



# DSO ACCELERATION STRATEGY AND ACTION PLAN

October 2023



Scottish & Southern  
Electricity Networks

DSO Powering Change





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## DSO ACCELERATION STRATEGY AND ACTION PLAN 2023



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# Introduction



**Our Distribution System Operator (DSO) functions are already enabling capacity through whole system planning to deliver strategic investment and flexibility at the right time and place to enable our customers to connect, to decarbonise transport and heat, unlocking economic value in the communities we serve.**

Our journey to net zero is well underway. The Climate Change Committee have been clear that the uptake of low carbon technologies, necessary to deliver net zero targets, could almost treble GB electricity demand by 2050. Our refreshed DSO Acceleration Strategy and Action Plan sets how we are delivering and will deliver on this challenge through maximising the opportunity of flexibility services and connections, whole system solutions, and system capacity through strategic network investment.

We are now 6 months into our first year of RIIO-ED2 (2023-28). This document sets out our progress to date and the DSO outcomes we are already delivering for our customers and communities. For example, we have launched our new data portal to improve our stakeholders' access and visibility to our network data, mobilised our new whole systems team, and launched our new LENZA tools to support local authorities develop their net zero plans. We have also been carrying out extensive stakeholder engagement to inform the specific products and services that we will deliver this year and beyond.

Since the release of our 2022 DSO strategy and action plan, we have made our commitments more specific and explicit. We now provide stakeholders with clear commitments for our four strategic DSO objectives, outlining our intended progress by mid-ED2 (2026) and what customers can expect by April 2024. For example within:

- Forecasting and planning future needs, this includes the sector leading support we will offer our communities on Local Area Energy Planning, our commitment to publishing our network models all the way down to low voltages and our plans to share our long-term network needs (both through flexibility and strategic investment) for all our regions out to 2050 to enable capacity for our communities.

- Developing the flexibility marketplace, we commit to sharing a clear roadmap of our flexibility products and services, standardised with other DSOs and the ESO where it makes sense to do so, tailored to local needs where valuable, and designed with inclusivity as a priority. We commit to procuring a third-party market platform this year to deliver an enhanced experience for our customers.
- Delivering network flexibility, we will drive transparency in dispatch through consulting and publishing our dispatch decision making framework and processes, learning practical lessons from our major innovation projects that have just completed.
- Driving transparency and coordination, we will drive transparency in our decision making and build customer trust by publishing and consulting on our key processes. Our DSO Advisory Board will scrutinise our DSO plans and decisions on a quarterly basis. We commit to publishing quarterly newsletters and reporting on the DSO benefits delivered to the DNO, broader stakeholders and society as a whole to demonstrate our progress at least twice a year.

We have also refined our DSO customer personas through engagement with our stakeholders. These personas help us gain a deeper understanding of our diverse range of customers and stakeholders, allowing us to design tailored and inclusive initiatives, products and services to meet their needs.

We have also provided you with more detail on how we are delivering. We've set out our forward plan for this year, mapped to the needs captured within the personas and our performance indicators for measuring progress.

We have also explained how the initiatives we are delivering this year enable our plans beyond, out to 2026, and provided further details on our DSO action plan activities and our practical operating model.

We've included this to give our customers and stakeholders assurance and clarity on what is to come, and to enable our broader stakeholders to have more opportunities to participate and have greater confidence in their own respective energy transition plans and investments. At SSEN, we are determined that the action we take to decarbonise society is just and fair.

We want to work with innovative companies who supply customers with transport, heat, appliances, food and water. We also want to work with all the other customers referenced in this document, to optimise the energy system behind the scenes. Doing this will help keep bills low (DNO costs as well as reducing wider system balancing costs), enable faster network capacity for our communities, maximise our stakeholders' flexibility revenues from multiple markets and minimise carbon emissions in line with individual, community, local authority, industry and government ambitions. This document sets out the many opportunities for you to engage with us over the coming year and beyond through our events and newsletters.

## Andrew Roper

Distribution System Operations Director  
SSEN Distribution







# OUR PROGRESS TO DATE

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# How we are engaging with stakeholders




### What we have done so far this year

We have engaged with a range of stakeholders throughout the process of refreshing our DSO strategy. Ranging from flexibility providers, to the ESO and Local Authorities, we have captured the voices of relevant stakeholders on our future plans and defined our priorities based on their preferences.


The key activities and insights that have fed into the strategy include:

- Engaging on benefits, transparency and assurance and gaining insights on stakeholder views on managing uncertainty in our decision making and how stakeholders want to be involved in our processes
- Holding a roundtable to discuss future market vision and flex customer experience and got feedback on our DER dispatch decision making and whole system coordination
- Attending a Utility Week virtual roundtable in October, speaking to stakeholders about their data preferences and priorities to be implemented in our future plans and data releases



