharing (see ···→ **p.19**).
Non-participants struggled to understand the value of flexibility or how to participate	Expanded the range and type of engagement to support new entrants (see ···→ **p.18**).

Highlights of what we've delivered in 2024/25

Year 2 focus	Initiatives
Accelerating connections through Access Products	• Introduced cost-efficient and faster Access Products leveraging smart metering and settlement data. • Launched Community Smart Access to accelerate connections for new-build housing in partnership with LEMA through Access Products and flexibility services.
Growing flexibility market participation through short-term and long-term bidding opportunities	• **3 long-term** and **7 short-term** (less than month ahead) bidding rounds completed. • Finished fully standardising with Open Networks deliverables, which are more adaptive to local market needs, benefits a wider range of providers, and ensures we secure flexibility services efficiently. • Procured an additional **113MW** of flexibility services and signed up **18** companies – more than **doubling** the number participating in flexibility.
We're enabling wider market access through coordination with NESO and network users	• Set the foundation for a harmonised system by aligning ambitions, coordinating activities with Elexon and NESO, and sharing our vision for unlocking flexibility with the industry. • Established capacity envelopes data-sharing so NESO can safely maximise the opportunity to use CER. • **Enabled 368MW of flexibility** to flow through our networks for wholesale and NESO needs. • Further invested in ICCP data links across our service areas.
Enabling equitable access to flexibility by accelerating domestic and local flexibility markets	• Coordinated with the wholesale market through energy suppliers and provided services for whole of GB to transition from radio teleswitch to smart meters. • Introduced our new Interim Load Managed Area service. • Continued to broaden LV-flexibility through direct procurement and Demand Diversification Services development.

We've accelerated connections with our Access Products

We have some of the fastest decarbonising GB communities in our licence areas, so we offer Access Products to help customers connect earlier. This helps communities decarbonise faster, whilst we continue working to release capacity. Our approach is guided by three key principles:

- Access Products are a temporary solution while we unlock full capacity through flexibility or strategic investment.
- We offer a range of products to meet a spectrum of needs, e.g. from low risk/low cost to high impact/increased sophistication.
- We minimise network intervention with access wherever possible to ensure a well-functioning broader market.

Range of Access Products to suit different situations

We're providing cost-efficient and faster access at lower voltages

Why it matters

The demand for new connections continues to rise. For example, less than **5%** of GB bus fleet operators are fully electric with over **95%** of bus fleets potentially moving to electric in the coming years. 2017-2023 saw a tenfold increase in the electrification of buses.

We've drawn on our experience of ANM systems (used at EHV+) to develop new options for customers. Importantly, our new Access Products still provide backstops and limits (e.g. agreed end dates) so customers can plan for the future. This helps keep costs low and avoid unnecessary delay.

We've designed a new approach to make the Timed Access option available on a temporary basis, using data to monitor, nudge and (if need be) support access compliance. This new product is applicable where usage patterns can be predicted and the risk of variation is small.

We've collaborated with an industry energy data specialist to develop a proof of concept so we can rapidly deploy this option over larger areas without a high-cost burden.

The Timed Access option has been developed through engagement with a large regional bus operator to utilise metering insights and offer customers flexible connections based on when they need power, rather than imposing expensive hardware.

Several bus companies have expressed interest in these options and there is potential to expand to other similar transport operators who operating patterns can be scheduled and agreed in advance.

Leveraging real-time metering and settlement data, we can ensure customers with these types of arrangements operate within their agreement limits. This capability makes new options, like Timed Access, more feasible by providing clear oversight of network usage patterns without the need for excess technology which would otherwise become unnecessary once work to release full capacity is completed.

This expands our range of access options, covering a range of customer types (see graphic above).

What's next?

We continue to develop options which support our customers through early access and we've combined the development work with our SDPs to better anticipate new access needs into the future.

Community Smart Access – accelerating connections for new build housing

Why it matters

Domestic customers have not previously benefited from Access Products, as it is not appropriate to manage domestic use through curtailment, but these market arrangements could offer the benefits of an accelerated connection for new housing with low-carbon technologies (LCT) in constrained areas.

We've collaborated with the Local Energy Market Alliance (LEMA) to develop market arrangements that unite housing developers, domestic LCT investors, flexibility and property service management companies, community energy experts, and us as a DSO. Our Community Smart Access product allows the domestic sector to uniquely combine Access with a flexibility service to enable connections without delaying upstream capacity. For new homes the total resources of PV, EV, storage and heat pumps can be coordinated to minimise the early need for capacity – known as Dynamic Load Averaging (DLA). The benefits are optimised by investing in energy efficiency up front. This improves coordination, performance and building of LCTs. Coordinated management of LCT is not new, however, bringing together the market arrangements which are technically compliant and commercially attractive is genuinely pioneering.

What's next?

Work with LEMA partners to develop and confirm this years new arrangements and trial our approach.

*"Local energy infrastructure is a fundamental enabler for building **1.5m** new homes and a dozen new towns. At the same time, building well-insulated all-electric homes as part of greening the grid is a fantastic opportunity to also minimise energy bills, maximise sustainability and enhance energy security. Amplifying flexibility is the way to achieve this, which is what the Dynamic Load Averaging service is designed to achieve."*

Simon Anderson, CEO of LEMA

We've implemented innovation success

Last year, our ExtenDER innovation project, trialled market-based agreements to facilitate peer-to-peer capacity trading. This proved technically viable, but there was little market demand. ExtenDER is now a stock option which has been considered for new connections over the past year. Importantly, ExtenDER help shaped our product design for Community Smart Access.

We've grown flexibility market participation

By actively listening and understanding the unique needs of our customers in different regions, we've ensured we have the products to cater for large generation customers through to demand-driven customers, in both islands and the mainland. We now offer long-term bidding windows alongside monthly short-term bidding windows, to provide ample opportunities for customers to engage, based on their asset type and commercial preferences.

We've procured flexibility in the context of wider system needs

Why it matters

Flexibility is still a nascent market, and it can be easy to focus on simply trying to procure as much as possible. We're aware there is a cost to flexibility and we need to maintain public trust in it as a network solution.

We procure flexibility services strategically, combining considerations of network need and clear market signals to deliver cost-efficient and effective ways of managing the network. This starts with the DNOA process which summarises the considerations in our decision-making and then a detailed requirement is published a month before long-term bidding.

We've implemented a standard approach to benchmarking flexibility services by leading on the development of the RRE 7: Flexibility Deferral through Ofgem's working group. This aligned approach will help stakeholders understand the opportunities in different networks. For consistency, we have rebased our ED2 Flexibility Service target and how we count flexibility services procured to align with this approach. Under this method, our ED2 aim and activity to date is:

2GW aim

550MW bought last year for network need

128MW bought this year for network need

We've surpassed our Flexibility Roadmap goals

Why it matters

Last year we consulted on and published our first **Flexibility Roadmap**. It described the tools we were developing to support safe and efficient system operation and covered flexibility services, Access Products and price signals.

In our Flexibility Roadmap Update you can see we've exceeded our original plan. This includes implementation of our new market platform, short-term markets and procurement for LV network needs.

Short-term markets – these were identified by FSPs as key for their participation where they have less certainty of volumes, such as EV aggregators. We ran **seven lots of month-ahead markets** in 2024/25. To achieve this we've built on feedback from FSPs and other DSOs to improve our approach. We've:

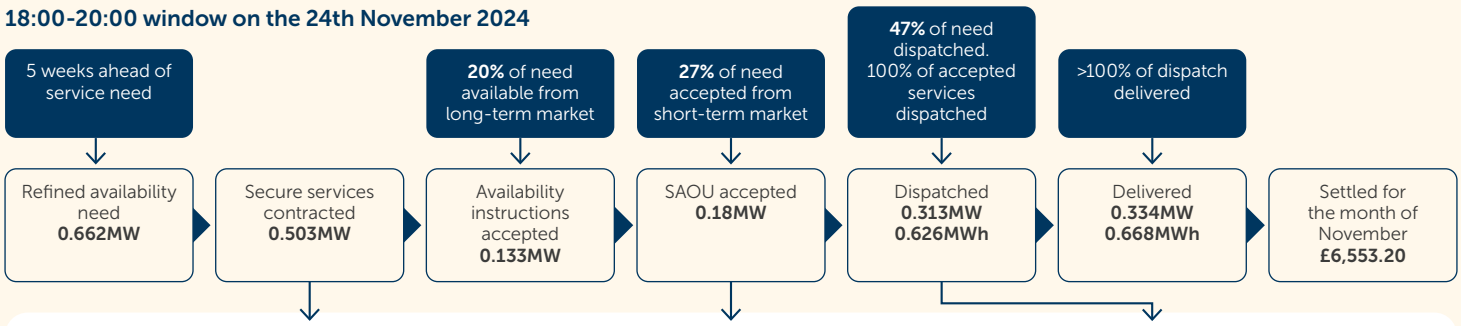
- Used a product with a firm availability payment.
- Delivered automated short-term signals with API for automated day-ahead instructions.
- Combined long and short-term procurement.