**63**

ENGAGEMENT EVENTS



**876**

STAKEHOLDERS ENGAGED

### Opportunities to engage with us in the next 6 months


	Consultation	Roundtables and workshops	Publications
Forecasting and Planning future needs	<ul style="list-style-type: none"> <li>[February 2024] network visibility strategy</li> <li>[January 2024] Consult on our DNOA process</li> </ul>	<ul style="list-style-type: none"> <li>[February 2024] Customer journeys of planning related tools</li> </ul>	<ul style="list-style-type: none"> <li>[April 2024] GSP strategies and long-term regional flex and reinforcement needs</li> <li>[April 2024] Strategic investment CBA methodology</li> <li>[March 2024] DNOA outcomes published</li> </ul>
Developing an inclusive flexibility marketplace	<ul style="list-style-type: none"> <li>[February 2024] Flex product roadmap</li> </ul>	<ul style="list-style-type: none"> <li>[November 2023] Initial introduction to our flex product roadmap, and opportunity to engage on the Future of LMAs</li> </ul>	<ul style="list-style-type: none"> <li>[March 2024] Flex procurement KPIs</li> </ul>
Delivering network flexibility at scale	<ul style="list-style-type: none"> <li>[February 2024] DER dispatch decision making framework</li> </ul>	<ul style="list-style-type: none"> <li>[November 2023] ESO engagement on coordination</li> </ul>	<ul style="list-style-type: none"> <li>[March 2024] DER dispatch KPIs</li> </ul>
Driving transparency and coordination	<ul style="list-style-type: none"> <li>[January 2024] Consult on our collaboration plan and data roadmap</li> </ul>	<ul style="list-style-type: none"> <li>[08/11/23] Digital action plan webinar</li> <li>[February 2024] UW Future networks – DSO capabilities and benefit delivery</li> </ul>	<ul style="list-style-type: none"> <li>[December 2023] Digital Strategy and Action Plan (DSAP)</li> <li>[March 2024] DSO KPI progress / benefits</li> <li>[January 2024] Target Operating Model (TOM) – capabilities roadmap</li> </ul>

### Our process for capturing and implementing feedback

Building on our ED2 Enhanced Engagement and feedback implementation approach, we are working to make decisions and reach proposals that satisfy the broadest segment of stakeholders, while respecting strategic investment decisions and regulatory constraints.

**Stakeholder insights priorities**

**Third-party research**



**Evidence used by decisions makers to identify:**

- What the majority of insights suggest
- Identification of risks to be considered
- Any insights that contradict the proposed approach
- Trade-offs involved

**Strategic investment and CBA**

**Regulatory constraints**

**Decision made based on clear and transparent evidence**

### Ongoing engagement

To keep the conversation going with our stakeholders we plan to have regular touchpoints throughout the ED2 period (2023-28):

- We will publish quarterly newsletters where we will show our progress against commitment, report on our KPIs and inform stakeholders of any upcoming engagement opportunities. To sign-up, please scan the [QR code](#).
- We will publish at least 2 “drops” of the outcomes of our DNOA process accompanied by a report by our DSO Advisory Board providing assurance on our decision making.
- Regular engagement on quality and accessibility of data as well as updated data roadmap and data solutions.
- Regular engagement on our flexibility product road map, inclusive product design and prioritisation of product releases.

If you would like to provide feedback or share any insights, please get in touch by filling in our feedback form on [page 40](#).



# DSO services creating value today



The three case studies below illustrate the benefits of our approach and the value DSO can achieve for stakeholders.



## RESOP enables local authority energy planning

The Regional Energy System Optimisation Planning (RESOP) project is dedicated to fostering knowledge exchange between Network Operators and Local Authorities, ultimately advancing our collective efforts to achieve Net Zero goals.

Under the RESOP umbrella, the groundbreaking Local Energy Net Zero Accelerator (LENZA) tool, powered by the cutting-edge LAEP+ engine developed by Advanced Infrastructure, will be extended to all Local Authorities within our licensing jurisdiction during R10-ED2. LENZA is set to facilitate Local Authorities in crafting robust Local Area Energy Plans (LAEPs) within a dynamic digital environment, promoting collaborative data sharing.

Over the next few years of our price control, RESOP will continue to expand LENZA's accessibility to all Local Authorities within our Distribution License Area and enrich the LENZA platform to include both LAEP and Local Heat and Energy Efficiency Strategy (LHEES) functionality. We will look to have a seamless integration with Distribution Future Energy Scenarios (DFES) to bolster Network Investment decisions and bring our stakeholders on the journey with us, especially working with our neighbouring Gas Distribution Networks (GDNs) to layer the gas network onto the platform.

The transition to digital LAEPs promises a host of compelling advantages, including substantial cost savings when compared to the conventional consultant-led LAEP development approach, the ability to update datasets more frequently, enabling rapid adjustments and refinements to LAEPs based on the most up-to-date information and insights and enhanced forecasting capabilities, facilitating Utility Network Operators in their investment planning endeavours.

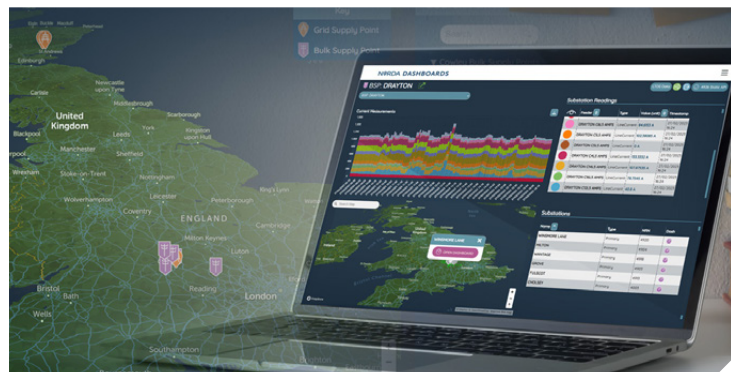
## NeRDA provides access to real-time data to drive net zero

Released under public BETA and open data licences, the Near Real-time Data Access portal (NeRDA) proves its big potential by providing dynamically updated network usage data to stakeholders. We're helping the transition to a smart, flexible system that connects large-scale energy generation right down to solar panels and electric vehicles installed in homes, businesses and communities right across the country.

NeRDA opens up new levels of transparency by sharing detailed, granular data with all stakeholders about how our networks are being used in near real-time. It is a key enabler for the delivery of Net Zero, by opening network data it is creating opportunities for the flexible markets, helping to identify the best locations to invest flexible resources and connect faster.

This data is publicly available, and we will continue to work alongside the households, businesses, and communities we serve to deliver a fair, cost-effective and secure transition to a net zero future.

The accessible new release of NeRDA will allow stakeholders to test its use for their needs and provide feedback to inform the future development of SSEN's near real-time data sharing platforms.



## HOMEflex will level the playing field by creating a fairer energy future for everyone

The HOMEflex (Household or Microbusiness Energy Flexibility) works towards an inclusive, fair, and transparent domestic flexibility market. The project's Code of Conduct, created by Flex Assure under the leadership of Scottish and Southern Electricity Networks (SSEN) aims to help build trust and encourage engagement in flexibility services.

As a DSO with a focus on empowering our communities and ensuring we have a fair, and just transition to Net Zero, our Homeflex project plays a pivotal role. The importance that domestic flexibility will have in reaching Net Zero in a secure and cost-effective way is clear, and the publication of the HOMEflex Code of Conduct and its focus on consumer trust and inclusion will aim to make this a reality.

The code defines common standards of practice for companies delivering energy flexibility services, encourages good practice and accountability and will ultimately lead to the potential creation of an auditable yet supportive Compliance Scheme and increased communication between flexibility aggregators and consumers.

# Our progress to date (1 of 2)



Our ED2 business planning process set us up well to deliver from April 2023, and we are already delivering significant DSO outcomes for our customers and communities, carrying out extensive stakeholder engagement to inform the development of specific products and services.

## Our strategic objectives



### Forecasting and Planning future needs

## Our DSO progress so far in ED2 (since April 2023)

- **Promoting network visibility** – We are publishing our updated network visibility strategy in Winter setting out how we have progressed in delivering better insights for customers, rolling out LV network monitoring and enhancing our capabilities to utilise smart meter data and data analytics to promote 100% network visibility. We have launched our Near Real-time Data Access (NeRDA) portal making available power flow information from our EHV, HV and LV networks; have published our substation load model down to LV in SEPD; and are in the process for receiving security clearance to publish SHEPD.
- **Forecasting future needs** – We have been leading the ENA's Planning and Network Development workstream within the Open Networks programme, focusing on improving and optimising network forecasting and planning processes. We established our whole systems team, who have been engaging local authorities and broader whole system stakeholders in development of our latest DFES forecast development (Distribution Future Energy Scenarios) published in January. We have also improved our stakeholder engagement approach, developing a register of those considered "worst served" and developed approaches for more tailored support to them whilst developing our longer-term network plans to be published in April.
- **Planning and whole system coordination** – We are in the process of developing detailed strategies for each of our Grid Supply Points (GSPs) out to 2050, so that we know the long-term capacity increases that will be required to deliver net zero, which will be published in early 2024. These strategies are being developed in close coordination with the TOs and stakeholders to enable strategic network development at all levels, for example through roadshows delivered in collaboration with NGET and through engagement with the GLA to co-create a network strategy, with NGET, to address the connections constraints in West London. We have started development of a whole systems strategy for the Outer Hebrides Islands (to be published in Jan 24), and have been engaging stakeholders to understand their local needs (October).
- **Local Authority engagement** – We are set to launch our Local Energy Net Zero Accelerator (LENZA) webpage of tools to support Local Authorities to develop their Local Area Energy Plans (September), and are conducting roundtable events with Local Authorities to provide additional support as we begin to co-create Local Area Energy Plans for all regions. This engagement has so far included Utility Week Roundtable Discussions; 3 Discussions in August, September and October with 34 Local Authorities, speaking about decarbonising heat and transport, increasing capacity and funding in collaboration with SGN.
- As part of our transformation of the connections process in ED2 we've created, recruited, and embedded a Connections Business Relationship Team. Although part of the DNO structure, they are proactively engaging with customers and gaining insight. They are now working in partnership with the Whole Systems team to understand those insights in needs for strategic investment.



### Developing an inclusive flexibility marketplace

- Published our performance reporting on flexibility procurement, to provide our stakeholders with transparent information on our progress since ED1 (May).
- Informed our stakeholders of our flexibility needs for the next year's Spring tender round (April) and held a "global call" webinar for the procurement window between Sept 23 to March 24 to inform stakeholders of contracting (via framework agreements) for volume in all areas of our network for the remaining duration of ED2 (September). The global calls will continue to run in Spring and Autumn cycles.
- Engaged with stakeholders including one-to-ones with flexibility providers on improving the customer experience for flexibility procurement, which will help us prioritise requirements for the Flexibility Service IT requirements and the procurement of our third-party market platform and inform our customer journey improvements (September).
- Collaborated with the Open Networks project to align and standardise flexibility products, qualification, framework agreements and settlements across DSOs to improve the customer experience and market liquidity.
- Developed initial designs for our flexibility products to serve our customers who live in historically Load Managed Areas (LMAs), this engagement has informed the trials that will be run this winter.
- Our flexibility providers can use the FlexPower Portal to declare their assets availability and receive dispatch signals.

# Our progress to date (2 of 2)



Our ED2 business planning process set us up well to deliver from April 2023, and we are already delivering significant DSO outcomes for our customers and communities, carrying out extensive stakeholder engagement to inform the development of specific products and services.