This approach has maximised participation opportunities with 18 providers submitting bids in either a longer or short-term markets last year, a 100% increase compared with the previous year. The flow chart below shows how we applied this approach for our Stokenchurch primary substation.

We've procured with purpose to secure market confidence and resilience

Stockenchurch primary substation

18:00-20:00 window on the 24th November 2024



Actions to increase uptake and safely dispatch.

- Originally forecasted from our ED2 reports was a need to procure **2.75MW**.
- Of the **0.503MW** contracted across **3** providers, only 1 accepted availability instruction **0.133MW**.

- Created a short-term market to procure additional Flexibility.
- Required **0.529MW** from SAOU capacity.
- **0.18MW** was bid in by FSPs from SAOU. Reduced risk of flexibility shortfall.

- Introduced shortfall management to reduce risk of shortfall.
- Shortfall of **0.349MW**.
- Outcome of shortfall risk assessment was 'Low Risk'.

We've unlocked local flexibility to meet HV and LV requirements

We've delivered simplicity with our three-strand approach:

1. Development of Demand Diversification Service – aims to remove baselining at HV and LV.
2. Procurement of scheduled utilisation for local needs – eight areas accepted flexibility bids in our February round with no requirement for API integration or additional email instructions.
3. Load Managed Area interim payments – removed need for sharing of detailed settlement data; two suppliers actively participating already.

We've implemented industry standards

We've utilised Open Networks deliverables to standardise all parts of the flexibility journey and support our Systems for Flexibility programme.

Activity	Implementation Date	Commentary
✓ **Pre-qualification standard questionnaire**	April 2024	Implemented with no changes.
✓ **Flexibility service agreement V3**	May 2024	No deviations accepted. Where we've purchased 'non-standard' products we've still used the standard contract.
✓ **No exclusivity clauses**	N/A	We've never had exclusivity clauses in any flexibility service contract and activity encourage stacking.
✓ **Products**	January 2024	We use standard products everywhere we can.
✓ **Dispatch API**	Development via ENA ongoing	Our Systems for Flexibility programme has been set-up to enable quick implementation once ready.
✓ **Baselining**	Development via ENA ongoing	Our Systems for Flexibility programme has been set-up to enable quick implementation once ready.
✓ **Settlements**	November 2024	IT changes implemented, terms implemented in new contracts.

We've tailored our services to meet the needs of our unique and diverse network topography

Why it matters

Each part of our network is unique. This is clearly demonstrated in Scotland where network-islanding can occur and there is a high penetration of remote-controlled energy storage heaters (read more about the Load Managed Area service on page 21).

We take a community-driven approach to reflect the uniqueness of each part of our network. Our Western Isles stability service actively optimises network use in islanded situations. We've procured our first-of-a-kind stability service to allow more renewable power to generate, avoid curtailment, reduce the amount of active power purchased and reduce diesel generation use. Even though this is a tailored service, we've standardised where we can, using V3 of the standard service agreement. All our services, including tailored services, have been designed to facilitate and expect stacking with other services, and have no exclusivity clauses.

We've driven quality improvements with the help of flexibility stakeholders

Why it matters

Feedback from our stakeholders is critical and key to improving our flexibility services.

We work with our stakeholders to gather feedback in a way that is most convenient for them. This includes the offer of individual meetings with FSPs, before contracting, after contracting and after every bidding round to gather any comments whilst it is still at the forefront of their mind. We combine this approach with webinars, surveys, emails and monitoring of queries to understand areas that can be improved. Thanks to provider feedback we have made many changes to our processes and digital infrastructure. Here are a few examples of changes we have implemented over the last year:

- Updated flexibility services' data on the data portal, accessible via API, allowing people to inspect before they use our platform.
- Updated ElectronConnect platform to include budget information where we are not using price ceiling approach to procurement.
- Reduced the number of contracts that need to be signed to participate in all flexibility services from **4 to 1**.
- Maintained postcode lists of areas (prior to feedback we were not intending to keep this with the new ElectronConnect platform).
- Published detailed flexibility service requirements further ahead of long-term tenders to allow more time for FSP analysis ahead of bidding opening and approval of bid submissions.
- Introduced products with a 'firm' payment element. (both SAOU and SU) to provide more certainty on revenue to providers.

This has resulted in **15** companies signing the Overarching Agreement (Version 3) with no amendments, **223MW** of bids received, and in February 2025 **48%** of requirements were completely procured. More than doubling the number of organisations participating in flexibility.

We've utilised third-party expertise to provide market-leading solutions - ElectronConnect

Feedback from FSPs identified the need to invest in a dedicated flexibility market platform to make it easier to participate in flexibility services and have the complete process managed in one place. This was first used in August 2024 and has been actively used to procure all our standard services since.

By allowing visualisation, more data can easily be handled accurately and quickly. Without the market platform it wouldn't have been possible to continue with our HV and LV procurement or our month-ahead approach. For FSPs the impact has been immediate with less queries being received about data within the published requirements, instead allowing them to focus on bidding activity.

"In SSEN Distribution, we have a partner who shares our focus on delivering for the customer, and our ambitions to unlock the value of flexibility at scale. With our ElectronConnect platform as a foundation, we're working towards this goal together and continuously improving data accessibility, accuracy, and integration with other processes and ways of working. This approach will help deliver maximum flexibility in the most efficient way."

Jo-Jo Hubbard, CEO Electron

What's next?

The ElectronConnect platform is non-proprietary and we are continuing to work with them to maximise access through the development of APIs in line with industry standards.

Our collaborative approach to the continued development of the platform allows us to respond to industry requirements in this dynamic market as, and when, they develop.

We've partnered to enable wider market access for whole system value

As well as procuring DSO flexibility services, we've got an important role to play in enabling wider market access and unlocking flexibility at scale for the benefit of the whole energy system. Through collaboration with NESO, Elexon, and key stakeholders, we're setting the foundation for a flexible energy system through data sharing and coordination of ambitions, standards and activities.

Exchanging data with NESO

Why it matters

Good data underpins better coordination which in turn facilitates wider market access. Our goal is to create an integrated approach that provides granular data across our entire network to improve market access for all participants.

We're coordinating with NESO and network-users to provide market participants with wider market access in order to facilitate LCT uptake and achieve CP30. We consider markets are more effective when DSOs minimise their interventions and avoid acting as the commercial route for DER access to NESO flexibility services.

Local Constraint Market (LCM) development informing capacity data exchange

We're using our service support to LCM as the template for establishing coordination between NESO and DSO for access to Consumer Energy Resources. Our work this year has: supported new data exchange techniques, ensuring that suppliers and network operators are aligned; and enabled maximum safe access to granular distribution-connected loads and capacity to alleviate transmission congestion across the border between Scotland and England.

We're collaborating with NESO and Piclo to develop an agnostic data-sharing platform for automated capacity markets, bidding and visibility of network capacity.

We've prioritised 'network-capacity envelopes' for implementation since Summer 2024 and have provided monthly modelled headroom data for SHEPD. The purpose of this data sharing is to enable Piclo to process LCM bids in alignment with network capacity, enabling greater participation from distributed demand turn-up providers and ultimately contributing to resolving the B4/B6 transmission constraints. Since becoming an operational service in December 2023, the LCM has received **56k bids** (largely from distributed demand turn up), with over **8GWh** tendered and **220MWh** contracted.

Learning from and supporting innovation

Crowdflex is a NESO-led innovation project looking at widescale flexibility services from LCT. As a project partner we've been able to bring our real-world experience from LCM capacity envelopes to support the data exchanges needed to progress LCT coordination across GB.

Megawatt Dispatch is an innovation project progressed with UKPN and NGED which has sought to increase DER access to transmission services. We have explored the appetite within NESO for further expansion of this innovation and have concluded that it's unlikely to be repeated more widely for the time being, although our systems could be adapted to do so if appropriate.

What's next?

We'll focus on data exchanges and develop existing initiatives to consider how practical experience from LCM capacity envelopes and Transmission-Distribution ANM can be adopted more widely.

ELEXON NESO National Energy System Operator Ohme piclo

We're developing enduring solutions for local flexibility

Why it matters

The opportunity for flexibility to deliver value for consumer at the whole energy system level is increasing. Flexibility at the local level allows consumers to benefit for access to energy at the lowest times and maximise the use for clean renewable power. So as new roles, responsibilities, and policies emerge to unlock flexibility, it is essential for the industry to align and advance in a coordinated direction to unlock the full value of flexibility and achieve CP30 targets. We consider that clear repeatable benchmarks will help inform wider debate and also practically steer our local actions to support both our own use of flexibility and our wider work to enable flexibility through our networks.

We've partnered with the Market Facilitator

As the 'first mile' in local flexibility, we partnered with Elexon and engaged leading industry stakeholders, including NESO, Kaluza, Ohme, Octopus, Electron and Piclo, to explore innovative routes for unlocking flexibility across our network. Based on those discussions, we set out a range of priorities that we can partner on including:

- Visibility, transparency, measurement of flexibility activity and markets.
- Building local flexibility markets and local energy.
- Developing interoperable markets data.
- Information and data exchanges to support operation coordination.

How much consumer-led flexibility is flowing through our network to support NESO and wholesale markets?

NEW! Given the key role of local flexibility, we asked the energy data experts at Electralink to measure the extent of consumer-led flexibility activity flowing through our network. Their initial analysis indicates that we've got **368MW** of flexibility flowing through our networks – enough to power a large town if everyone flexes at once.

What's next?

We've shared the Elexon and Electralink analysis publicly and we'll continue to develop it further.

Our ICCP links automate coordination

We're developing our three ICCP links in conjunction with Open Networks deliverables and standardisation

1. Our first ICCP link in the SEPD region is in operation, we're actively exchanging data with NESO from our ANM systems, building on regional development plans. We also use our SEPD-ICCP to support technical limits by testing our signal exchange with NESO for technical limits.
2. A second ICCP link, in coordination with the transmission owner in the SHEPD region, is used to provide DER visibility to NESO and data exchanges between our control rooms.
3. NEW! A third (new) ICCP link is now being deployed (contingent upon NESO's readiness), to augment the ICCP link in the SHEPD region. This enables broader operational data sharing directly with the NESO and implements the ENA's Open Network commitments on operational data exchange.

We're creating enduring solutions for local flexibility to enable fair access to the market

Our approach to local decarbonisation integrates network monitoring, forecasting, strategic investment, flexibility procurement, and Access Products to ensure a holistic transition.

We've collaborated with local voices through the SDP framework to ensure our actions benefit all customers. As local flexibility is still emerging and carries some risk, we balance this by leveraging innovation to tackle challenges with a clear path to business as usual (BAU). This is evident in initiatives such as the successful industry-wide roll-out of HOMEflex and the development of demand diversification services.

We've worked with the wider industry to ensure coordination and market access

Why it matters

As suppliers increasingly introduce dynamic price tariffs, greater coordination with the DSO will become essential to ensure the network is ready to support changing energy use.

We're supporting and engaging the wholesale markets in their evolution towards dynamic tariffs and, at the same time, leading the way as suppliers move on from legacy Radio Teleswitch Service (RTS).

Radio Teleswitch Service close down – SSEN are the sole GB DSO to maintain the RTS service on behalf of energy suppliers to ensure customers heating and hot water operates as expected. We're leading on support and engagement to ensure the close-down of RTS happens in a controlled and coordinated way. We've helped suppliers, EUK and other DNOs through workshops, bilateral meetings, education and training sessions to ensure every supplier, large or small, understands the activities needed for a successfully close-down and no customers are left behind. On behalf of suppliers, we'll coordinate the switch-off through a controlled sequence of actions, agreed by energy suppliers and Ofgem. In addition, we've worked directly with Ofgem to provide expert support and help draft an RFI to obtain information and data from energy suppliers to aid Ofgem's decision on No WAN and Load Managed Areas RTS restrictions.

Wholesale coordination – Through initiatives such as LCM and Crowdflex that focus on data exchange and granular network capacity headroom data to enable capacity markets, we have proactively contacted energy suppliers to engage in bilateral discussion. These help us understand how we can support their wholesale activities and discuss the need for visibility and coordination to ensure local flexibility flowing through our network is managed efficiently and, where there are constraints, that these are visible to all parties. An example of good engagement is with Octopus and the sharing of demand turn-up event data; when these events will take place, and post event analysis of participation, volumes against each of our network assets, shapefile maps, and the energy increase as a result of the event. We are working to replicate this level of data sharing across energy suppliers, to lead the way on a model for coordination and data sharing to increase local flexibility.

What's next?

The paper we've published on the future of local flexibility with the Market Facilitator, the analysis paper we've published with Electralink on measuring local flexibility and the granular network data we've shared as part of LCM and Crowdflex has put us at the forefront of wholesale and system coordination. We're leading the way to unlock local flexibility by bringing key stakeholders in the flexibility value chain together; coordinating next steps and practical actions to drive local flexibility, increase participation, increase value, accessibility and market confidence.

Evolving flexibility markets

Flexibility will evolve as market-wide half-hourly settlements take effect with more incentives to move demand in response to prices. Experience shows we could see local network flows peaking outside of 'typical' times. This combined with existing challenges of baselining and participation from under-represented groups has influenced our approach to demand diversification services and the transition of Load Managed Areas.

Load Managed Area interim payment – additional incentive to introduce capability for flexibility in load managed areas

We started procuring a Load Managed Area interim payment service in February 2025. The service is based on the Scheduled Utilisation standard product, uses V3 of FSA and has no exclusivity clauses. However, the utilisation instruction is the DCUSA schedule and payment is per household. We know housing associations and rental housing are over-represented in the housing stock with energy-storage heating, Therefore, this simple approach aims to allow rapid participation from all those who meet the criteria, and feedback from suppliers shows that the simplicity of this service is key to achieving our goals. The interim payment provides additional incentive to install smart metering capable of providing flexibility in our Load Managed Areas.

Demand Diversification Service (DDS) – new flexibility service to manage LV network constraints

Our virtual trials continued this year. We've maintained a close feedback loop between trials and business-as-usual flexibility procurement throughout to ensure we can adopt this service at pace. For example, data gathered in the trials has been shared with the ENA working group for baselining to create a 'baseline' for homes with storage heating. The procurement of LV flexibility using the Scheduled Utilisation service has built confidence in the project team about the ability of FSPs to manage very local requirements.

We'll continue with field trials over the summer, building on the experience of all elements of the supply chain – from technology providers such as Connected Response to suppliers and FSPs.

Taking HOMEflex Code of Conduct principles into standard governance

SSEN's leadership in HOMEflex – addressing gaps in fairness during the development of domestic flexibility services – has informed conversations with the DESNZ, Ofgem and Elexon, with all parties supporting a need continue to develop the principles of HOMEflex into flexibility service procurement.

The continued impact of this engagement can be seen in the influence on the DESNZ consultation for load control licences in June 24. We continue to work with the Flex Assure team to implement these principles across the electricity industry.

OUR SECTOR-LEADING INVESTMENT VISIBILITY IS DELIVERING TRUST

We remain focused on our activities which drive transparency in our decision-making and build customer trust. **The strategic aim of our three-year accelerator for options assessment and conflicts mitigation is to:**

- Deliver strategic investment to release network capacity faster to avoid unnecessary delays and costs, and procure flexibility services where valuable.
- Provide sector-leading support for communities through our Whole Systems team; in addition, a digital planning-support portal will be available for all planning authorities by 2024.
- Ensure transparency by publishing decision-making methodologies and outcomes' reports externally assured on an ongoing basis.

In Year 1 we've: Y1

Established critical foundations with the publication of our Strategic Development Process, DNOA methodology, along with the initial outcome reports, and establishing the DSO Advisory Board.

Building on this success, in Year 2 we've: Y2

- Planned a future-ready network while adapting to regulatory changes, and driven cross-sector collaboration through our SDPs.
- Strengthened partnerships with local authorities by providing essential planning tools for efficient net-zero transitions.
- Acted upon panel feedback to enhance clarity on decision-making and working arrangements, and leverage our DSOAB as a "critical friend" to uphold and drive customer interests.

Options assessment benefits for customers and stakeholders

Support for LAEPs and increase in low carbon technology ownership generating:

£4.2m in benefits*

from avoided costs for LAs, societal benefit, and carbon reduction

* comprises realised gross benefits in Year 1 and Year 2 plus unlocked benefits (see page 5) in 2024/25 prices

Our stakeholders have driven change

Our approach is to engage with communities at all stages of the network planning process

Feedback	Action
Our DSOAB provided feedback on strengthening DFES for network planning and improving its integration with the RESP	We're working with Regen to review the DFES process and align with future RESP requirements (see ···→ p.22).
Consumer organisations wanted to know how we were supporting vulnerable communities in the transition to net zero	We've worked with Regen to publish a vulnerability report (see ···→ p.23).
Performance panel feedback asked for more detail on DNO/DSO hand-offs	We've published a DSO Service Statement including real-life examples of how DNO/DSO interactions are designed to produce beneficial outcomes for communities (see ···→ p.27).