## Our strategic objectives



### Developing Network flexibility at scale

## Our DSO progress so far in ED2 (since April 2023)

- Reviewed our DER dispatch decision making framework with our stakeholders to help us prioritise requirements for the procurement of our DERMs solution and improve our customer's journey (September).
- Deployed Active Network Management (ANM) solutions at multiple Grid Supply Points (GSP's) between distribution and transmission (T/D Interface) and continued to add generation to our existing ANM Zones.
- Coordinated with ESO and TO through Regional Development Programmes and project progressions to support customers application for early access.
- Established ICCP connectivity between ESO and SSEN.
- Made 4 flexible connections products available for customers following Access SCR to allow customers to connect at the capacity they need as soon as possible through either: a curtailable connection, a phased connections, a tipping point or via standard reinforcement.
- Dispatched Flexibility Services through our Secure Service to defer reinforcement across three Constraint Managed zones, increasing through November.
- Dispatched Services on Islay to support the network stability during islanded conditions and reduce carbon emissions from our standby diesel generation.



### Driving transparency and coordination

- We responded to Ofgem's local governance consultation (May 23) highlighting the need for a Regional Energy Coordinator to encourage democratic decision making for LAEPs. We are continuing to work in this area while Ofgem continues their consultation. Our focus on increasing the visibility of our network data (as detailed on [page 32](#) on our data roadmap) and transparently sharing our decision-making processes and outcomes mean we are prepared for the outcome of Ofgem's consultation, and that our stakeholders are involved in the decisions we make today.
- We engaged our stakeholders to understand their view on transparency and assurance gaining feedback on our DNOA process and frequency of publishing DSO benefits and performance reporting on our quarterly newsletter. (September)
- Launched our data portal in October, along with 16 data sets including in our network capacity for connections, network development reports, and DFES data to provide a single interface for customers and stakeholders to access the data they need.
- Collaborated with Icebreaker One to identify and tackle data silos and develop data-sharing opportunities whilst ensuring customer privacy and cyber security measures are managed
- We engaged our stakeholders on improving the customer experience for accessing our data, their priorities for future data releases and how we improve data quality and accessibility, this will then inform our data roadmap and collaboration plan (September).
- We completed 2 of our major innovation projects (LEO and Transition), and have run extensive knowledge sharing to embed the learnings in BaU and inform our DSO plans for this year and beyond. We have also kicked off new innovation projects including Future of LMA and LV diversification, NeRDA Ph 2, CLASS/LCM/ESO integration.
- Published our curtailment data in MWh and hours for connections on our website – in line with the CET framework.
- Supporting NGENSO to scale and coordinate flexibility in our license area.
- Continuing to share our learnings with the International Community of Local Smart Grids.
- Coordination with Open Network to increase participation and volume in the local flexibility market, through improved coordination and transparency.





# OUR VISION FOR OUR DSO

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# The energy system needs to change to deliver net zero carbon



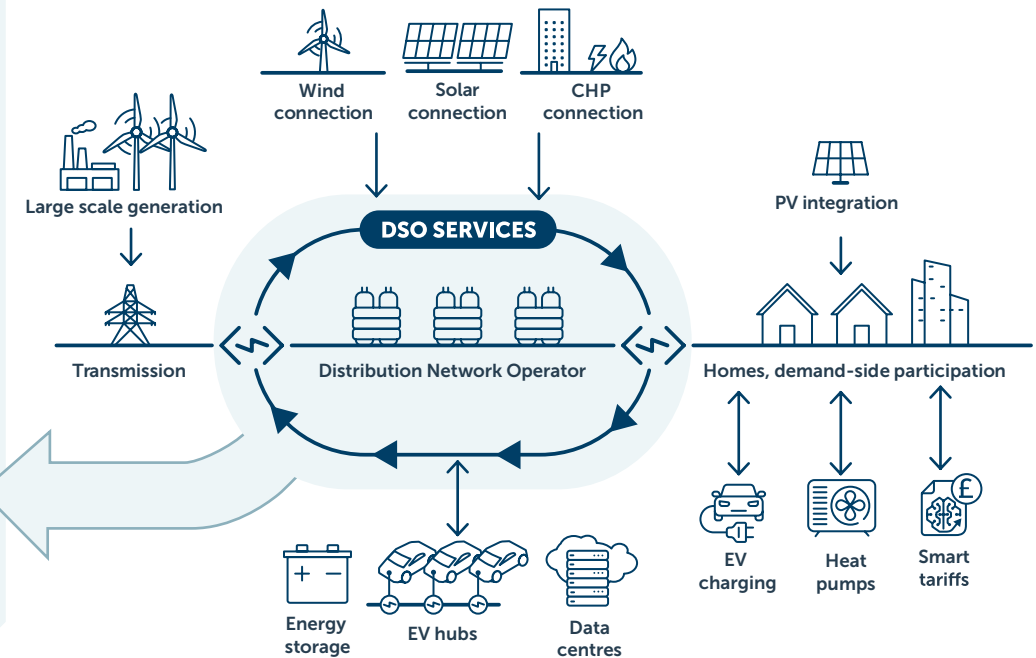
## The future energy system

If the UK is to deliver its net zero emissions target by 2050, the energy industry needs to embrace fundamental change in order to decarbonise transport and heat.

For this transition to be successful it requires:

- Greater utilisation of **flexible energy resources**, across electricity, heat and transport
- A clear understanding of **the value flexible resources can provide** at any one time; and
- Greater **real time co-ordination in energy system operation** to ensure that flexible resources can be 'optimised' across the energy system as a whole.

These services are being provided through functions within the Distribution Network Operators called Distribution System Operators (DSOs), which have 3 core areas:



## Our role in the future energy system

Electricity DNOs are critical enablers of the UK's ambitions to achieve net zero carbon emissions by 2050.



- Our role is to work in partnership to optimise our electricity networks through flexibility services and strategic investment, data, and emerging technology to facilitate decarbonisation of transport and heat at maximum pace and at a minimal cost to all communities and consumers.
- Our approach is tailored to local needs to drive a just and fair transition, advising and guiding our stakeholders in coordination with local communities to help them deliver net zero at maximum pace and minimum cost.
- Our "Net Zero First" investment strategy will play a crucial role in delivering network capacity in the most efficient and effective way, enabling us not only to maximise the opportunities from and for flexibility providers to delay reinforcement through flexibility, but also to identify sites with whole system benefits for strategic investment where it can accelerate net zero outcomes in the long term.



# The outcomes our DSO is already delivering



Putting stakeholders and communities at the heart of decarbonisation and a smarter electricity system.

## Enabling and advising communities reaching their Net Zero goals, safeguarding an equitable and inclusive energy transition

Our DSO strategy builds on our experience working with communities and continues to deliver outcomes that support a just transition to net zero with a positive impact on society. By working to co-develop Local Area Energy Plans (LAEPs) with local communities and local authorities, recognising their needs and potential, the DSO can advise and guide stakeholders, and invest strategically to ensure that network capacity exists when and where needed to be an enabler of the net zero transition, whilst managing the costs and risks for its customers.

## Reducing distribution network costs for all through effective, neutral, and transparent DSO operations

Building stakeholder trust and confidence in the future market for flexibility is key to stimulating participation and market liquidity. To do so requires us to provide transparency of our future needs, and in how we make decisions regarding the use of flexibility. Creating capacity using flexibility reduces our need to reinforce the network to meet peaks in demand. Reinforcement is an expensive and permanent solution which may prove not to have been necessary if higher demand is not sustained. By making best use of existing capacity and deferring reinforcement, networks can be more certain that network investment will benefit customers long into the future, reducing costs for all.

## Creating network capacity to provide faster connections for customers, and maximising their access to the network and wider energy system

Optimising the use of the network, through flexibility and strategic investment, can ensure that sufficient capacity exists when and where needed to enable new connections for customers, and provide them with the levels of access they need. This can enable them to integrate low carbon technologies more quickly, delivering benefits for customers and society and speeding up the investment needed to achieve the UK's net zero carbon goals.

## Reducing national system costs through coordination with the national system operator to maximise access to distributed energy resources

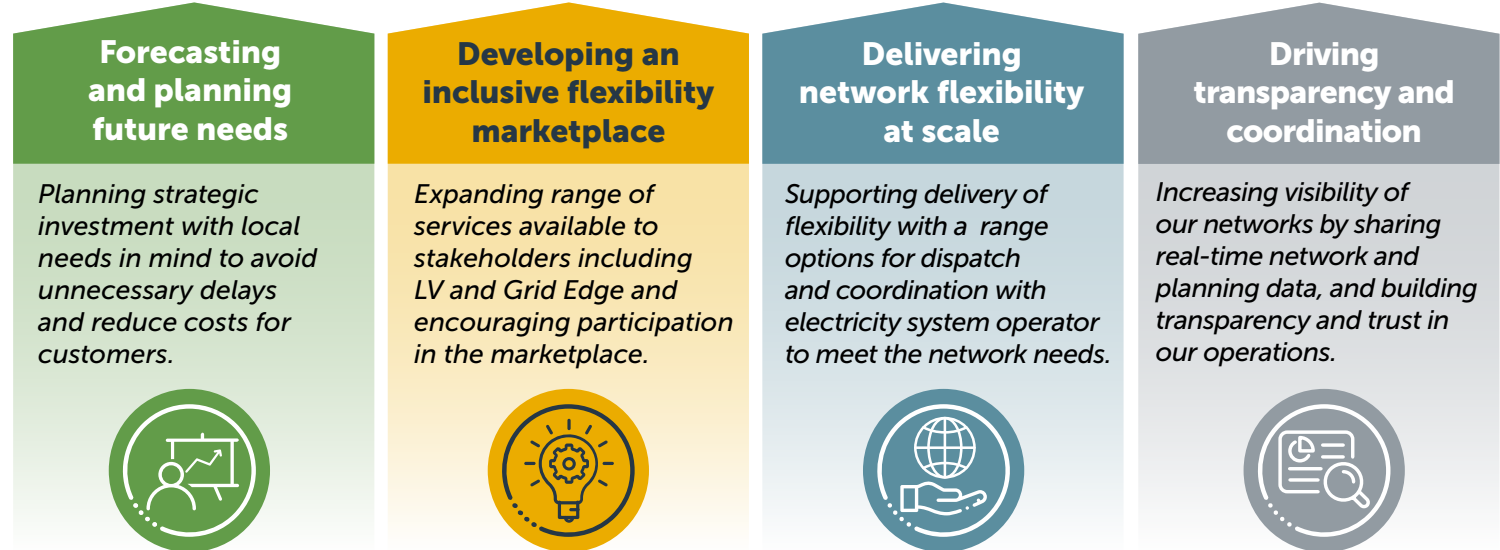
DSO's have a critical role in enabling benefits in the wider energy system. Through providing high levels of network access to Distributed Energy Resources we can enable our customers to support the needs of the national system operator, for instance delivering balancing and ancillary services. This will help to reduce the need for new transmission network infrastructure and peaking generation. Enabling participants to maximise the value of their flexibility across these markets will also improve the business case for investment in flexible assets, thus stimulating the development of the smart energy system further.

Effective DSO operations will result in lower costs per unit of energy, opportunities for new markets for customers to realise the value of their flexibility, and viable local energy solutions that will drive decarbonisation at the local level.

### DSO OUTCOMES

- Enabling and advising communities reaching their Net Zero goals, safeguarding an equitable and inclusive energy transition.
- Reducing distribution network costs for all through effective, neutral, and transparent DSO operations.
- Creating network capacity to provide faster connections for customers, and maximising their access to the network and wider energy system.
- Reducing national system costs through coordinating with the national system operator to maximise access to distributed energy resources.