Highlights of what we've delivered in 2024/25:

Year 2 focus	Initiatives
Delivering a future-ready network to ensure long-term, cost-effective planning that supports evolving system needs	• Published SDPs for **9 GSPs**, creating comprehensive blueprints for cross-sector collaboration for network development. • Gained early visibility into future workload requirements, to help us plan for supply chain constraints. • Developed strategic and economically efficient options for the long-term needs in SEPD and SHEPD. • Extended the DNOA methodology to our HV and LV networks, adopting a tailored approach to account for the significantly higher number of assets at lower voltage levels.
Driving cross-sector collaboration – proactively engaging across sectors to deliver integrated and efficient solutions	• Coordinated long-term plans with NGET and SSEN-T through our SDPs. • Collaborated with NESO on the development of RESP through our leadership and experience in long-term strategic network planning. • Delivered a plan for decarbonising the whisky distilleries in Scotland. • Released significant capacity in SEPD for industrial consumers and **3,315 new homes**.
Empowering local energy solutions – delivering net zero at a community level	• Expanded our coordinated, data-driven approach to resolving network challenges and accelerating progress toward net zero for our Local Authorities.
Transparent Decision-Making for Stakeholder Confidence – Providing clear, accessible information to empower customers and industry partners	• Empowered our DSOAB to evaluate our plans and methodologies with the interest of stakeholders. • Conducted an independent assurance of all DNOA outcome reports for projects over £2M. • Provided more clarity on working level arrangements between DSO and DNO and our Distribution Governance Investment Framework in the recently published DSO Service Statement.

We're delivering a future-ready network – ensuring long-term, cost-effective planning that supports evolving system needs

Meeting CP 2030 and net zero ambitions is challenging due to uncertainties about asset choices and flexibility. Our Strategic Investment Process, introduced this year, has revolutionised long-term management across our 38 GSP groups. With stakeholder feedback, we've created effective outcomes to ensure a future-ready network.

Our ground-breaking Strategic Development Plans

Last year, we introduced our Strategic Development Planning (SDP) Methodology to assess network needs to 2050, integrating energy scenarios, infrastructure developments, and stakeholder insights. This aligns with 2030 targets and aims for net zero by 2050. This approach moves away from a short-term, "price control-to-price control" thinking – our SDPs are designed to be live, evolving tools. When investment decisions are made, they are done so with a clear, long-term view of network capacity, local generation and flexibility options up to 2050.

What we've done this year:

Alongside extensive engagement with stakeholders, by sharing our SDP methodology we've;

- **Published SDPs for nine GSPs**, using them to inform Ofgem, local authorities, NESO, TOs, and other DNOs—enhancing coordination and alignment across the energy system.
- **Enhanced and refined our understanding of local communities' energy needs**, allowing us to proactively plan for growing grid demands. These SDPs now serve as comprehensive blueprints for cross-sector collaboration, ensuring a consistent, well-informed approach to network investment and flexibility integration.
- **Ensured SDPs provide clear recommendations** for proactive engagement.

Cowley SDP highlights the importance of working with NGET to align transmission and distribution planning. By coordinating future Grid Supply Points (e.g., Didcot GSP) with distribution network planning, we can efficiently release capacity across both levels of the network.

Outcomes include:

- **Islay and Jura:** As part of our load-related analysis we engaged with the whisky industry to enhance our traditional DFES forecast by accounting for specific industry decarbonisation. This collaborative approach supported improved insight into long-term options for net zero delivery in their communities.
- **Cross-sector planning and RESP integration:** With Regional Energy Strategic Plans (RESPs) launching in 2026, our SDPs provide a solid foundation for cross-vector energy planning. We've engaged with NESO at the earliest opportunity to ensure our load planning is aligned with new processes.

Beyond ED2: Long-term strategic planning

Ofgem's RIIO-ED3 framework requires a new approach to distribution network investment. As SDP pioneers, we've:

- Shared our methodology with Ofgem, shaping industry-wide approaches to investment planning and decarbonisation.
- Used our SDPs to develop robust Engineering Justification Papers (EJPs), outlining investment needs beyond ED3.
- Gained early visibility into future workload requirements, mitigating supply chain risks and ensuring regulatory alignment.

What's next?

Complete SDPs for all our GSPs across our network, digitising the outputs and data in our SDPs. We'll also use our SDPs as a robust input to the RESP and enduring RESP.

Operationalising our Strategic CBA

We've enhanced the Common Evaluation Methodology (CEM) to identify the most efficient network option under future uncertainties. This tool assesses the least-worst regret across the four DFES scenarios, considering economic, environmental, and social factors like customer connections, carbon reduction, and job creation. This year, we've used our CBA for key regulatory submissions: LRE and HOWSUM.

In action Decarbonising our island communities

The SHEPD network supports **60** inhabited Scottish islands using submarine cables and Distributed Embedded Generation (DEG) for backup. We aim to reduce reliance on DEGs by the end of ED3. Our strategy includes investment decisions considering transmission developments, flexibility, and new technologies through to 2050.

For Coll and Tiree, our Strategic CBA found the best solution is adding a second 11kV connection and a third-party peak management service. This method delivers a low-cost, flexible solution, minimising carbon emissions—aligned with our SDP approach, assessing future system needs to ensure efficient network development.

In action Planning amidst uncertainty

During the first two years of ED2, capacity demands on the network have significantly increased. The number of LCTs connecting to our network has surpassed the 2020 DFES projections used for the ED2 Business Plan. Unexpected large point load connections from ports, distilleries, manufacturers, and data centres have emerged, some requiring loads equal to an entire GSP.

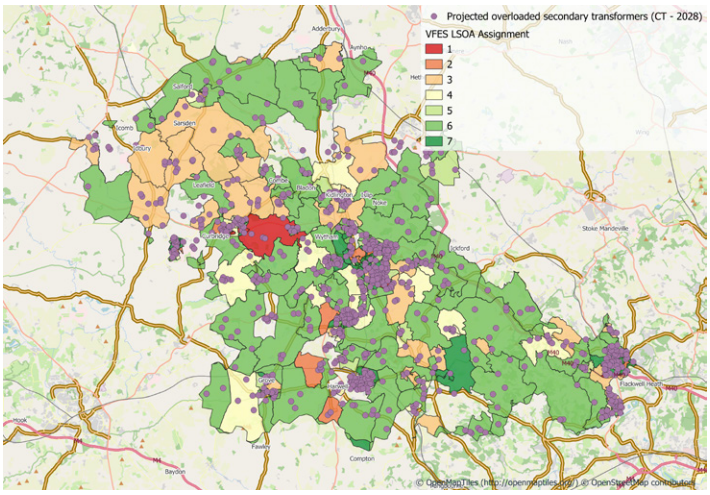
This increased need, particularly in our SEPD area, requires immediate investment decisions for significant upgrades at the 132kV and BSP levels, with project lead times of three to seven years, some energisation dates extending into ED3.

The Strategic CBA and wider SDP methodologies have equipped us with the necessary insights for planning amidst uncertainty. The Load Related Expenditure Reopener submission demonstrates investment cases supporting this approach. We expect Ofgem's response on our proposed uplift expenditure for releasing capacity, enabling connections, decarbonisation, and economic growth.

We're driving a Just Transition in network development

Our award-winning Vulnerability Future Energy Scenarios (VFES) have been fully integrated into business-as-usual operations and are a key component of our strategic development plans. We are starting to use VFES to identify and forecast areas with consumers in vulnerable situations that will need support as we transition to net zero.

For example for Cowley GSP, by mapping the locations of secondary transformers projected to be overloaded by 2028 (under the Consumer Transformation scenario), we've pinpointed areas with both high vulnerability and potential capacity constraints at the secondary network level. These insights will be instrumental in prioritising investments in heavily loaded parts of our network, ensuring stability, security, and resilience—particularly in areas where vulnerable customers would be most affected by outages.



Cowley GSP VFES Output with secondary transformer overlay

DNOA methodology update

Last year, we published our DNOA methodology, committing to integrate stakeholder feedback, update the methodology annually, and publish DNOA outcomes quarterly. The DNOA methodology now forms part of our strategic development process. We've used the methodology to publish **91 outcomes**, including **34** that utilise flexibility. This year, we've revised the methodology based on stakeholder feedback, making key changes:

- Extended the methodology to HV and LV networks, recognising that at low voltage levels the number of assets is considerably higher and needs a different approach.
- Extended timescales from seven to ten years to give a view that extends through to ED3.
- Refined the methodology to incorporate feedback from our advisory board, ensuring the use of consistent language and clearly identifying locations and postcodes, to make them more accessible for customers.
- Expanded transparency in decision-making and conflict-management between DSO and DNO functions.