### HOW WE ARE DELIVERING THIS – OUR DSO STRATEGIC PRIORITIES



# Our strategic objectives



Across our four strategic priority areas we have defined 12 key objectives to guide everything we do.

STRATEGIC OBJECTIVES	OUR COMMITMENTS
 <p><b>Forecasting and planning future needs</b></p>	<ol style="list-style-type: none"> <li>1. We will provide stakeholders with 100% visibility of our network through advanced software-based visibility solutions, smart metering data, and real-time network models, investing in network monitoring only when and where required targeting 19% coverage of the network.</li> <li>2. We will provide sector-leading support for communities through our Whole Systems team and a digital planning support portal will be available for all planning authorities by 2024.</li> <li>3. We will secure flexibility services where valuable and deliver strategic investment to release network capacity faster to avoid unnecessary delays and costs. Our approach will be published in the first year of RIIO-ED2, and decisions will be reported and externally assured on an ongoing basis.</li> <li>4. We will accelerate connections for customers through customer-centric engagement, digital services, a range of flexible connections products, and close coordination with the ESO through our GSP strategies and Regional Development Programmes. Our DSO will provide the capacity needed for all connections applications ensuring optimal use of flexible solutions to deliver the capacity required.</li> </ol>
 <p><b>Developing an inclusive flexibility marketplace</b></p>	<ol style="list-style-type: none"> <li>5. We will continue to deliver a 'flexibility first' approach to system development, making it easy to participate through regularly publishing a clear product roadmap, with a range of product and pricing options down to the grid edge. This will be co-created with stakeholders to ensure inclusivity by design and coordination with wider system operators.</li> <li>6. We will enable the market through a third-party market platform partnership secured in Spring 2024, and will work with that partner to establish operations that support a variety of procurement horizons and are coordinated with the national system operator, and will drive innovation in secondary trading.</li> <li>7. We will develop the tools and products to build trust in the domestic flexibility market and ensure this market is inclusive, fair and transparent supporting and encouraging micro businesses and vulnerable customers to engage in new markets.</li> </ol>
 <p><b>Delivering network flexibility at scale</b></p>	<ol style="list-style-type: none"> <li>8. We will drive transparency in dispatch through consulting on and publishing our dispatch decision making framework and process by April 2024, and will report on both our dispatch volumes and our compliance with the dispatch decision making framework on an ongoing basis.</li> <li>9. We will utilise flexibility for a range of long-term and short-term system needs, and enable coordination with our customers, stakeholders, and the ESO, through publishing outage plans, operational forecasts, and schedules up to the day-ahead stage, utilising standard products and dispatch interface options, and sharing data in real time with wider system operators.</li> </ol>
 <p><b>Driving transparency and coordination</b></p>	<ol style="list-style-type: none"> <li>10. We will drive transparency in our decision making and build customer trust by establishing a new DSO Advisory Board that will scrutinise our DSO delivery plans and operational decisions on a quarterly basis, and that will commission and present an annual independent audit of the transparency of our operations.</li> <li>11. We will continuously engage and collaborate stakeholders to inform the development of our DSO, publishing and consulting on our key processes, and prioritising data releases on our data roadmap and collaboration plan as per our stakeholders' needs.</li> <li>12. We will report on benefits delivered by our DSO to the DNO, ESO, customers, and wider society, to transparently demonstrate our progress and focus areas. We will review benefits delivered and reprioritise activities with our stakeholders at our annual DSO conference.</li> </ol>





# THE SERVICE WE ARE DELIVERING FOR CUSTOMERS AND STAKEHOLDERS

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# DSO is creating opportunities for everyone



The customer journey and personas are essential tools to guide us in developing customer-centric approaches, tailoring our services to meet the specific needs of different stakeholder groups, and identifying opportunities to improve our customer journeys.

## Journey of a DSO Customer

The customer journey represents the various stages, touchpoints, and interactions that our DSO customers go through, from discovering flexibility and connecting to the network, to participating in the market and operating their assets. It helps us understand our customers, their experience and perspectives, allowing us to identify pain points, challenges, and opportunities for improvement.