In action Using DNOA to develop and evaluate detailed options to address capacity needs

The primary substation and circuits supplying Banchory require additional capacity by 2026-27. Following evaluation under our DNOA methodology, the most efficient option has been selected to commence flexibility procurement from 2024-25 and release capacity using flexibility from 2026-27 through to 2029-30 at which point an asset-based solution will be required.

We've empowered local energy solutions in our communities

Why it matters

Our partnerships with local authorities in developing their LAEPs have advanced significantly. With consideration of RESP and the publication of CP30, we're set up to provide robust planning support to local authorities, ensuring seamless collaboration towards achieving net zero efficiently.

What we've done this year

We've continued to deliver on-the-ground support, enabling effective, localised planning and fostering strong alignment with broader net zero goals:

- Our **award-winning** LENZA tool provides local authorities and their delivery partners with data, use cases and modelling tools that support informed decision making, including information on network capacity, building stock, and energy consumption. It supports users on strategic energy planning including the creation of Local Area Energy Plans (LAEPs) and, where relevant, Local Heat and Energy Efficiency Strategies (LHEES). LENZA is transforming local planning in our communities, by empowering decision makers.
- Our dedicated team of net zero engagement specialists help local authorities make the best-informed, most efficient decisions on new net zero development.

In action Winchester

We provided Winchester City Council with graduate support to help develop their LAEP, creating a super-user demonstrator. Working as part of the in-house team, our graduate support embedded LENZA in their planning process, aiding resource planning and workload management. This support enabled full use of new features to engage communities with their LAEP.

"We were delighted to be selected to participate in SSEN's LENZA workshops in 2024 and to use the functionalities within the tool to initiate the process of developing a Local Area Energy Plan for the Winchester district. SSEN have been very supportive throughout the process, providing useful guidance and advice on how to use the tool and taking on board our feedback regarding the features within LENZA. The collaboration has proved extremely useful."

Alex Eburne, Sustainability Manager, Winchester City Council

What's next?

- Publish more use cases based on user needs.
- Create a customer success plan for satisfaction across all local authorities.
- Use LENZA to get LA input into DFES, aligning local planning with the RESP framework.
- Partner with Cadent and National Gas Transmission for multi-vector net zero plans.
- Standardise data with UKPN and NGED to improve DFES forecasts.
- Collaborate with other DNOs to define boundaries and integrate data.

Driving cross-sector collaboration: we've engaged with the wider system to deliver integrated and efficient solutions

When evaluating options that impact on neighbouring networks or the transmission system, we engage with the relevant licensees to assess potential solutions. Our Whole System Coordination Register, available on our website, outlines the collaborative efforts we undertake with other electricity network licensees to deliver whole system benefits. This register provides a consolidated list of activities and projects which we've progressed with fellow network licensees and network users to improve the efficiency of our networks and wider electricity system. To improve effectiveness, we're streamlining the register in collaboration with NGET and SSET and implementing an internal process to ensure all DSO coordination activities are captured.

Beyond regulatory requirements, we engage with non-licensee stakeholders to enhance system-wide benefits. Our collaboration plan captures how we're collaborating with stakeholders through a more transparent and user-centric approach to the sharing of data and how we work in partnership with stakeholders to support the development of local and regional net zero strategies.

Below are a few notable examples of whole system coordination efforts in the past year.

We're coordinating with NESO

This year, we've built on our existing relationship with the ESO as it transitioned to the NESO. We have:

- Included NESO in our local authority seminars ensuring stakeholders had a whole system perspective.
- Informed and supported each other on the development and planned implementation of connections reform to facilitate CP30.
- Established and improved existing data exchanges, including ICCP links, to support system planning and the introduction of TD limits accelerating connections.
- Worked closely with our stakeholders to ensure they engage with the formation of the RESP and understand the proposed changes.

We're coordinating with DSOs across our boundaries

We've worked closely with our neighbouring DSO colleagues where local authorities straddle our boundaries in order to ensure the council's local area energy plans are robust and informed. UKPN, NGED and SPEN have joined us in meetings with the likes of Greater London Authority, Somerset Council and Clackmannanshire Council respectively to ensure the local authority has the complete picture. We are working with NGED and UKPN to standardise data requirements to make the process consistent and straightforward for stakeholders.

We regularly host or attend stakeholder events with our colleagues to make sure that stakeholders who interact with more than one DSO are able to access all the information that is relevant to their area of interest. In the last year we've shared a platform with SPEN at COSLA, Scottish Government, Consumer Scotland, Scottish Renewables, Solar Energy Scotland, and Community Energy Scotland. We've also worked with SPEN on a number of whole system meetings with SGN and the NESO focusing particularly on the heating challenges presented by the topography of some of our Scottish network areas.

What's next?

- We'll continue to work with our DSO colleagues across the UK to support local area energy planning and skills development within local authorities.
- We'll continue to work on delivering interoperability between our LENZA platform and alternative solutions from other DSOs to make LAEPs more consistent for local authorities, community energy experts, and us as a DSO.

We're coordinating with Transmission Operators

We hold a regular Joint System Development Liaison group with transmission colleagues to coordinate longer-term planning activities and ensure efficient and economic investment on the network.

NGET

We've proactively engaged with NGET this year on our SDPs; providing them opportunities to comment on the process and share information on the developments they've included in their T3 plans so we can coordinate a future whole network plan for communities in our southern license area.

We've also established a regular pattern of strategic development workshops to ensure continued alignment between our network plans and pre-empt any uncoordinated activities.

SSEN Transmission

We've proactively engaged with SSEN Transmission on our Strategic Development Plans in our Scottish licence area so we can coordinate future plans.

We have partnered closely with SSEN Transmission on our approach to the Scottish islands, so we make sure we address the needs of our unique stakeholders with efficient and cost-effective solutions. Through this engagement we've not only better evidenced our own investment cases through HOWSUM for Ofgem, we've also been able to feed into their T3 planning process and identify gaps through a series of workshops in 2024.

We have regular fortnightly calls to coordinate ongoing network development.

What's next?

Continue developing structured, regular strategic development processes with Transmissions Operators particularly across the Transmission-Distribution interface through proactive stakeholder engagement.

We're coordinating with other DSOs to drive GB-wide improvement

Industry-wide coordination via ENA working groups

We chair the Planning and Development Working Group, setting the agenda and driving the direction of this important industry-wide collaboration forum. In the past year topics have included forecasting consistency, the sharing of operational data and enhancements to the common evaluation methodology which assesses network solutions. The network members have agreed a consolidated approach to network forecasting, agreeing a standardised DFES approach through discussion with the NESO, and improved the CEM, offering greater transparency to decisions on network reinforcement and the use of flexibility.

We chair the ENA's Strategic Connections Group, with the oversight of the CEOs of all of Britain's electricity network companies, which brings together senior representatives of electricity transmission and distribution network companies, the electricity system operator, the Department for Energy Security & Net Zero and Ofgem. The group's aim is to accelerate progress on the ENA's three-step plan to speed up connections to the grid.

We are also part of the Community Energy Working Group which is designed to share best practice and ideas around supporting community energy groups.

In action **State of the sector**

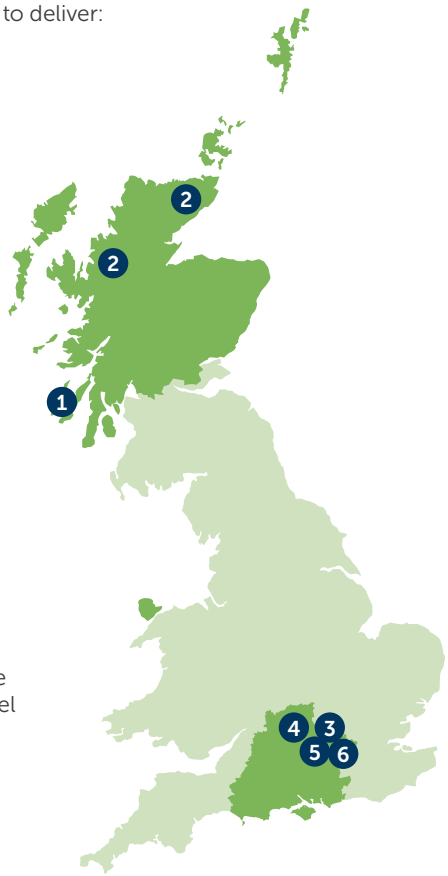
As a consequence of participating in this group, this year we published the first in-depth analysis of community energy across SSEN's licence areas, covering the north of Scotland and central southern England, focusing on the progress made by the community energy sector in 2022 and 2023. This research provides insight into the current state of the community energy sector across SSEN's region and enables us to better support and collaborate with community energy organisations to make sure they play a full role in the drive toward net zero. The research was conducted as part of the annual Community Energy State of the Sector UK research project. It includes survey data from **37** community energy organisations based across the SSEN licence area, gathered between April and June 2024, as well as data gathered from a further **105** organisations via previous state-of-the-sector surveys and desk-based research.

What's next?

- We'll publish a bespoke plan to support community energy across our license area in Year 3 after extensive consultation with stakeholders.
- We'll continue to explore the role of DSO in supporting community energy, local energy plans, energy efficiency measures and more through our innovation portfolio and draw from these learnings to design business-as-usual practices.

We're delivering local economic growth through coordination

The coordination efforts undertaken this year across the industry have enabled us to deliver:



SHEPD

1. **Scottish Whisky Association (SWA)** – worked with the SWA and local communities to support plans for the decarbonisation of the whisky industry on Islay and Jura.
2. **Scottish ferries** – engaging with CMAL and Transport Scotland to enable the delivery of port electrification and support their small vessel replacement process. Through consultation with SSEN Transmission and the NESO we have ensured the provision of shore power is achievable within the estimated vessel deployment timeframes.

SEPD

3. **Affordable housing in West London** – **3,315** permitted new homes, (**34** developments) unlocked since March 2024 through our deployment of flexibility solutions and our electricity capacity allocation study, which was produced in collaboration with the NESO, NGET and the GLA.
4. **Rolls Royce** – after consulting with the NESO and NGET we've used our Access SCR product to enable Rolls Royce to import additional demand capacity as part of their net zero plans, prior to reinforcement of the network, using our ANM system.
5. **Pinewood Studios** – utilising our ramping product, which we designed in agreement with the NESO, we've managed to provide interim capacity for the studios' expansion plans despite their area of the network being constrained.
6. **Timed connections** – in agreement with the NESO we've provided a number of bus companies in the Greater London area (TfL, Stagecoach, RATP) with timed connections to mitigate constraints in support of their electrification plans.

We're coordinating with the industry and other sectors

Institute of Water

We worked with the Institute of Water on a series of cross-sector knowledge exchanges. Whole systems thinking: an energy and water discussion brought together energy and water sector stakeholders in a series of virtual roundtable discussions to explore opportunities for collaboration.

Navigator

We are part of the expert advisory board for this project, led by SGN and NGN, which seeks to create an agile and easy to use Whole Energy System Pathway tool, with detailed temporal and spatial investment planning capabilities. Navigator will enable a whole energy system planning capability informed by scenarios and pathways thinking, as well as inform national, regional, and local policy makers and planners, in an objective, evidence-based way.

Future of heat decarbonisation

We contracted Utility Week to host an in-person workshop, that brought together a select group of local authorities and housing association representatives with energy system and heat decarbonisation experts for a dialogue on the future of heat. It considered the barriers for heat decarbonisation along with consideration of the customer journey, investing in the right places and using data to maximise on delivery.

We're building stakeholder confidence with transparent decision-making

In setting our Year 2 plans we reviewed how other DSOs explained their approach to transparency and decision-making. Throughout the year we've engaged with stakeholders and our DSO Advisory Board (DSOAB) to embed leading practice and improve how we communicate our governance model.

We're providing clear, accessible information to empower customers and industry partners. To us 'transparency' isn't just about publishing more information, it's also about helping stakeholders understand why we make the decisions we do and in parallel sharing data on the inputs we use and the outcomes we've decided upon. To support this ambition, this year we:

1. **Empowered our DSO Advisory Board** to evaluate our plans and methodologies promoting the interest of stakeholder and published the findings of independent technical assurance, DSOAB minutes and DSOAB annual report.
2. **Provided clarity on working level DSO/wider DNO arrangements** in our DSO Service Statement encapsulating the Distribution Governance Investment Framework (network company-DSO code) along investment and operational methodologies (DNOA and ODM).
3. **We promoted transparency across our three key DSO roles**
   - **Network planning:** consulting on our SDP methodology and DNOA process enhancements, publishing outcomes and our independent assurance analysis;
   - **Network operations:** consulting on and publishing ODM process enhancements, sharing our experience with other DSOs, and publishing quarterly seasonal operability reports (SOR); and
   - **Flexibility market development –** publishing the results of all our tender rounds to create more confidence for market participants and updating our flexibility roadmap to allow stakeholders to engage and guide developments in flexibility services and Access Products.

In action **DNOA methodology and outcomes – transparency in network planning**

We trained our DSO Advisory Board on the DNOA process, empowering them to hold us accountable and oversee the assurance process. This provided excellent feedback on the scope of our independent audit and suggested improvements in our communication methods.

By the end of the year, **91** DNOA outcome reports have been published utilising this feedback to ensure the reports are more digestible and can help customers plan their investments with greater confidence and clarity. Stakeholders have since confirmed our DNOA process is clear.

Next year our DSOAB has programmed continued assurance of the DNOA review process including an end-to-end sample of our decision-making process and the associated assurance work. It has also committed to a review of our progress in integrating SSEN's data, insight and systems to support the work of RESP, for which the DNOA will be a key input.

Our DSO Advisory Board challenges us to think differently

Our DSO Advisory Board brings together experts to critically evaluate our plans and methodologies, with the interests of stakeholders front-and-centre. Around the table are experts in consumer engagement, community energy, energy markets and system operation, energy policy, and law.

The DSOAB is fully independent, operating to published terms of reference. Meeting quarterly, formal papers are prepared for board members and our DSO team is asked to give insight and evidence during the board meetings – their annual report is published online. Key areas of DSOAB review this year include DSO strategy, planning and options assessment, flexibility markets operation decision making, customer engagement and data. Their work has led to improvement in benefits analysis and our choice to adopt theory of change for our own use and promote it amongst other DSOs. DSOAB evaluation has led to the creation of a Customer Experience Improvement programme focusing on data and insight; and a broader review of our role in local energy. They've helped shape key strategic initiatives, including mitigating operational bias in DNOA and ensuring transparency of our ODM framework. We've signposted where we course-corrected based on their feedback.

Beyond formal advice, the DSOAB has given helpful challenge and insight at both of our DSO management conferences; and are themselves visible and actively involved in public discussion and debate of DSO services across GB, including the SSEN-sponsored Utility Week analysis in this area.

Our DSO Advisory Board

Gareth Miller, Chair
Finance, Energy, Policy and Strategy

Dr Nicki Clegg,
Technology, Business and STEM

Bridget Hartley,
Strategy, Operations and Regulation

Professor Jan Webb, Academia, Policy and Planning

Dan Roberts,
Economics, Digitalisation and Benefits

Dr Charlotte Johnson, Social Justice, Research, Fairness

We subject our network decisions to rigorous independent scrutiny

In line with our Year 1 commitments, this year we submitted nine DNOA outcome reports for projects over **£2m** for independent technical assurance (five in SEPD and four in SHEPD). Threepwood Consulting, with a strong track record in network-related assurance, conducted two types of reviews with their findings published online:

- **Sample reviews:** Focused on assessing EJPs, CBAs, and CEM deterministic tools for each scheme.
- **Deep-dive reviews:** Involved detailed scrutiny of EJPs, CBAs, and CEMs, including interviews with engineers to evaluate decision-making and solution proposals.

Threepwood independently selected schemes for review, balancing flexibility and asset-based solutions across both licence areas. Reviews were conducted quarterly to align with publication of our DNOA outcome reports.

Opportunities for improvement were identified, particularly in enhancing the level of detail and consistency in EJPs, CBAs, outcome reports and the CEM tool. These recommendations have been incorporated in our latest DNOA methodology. The improvements increase the visibility of DNO/DSO liaison, improve the presentation of engineering analysis and highlight social and economic considerations.

Clear governance delivers our ambitions

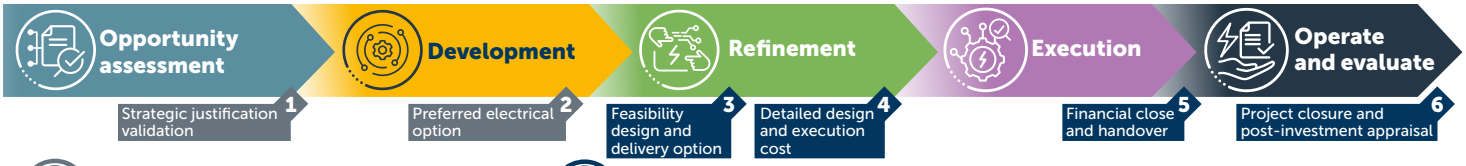
We've published our plain-English stakeholder guide on how we avoid conflict of interests as a DSO. Our **DSO Statement** sets out our end-to-end process (from DSO to wider DNO), our governance and decision-making methodologies. It uses clear worked examples to aid understanding. It also details the capabilities we've implemented to ensure efficient and effective operations, driving maximum benefit for our customers. We've carefully reviewed best practice across DSOs to ensure our approach to governance and transparency is clearly justified and detailed in a way stakeholders find useful without overcomplication. We believe clear, transparent communication is key to trust. Our Director of DSO recently detailed the approach in our Spring Series.