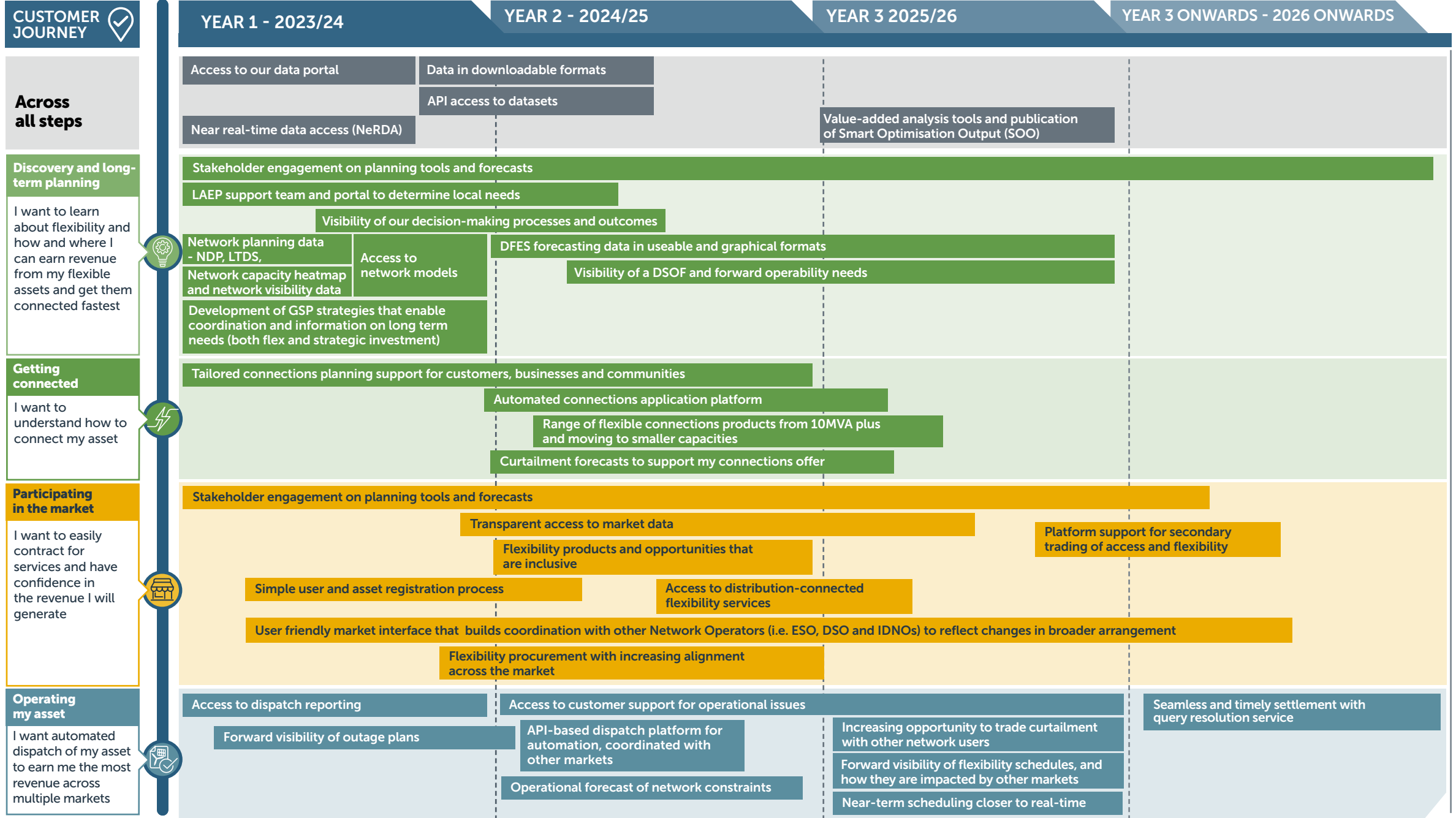
## Customer personas

Our 9 customer personas represent specific stakeholder groups with unique characteristics, needs, and challenges related to the DSO customer journey. The personas help us gain a deeper understanding of the diverse range of customers and stakeholders, allowing us to design tailored initiatives, products and services that address the specific needs and concerns of each persona.

<p><b>System and network operator</b></p>  <p>Anish works for the ESO's Control Room team that forward plans what energy flexibility will be necessary to balance the system.</p>	<p><b>Commercial business</b></p>  <p>Claire works for national home builder, 'Harvey Homes' as a Utilities Planner. She needs to understand the potential problems for connecting new homes to the grid well in advance.</p>	<p><b>Local authority</b></p>  <p>Cllr. Walker is the Chairman of Shellworth County Council. He wants his Council to make a positive contribution to net zero.</p>
<p><b>Battery storage owner</b></p>  <p>John's business is installing batteries of different sizes on both the distribution and transmission networks.</p>	<p><b>Large energy user</b></p>  <p>Keith operates a manufacturing plant that consumes large amounts of electricity which can vary significantly throughout the day.</p>	<p><b>Distributed generation customer</b></p>  <p>Carla is a solar farm owner and operator. She wants to expand her current solar farm and build an investment plan for new projects.</p>
<p><b>Aggregator</b></p>  <p>David is the CEO of a flex aggregator company. He builds portfolios of flexible energy resources and trades them in energy markets.</p>	<p><b>Domestic customer</b></p>  <p>Kate invested in solar panels on her property when the Feed in Tariff was at its height. She has since installed a battery to store the power she generates.</p>	<p><b>Vulnerable customer</b></p>  <p>Charles lives in a village with his wife who is also retired. Being on a budget, Charles and his wife enjoy cooking at home and keep their freezers full.</p>



# Our DSO customer journeys and services roadmap





# System and network operator

Anish works in the Energy Systems Operator (ESO). He works in a Control Room team that forward plans what energy flexibility will be necessary to balance the system. To do this he needs to understand what is happening in the distribution network as it may also be procuring flexibility for local needs - he could even be talking to the same service providers as the DNO.



## GOALS:

- Ensure grid reliability
- Minimise outages
- Optimise network performance
- Interoperability



## BEHAVIOURS:

- Monitor network conditions
- Coordinate maintenance
- Invest in grid upgrades



## PAIN POINTS:

- Balancing demand and supply
- Managing grid congestion
- Responding to emergencies
- Network resilience



## NEEDS:

### Forecasting and planning future needs

- Data portal, facilitating stakeholder access to a range of data sources with API access

### Developing an inclusive flexibility marketplace

- A consistent and coordinated approach across markets for trading flexibility services
- Facilitation of ESO access to DER for balancing mechanism or ancillary service markets

### Delivering network flexibility at scale

- Provision of data such as outage schedules that allow large users to optimise their operations
- Access to DSO flexibility planning and timescales, and to avoid conflicts with other network/system operators

### Driving transparency and coordination

- To understand the bigger whole system picture, exchange data and align plans between ESO and DSO



## Our commitments and initiatives in Y1 relevant to Anish's journey:

Stakeholder engagement on planning tools and forecasts

Network planning data - NDP, LTDS

Network capacity heatmap and network visibility data

Development of GSP strategies that enable coordination

Standardised flexibility products that maximise opportunities

Flexibility procurement that is coordinated with the ESO

Access to market data

Access to dispatch reporting both for connections (Access) and flexibility services

Access to a data portal

Near real-time data access (NeRDA)





# Commercial business

Claire works for a national home builder 'Harvey Homes' as a Utilities Planner. She needs to understand the potential problems for connecting new homes to the grid well in advance. This includes any future constraints there might be. Harvey Homes also work with local authorities and housing associations to improve the energy efficiency of new housing stock available in the social housing sector.