"The Advisory Board exists to scrutinise and challenge SSEN on their DSO, providing critical assurance on their methodologies, decisions and approaches. As such, we welcome the transparency provided to stakeholders by this service statement, which details SSEN's approach to DSO governance."

Gareth Miller, Chair of the DSO Advisory Board

Our Distribution Governance Investment Framework (DGIF) delivers robust, consistent network decisions for our communities

Overview of DGIF for DSO network capacity (load) investment



	DSO		Wider DNO (asset, delivery, operations etc.)		
DSO	Consider options to meet **DFES** and **Strategic Development Plans (SDP).**	Distribution network options assessment – confirm **electrical asset needs case.**	Support investment planning process.	**Procurement of flexibility** and monitoring of delivery to ensure needs met.	**Operation of flexibility** as per **ODM** and monitoring of ongoing operations.
Wider DNO	Provide asset and connections information.	Provide **design information** to support optioneering and assessment.	**Detailed design** and **coordination** alongside wider programme.	**Construction** and **reconfiguration** of asset-based solutions.	**System Control** and **outage management** as per **ODM**.

We've fully integrated the SSEN DGIF process into our DSO processes including SDPs, DNOA and ODM. DGIF ensures DNO input to our DSO scheme proposals from the early stages of planned network investment and confirms DSO responsibilities through to project execution. It governs all Distribution capital investment projects up to **£40M**, ensuring they're developed, approved, and executed safely and effectively. The process has replaced our investment management framework and distribution capital projects' governance framework and helps manage risks related to Capex and Opex expenditure.

The DGIF process comprises six phases, separated by investment decision (ID) points between each phase. These decision points guarantee transparency, consistency, and appropriate technical and financial approvals on project development, refinement, and deliverables as the project moves through its lifecycle. The gated process in our regulatory reporting database manages the ID points for each stage. Since introducing our DGIF, the benefits we've seen include:

- Decisions related to risks and outcomes are consistent and effective.
- Efficiency gains and improved outcomes for customers, asset management, operations and Ofgem are delivered through key investment decision points.
- Behaviours and relationships have improved to foster a collaborative culture and empowerment through a more engaging process, governance forums, and escalation routes.
- The collaborative validation of risks is enabled to reduce the likelihood of technical queries, late challenges, and rework through integrated teams.

In action **Management of deliverability in Bilsham**

DSO analysis indicated that the Bilsham section of the network required asset-based reinforcement to increase capacity. Whilst this is the lower cost option, through the DGIF process it was found the time required to implement does not meet the requirement. As a result, the DSO team prepared a flexibility solution to increase capacity within the timescales required.

In action **Management of asset works in Queens Lane North**

Asset-based inspection identified significant deterioration in transformer cooling fins and oil pumps. The cheapest immediate solution would have been to replace these components alone. DSO review determined, however, that it was more economically efficient to address network capacity by widening the work of the delivery team to replace transformer assets.

⇢ Further case studies and our stakeholder guide to DSO Services are available online

OPTIMISING OUR SMART, FLEXIBLE NETWORK

Our decision-making framework

We continue to uphold our commitment to the highest standards of transparency and visibility in our dispatch reporting and decision making. **The aim of our three-year accelerator in DER visibility and dispatch is to:**

- Drive transparency in dispatch through the ODM and Seasonal Operability Report on both our dispatch volumes and our decision making.
- Utilise flexibility for both long-term and short-term system needs.
- Enable and encourage coordination with our customers, stakeholders and NESO, through publishing outage plans, operational forecasts and schedules up to the day-ahead stage, and sharing data in real time with wider system operators.

In Year 1, we; Y1

Set a new standard in operational transparency publishing our ODM framework and following Seasonal Operability Report (SOR), and set out our vision for the control room of the future and capabilities we deem essential to operate a dynamic and responsive network.

Building on this success, in Year 2 we've: Y2

- **Improved coordination with NESO** through enhanced data sharing enabling access to DER and accelerated connection of DER.
- **Driven transparency** through our work in dispatch logic which has gained industry-wide recognition. Our leadership in this space has seen other DNOs now adopt and publish frameworks based on our model.
- **Upgraded our technical and operational capabilities** to improve DER customer experience and strengthen how we manage flexibility and dispatch.
- **Procured strategic solutions** for our control room and flex market activities, and engaged the wider supply chain on our future needs.

Benefits in DER dispatch for customers and stakeholders

ANM improvements and acceleration of transmission-constrained connections

£767m
in benefits*

from reducing connection delays, customer savings and reduced network spend

* comprises realised gross benefits in Year 1 and Year 2 plus unlocked benefits (see page 5) in 2024/25 prices

Our stakeholders have driven change

Our approach prioritises providing comprehensive support and education to stakeholders regarding our decision-making framework

Feedback	Action
Our ANM customers asked for more visibility	• Publish our dispatch decision-making process and detailed information on how ANM operates (see ···→ **p.29**). • Provide ANM users with quarterly reports incorporating curtailment and ANM faults (see ···→ **p.30**).
Stakeholders asked us to make the ODM more accessible	• Created stakeholder-friendly videos and educational programmes (see ···→ **p.29**). • Included details of the systems we are using to operate flexibility at scale by including them in our digital strategy and action plans (see ···→ **p.30**).
Stakeholders wanted to know how the technology would adapt to changes	• Building adaptable and scalable technology to meet increased usage for flexibility services and Access Products (see ···→ **p.30**). • Helping teams make better decisions through improved data availability and quality (see ···→ **p.30**).

Year 2 focus	Activities and Outcomes
Enhanced DER coordination with NESO to promote market participation and whole system efficiency	• Delivered **88.72MW** of DER through our SWANs system through our ICCP link with NESO. • Operating the data exchange for releasing **712MW** of operational headroom for NESO access to DER flexibility via LCM. • Worked with Elexon to conduct whole system, cross-industry collaboration for CP30 targets. • Chaired ENA working group to create standard payment processes for FSPs, developed new standards for IDNO signals and shared real-world experience to test and develop NESO/DSO coordination.
Industry-leading dispatch logic	• Evolved our industry-leading ODM and worked in collaboration with NGED to identify opportunities to standardise dispatch decisions. • Led the industry to address flexibility shortfalls, establishing best practices for transparent, effective responses. • Strengthened our seasonal operability reports with new KPIs, including conflict reporting and cost savings, directly responding to stakeholder feedback.
Enhanced technical performance and operational efficiency	• Established an ANM User Group to drive interactive customer engagement. • Streamlined ANM scheme design to reduce cost and speed deployment, introduced secure remote access and accelerated customer quotes and outage response times. • Implemented a new ANM latency standard at under 5 seconds to reduce curtailment by up to 10%. • Improved data transparency by providing earlier visibility of curtailment assessments, dispatch decisions, and quarterly performance reports.
Scaling systems for flexibility	• Launched *Systems for Flexibility* to develop advanced, scalable solutions for system-wide flexibility. • Rebuilt our internal data management system, ensuring streamlined data access and introduced an operational forecast tool to enable day-ahead procurement, accurate flexibility shortfall calculations, and improved load forecasting. • Launched ElectronConnect, our new market platform enhancing our procurement capabilities. • Explored opportunities through vendor engagement to enhance scheduling, dispatch, and settlements.

We've enhanced coordination with NESO to promote market participation and whole system efficiency

Our plans prioritise effective data sharing and transparent operational decisions between DSO and NESO to enable NESO to benefit from access to DER flexibility.

We've established leading data exchanges with NESO

We're setting the standard for NESO access to distributed flexibility with our granular operational capacity headroom data exchange

Our data underpins the LCM service for NESO to manage one of the most constrained boundaries, between Scotland and England. Each month we provide NESO with highly granular visibility of our operational headroom for each primary substation, HV feeder and secondary substation, including the asset ratings, demand and utilisation. Every week we validate any planned outages that may impact NESO's procured flexibility services.

*"Since the inception of the LCM, SSEN has worked closely with NESO, SPEN & Piclo to enable coordinated market participation from distributed flexibility providers... receiving **56k bids** (largely from distributed demand turn up), with over **8GWh** tendered and **220MWh** contracted."*

Adam Rostron, Piclo's Lead Commercial Manager

This has delivered:
712MW
of asset headroom to NESO

We're expanding our ICCP links to increase DER participation

We've expanded the number of connections enabled by our existing ICCP link with NESO to facilitate real-time, interoperable data exchange. This ensures efficient access to the network, maximises reinforcement deferment and accelerates DER participation in NESO markets.

This has given:
88.72MW
of DER early access through the ICCP link for SWANs this year

Our first ICCP link was prioritised in the south due to the scale and readiness of DER assets and longer lead times compared to Scotland. Our second dedicated ICCP is well underway and will connect the north this year, augmenting our existing bespoke arrangements with the local Transmission Operator.

We're developing cross-industry standards to promote whole system efficiency

- We chaired the ENA Open Networks Settlement Technical Working Group and collaborated with DNOs to create standard equations for availability and utilisation payments across all flexibility products.
- We collaborated with DNOs through the ENA G113 working group to create standard IDNOs signal specifications. This enables consistency, efficiency, and self-service capabilities.
- From our first-hand experience in managing headroom for NESO services alongside our ANM in the Isle of Wight, we took a leading role in the Open Networks working group to develop primacy. These rules lower consumer bills by minimising unnecessary procurement and system cost.

Data we use for coordination:

We've developed a wide range of tools and datasets to support coordination of our network and DER:

- ANM signal exchange
- ICCP
- LCM data exchange
- NeRDA Near Real-time Data Access portal
- LV and street-level HH data
- Embedded Capacity Register
- DFES
- Generation availability

We're industry-leading in transparent dispatch logic

We're leading the way in dispatch logic development and deployment

As our network evolves, we are adapting to accommodate dynamic energy production in northern Scotland and increase early access to our network for new connections in the south of England. We optimise grid performance, enable strategic reinforcement and outage planning through Access Products and flexibility services across different time scales.

We've evolved our industry-leading operational decision-making framework (ODM)

We've progressed our ODM framework still further to scale flexibility

Our industry-first ODM framework details how we take dispatch actions for a safe, secure network and optimise system benefits while coordinating flexibility services, Access Products, and outage planning. This year we've further refined our ODM with stakeholders and our DSO Advisory Board to provide greater transparency on assessment criteria, our hierarchy of principles and framework. This clarity is key in operations and also underpins our digital strategy, technology roadmap, and action plans related to scaling our use of flexibility.

We were the first DSO to develop and publish our response plan for potential shortfalls in contracted flexibility services this year, promoting consistency across networks. Working together with other system operators, we have held group learning discussions with NGED to share ideas on our decision making principles. Next year we will build upon our collaboration with NGED and ENWL and work through the ENA Open Networks initiative to advance a wider framework for coordination between DSOs and NESO.

Enhanced visibility with our Seasonal Operability Reports

We've continued our detailed quarterly seasonal operability reports (SOR) and underlying data to enhance visibility and transparency of operational actions for our DER customers. This year, we've incorporated additional Key Performance Indicators (KPIs) in our SOR, including conflict-of-interest reporting and cost savings, based on feedback from our ODM consultation.

What's next?

Set the direction for achieving CP30 targets through a whole-system approach built with coordination from Elexon and other suppliers – this year we have collaborated with the market facilitator, Elexon and engaged with industry players across the system to set the direction for unlocking flexibility in the next year.

···→ p.19

We've enhanced technical and operational efficiency in dispatch

We're committed to enhancing network reliability and efficiency by leveraging automation and scalable solutions. By continuously optimising operations, we've reduced costs while improving the customer experience.

We want more customers to benefit from accelerated connections and maximised network access. This year we've established a new ANM user group which, through twice-yearly meetings, has considered system performance, fault response, system updates and unexpected curtailment. Based on their feedback we've:

- Focused system development on reducing the cost and complexity for ANM systems and reducing curtailment.
- Published comprehensive data to support operational decisions for our customers, including frequent curtailment assessments, earlier application insights, detailed dispatch decision-making processes, and post-event reviews.
- Implemented a new ANM latency standards at under five seconds to reduce customer curtailment by up to **10%**.
- Introduced secure remote access to cut response times which we endeavour to see the benefit for in Year 3.
- Simplified processes and reduced cost by modularising ANM, reducing scheme delivery time **by three months**.
- Reduced customer costs by **at least £10,000** by developing advanced combined ANM controllers where multiple are required.

We've established and are leading the ANM user group, working with NGED and NPG to develop shared technical limits and SCR functionality. Drawing on our experience, we have collaborated with ENWL to share real-world lessons to help accelerate their progress.

> *"SSEN has established an ANM working group with other DSOs and ourselves (ZIV) to jointly collaborate and standardise functionality for customers. SSEN has shown industry leadership and expertise on ANM and are passionate about sharing their 13+years' experience operating ANM with other DSOs and wider industry stakeholders."*
>
> **Nick Dunn**, ZIV Automation

In action **Offering the benefits of ANM to our demand customers**

We were the first network company to introduce ANM, managing generation and accelerating connections on our islands. Now we are utilising its benefits and our expertise for demand customers. In June 2024 we agreed our first ANM connection for demand, championing the benefits of Access Products. Designs are complete and construction is underway to go live this summer, enabling the customer to add **6.4MW** of curtailable import with a guaranteed curtailment limit. This secures network access **two years early** and bypasses 132kV constraints. Our solution integrates two 33kV feeders into a single algorithm and the system dynamically tracks the entire local network in real-time, to efficiently distribute curtailment. This future-proof approach paves the way for broader customer access to NESO markets.

We're scaling systems for flexibility

We're scaling for our needs and the needs of network users. Our vision is for systems and tools that unlock flexibility for all to deliver the most benefit. We're not gatekeepers, we're stimulators, acting to reduce friction.

Our current capabilities in flexibility procurement and scheduling have been expanded to include shorter timeframes, complementing our decade-long experience in ANM and CMZs. Our Systems for Flexibility (SFF) programme targets a significant increase again to develop smarter, more flexible networks by maximizing DSO services, exploring GB-wide opportunities such as Data Sharing Infrastructure (DSI), market facilitator creation, and flexibility market asset registration (FMAR) leading into flexibility digital infrastructure (FDI).

> *"The SSEN view of evolving needs for flexibility enablers, Infrastructure and solutions is impressive, well thought out and a mature view of what will be needed in coming years to streamline and get most value out of flexibility."*
>
> **Smarter Grid Solutions**, Flexibility vendors' day participant

In the past six months we've held structured, public vendor engagement, alongside detailed workshops with internal teams, NESO, and customers to develop our roadmap for the integrated systems and tools for our operations within the whole energy system. Over the next year, the programme will develop our next capabilities in short term operational forecasting, scheduling, dispatch and settlement alongside data management and integration.

Functions	What we've done
Forecasting	Introduced an extended pilot of operational forecasting into-BAU operation to support short term SAOU procurement, assess risk of shortfall and inform wider operational management. The pilot leverages our industry leading NeRDA open data.
Procurement (Contracting and buying)	Launched our best-in-class ElectronConnect market platform to support short-term and long-term markets. Enhancing data quality; improving access through visualisation tools; boosting efficiency and resource allocation; and enabling LV bidding.
Scheduling, dispatch and settlements	We've actively collaborated with our FlexiblePower partners on **65** features from APIs to billing, reporting and product standardisation. Our Systems for Flexibility programme is evaluating the next generation of platforms needed as we continue to scale.
Data integration and management	Developed our FLO management system to streamline internal and external reporting like KPIs and regulatory data submissions. And we've also prepared the data model and integration specification needed beyond FLO.

Glossary

Active Network Management (ANM)	Control systems used in circuits to manage generation and load for specific purposes.
Application Programming Interface (API)	A set of defined rules that enable different digital applications to communicate with each other.
Distribution Governance Investment Framework (DGIF)	This sets out formal interactions and decision-making between DSO and wider DNO activities (such as asset management, connections and delivery).
Distribution Network Options Assessments (DNOA)	This is the process that helps us transparently demonstrate how we make decisions to meet the networks capacity needs through procurement of flexibility or investing strategically in our network.
DSO Advisory Board (DSOAB)	Our advisory panel is made up of experts in consumer energy, community energy, energy markets and system operations, policy and law. They critically evaluate our plans and methodologies on behalf of our stakeholders.
Inter-Control Centre Protocol (ICCP)	This refers to the standard for a digital communications link between different control centres for the exchange of real-time operational data.
Local Area Energy Planning (LAEP)	LAEP is a process designed to deliver effective local action to contribute to the 2050 net zero.
Local Constraint Market (LCM)	The Local Constraint Market pays people and businesses to use this excess wind power locally in Scotland, as an alternative to curtailment.
Local Energy Net Zero Accelerator (LENZA)	This is our geospatial planning platform powered by Advanced Infrastructure Technology Limited's (AITL) LAEP+ software.
Near Real Time Data Access (NeRDA)	Making near real-time data from our network available to stakeholders.
Operational Decision Making (ODM)	Framework Our ODM principles are used to select the most appropriate operational action in a fair and transparent way across all timelines.
Strategic Development Plans (SDPs)	Long-term electricity system blueprints with modular build and flexibility options for a specific network area.

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