## GOALS:

- Build and connect new developments
- Meet regulatory requirements
- Enhance property values



## BEHAVIOURS:

- Seek grid capacity assessments
- invest in energy efficiency and LCTs in social housing
- Coordinate with DSOs



## PAIN POINTS:

- Grid constraints
- Permitting delays
- Energy infrastructure costs



## NEEDS:

### Forecasting and planning future needs

- To understand future constraints on the network, how constraints may affect a connection
- How to participate in flexibility markets to resolve network constraint issues

### Developing an inclusive flexibility marketplace

- How to participate in flexibility markets
- How do flexibility services provide a cost-effective alternative to reinforcement

### Delivering network flexibility at scale

- Early visibility of any planned constraints or outages
- Ability to connect and operate LCTs flexibly

### Driving transparency and coordination

- To understand the bigger whole system picture, to align plans



## Our commitments and initiatives in Y1 relevant to Claire's journey:

Standardised flexibility products that maximise opportunities

Simple user and asset registration process

User friendly market interface that is coordinated with other DSOs

Flexibility procurement that is coordinated with the ESO

Access to market data

Access to dispatch reporting both for connections (Access) and flexibility services

Access to a data portal



# Local authority/council

Cllr. Walker is the Chairman of Shellworth County Council. He wants his Council to make a positive contribution to net zero and is looking to raise the finance for a solar installation with a battery. He is also looking at energy efficiency measures for Shellworth and working with the local social housing provider to support vulnerable householders and improve the housing stock. To help fund this work he wants to sell the energy from the solar installation locally. On top of that, Cllr. Walker is also considering whether to change Council vehicles to electric and install EV charge points.



## GOALS:

- Ensure grid reliability
- Minimise outages
- Optimise network performance
- Interoperability



## BEHAVIOURS:

- Invest in smart grids, energy efficiency initiatives, and renewable energy projects.



## PAIN POINTS:

- Budget constraints
- Regulatory hurdles
- Community engagement



## NEEDS:

### Forecasting and planning future needs

- To understand future constraints on the network
- DNO needs for infrastructure investment
- Collaborate with a range of stakeholders across the whole energy system
- Support for developing Local Area Energy Plans
- Align plans and opportunities for EV charging Points and LCT connections

### Developing an inclusive flexibility marketplace

- Clarity around how to interact with flexibility services
- How to finance a flexibility service and how to bid into funding mechanisms

### Delivering network flexibility at scale

- Early visibility of any planned constraints or outages

### Driving transparency and coordination

- To understand the whole system picture to align all future plans



## Our commitments and initiatives in Y1 relevant to Cllr. Walker's journey:

Stakeholder engagement on planning tools and forecasts

Network planning data - NDP, LTDS

Network capacity heatmap and network visibility data

Development of GSP strategies that enable coordination

Standardised flexibility products that maximise opportunities

Access to dispatch reporting both for connections (Access) and flexibility services

Access to a data portal





# Battery storage owner

John's business employs 80 people and is installing batteries of different sizes on both the distribution and transmission networks. John wants his business to support the local economy but also wants to reduce carbon emissions. He wants to expand the business and needs to know where the best opportunities will be and how he can maximise the opportunities to earn the most from the new batteries he wants to install. There's a lot going on around trading flexibility with both the DSOs and ESOs being potential buyers, so he really needs to be prepared for the future.



## GOALS:

- Optimise energy usage
- Reduce electricity bills
- Develop and market appropriate battery tech
- Participate in grid services



## BEHAVIOURS:

- Charge during off-peak hours
- Sell excess energy
- Integrate with renewable sources



## PAIN POINTS:

- Battery degradation
- Energy market complexities



## NEEDS:

### Forecasting and planning future needs

- Information about current and future network constraints

### Developing an inclusive flexibility marketplace

- Pricing options and access levels for investment plans
- Simple and easy access to flex markets (ESO/DSO ancillary services)
- Real time network information to optimize market interaction
- Reliable flexibility forecasts to plan future investments and market participation
- Confidence in fairness and transparency of the market

### Delivering network flexibility at scale

- Close to real time data and flex products to optimise portfolio
- Fast and easy connections



## Our commitments and initiatives in Y1 relevant to John's journey:

- Network planning data - NDP, LTDS
- Network capacity heatmap and network visibility data
- Standardised flexibility products that maximise opportunities
- Simple user and asset registration process
- User friendly market interface that is coordinated with other DSOs
- Flexibility procurement that is coordinated with the ESO
- Access to market data
- Access to dispatch reporting both for connections (Access) and flexibility services
- Access to a data portal



# Large energy user

Keith operates a manufacturing plant that consumes large amounts of electricity that can vary significantly throughout the day. Shareholders and customers want to see Keith actively supporting the nation’s efforts to reach net zero. Someone has told Keith that if he can control electricity consumption through the day he could get paid to do this, even if still using the same amount of electricity. The plant also produces a great deal of wasted heat that Keith’s friend has told him could be used to heat local homes.



## GOALS:

- Control energy costs
- Optimise energy consumption
- Reduce carbon emissions



## BEHAVIOURS:

- Implement energy-efficient technologies
- Engage in demand response
- Procure renewable energy



## PAIN POINTS:

- Peak demand charges
- Energy inefficiency
- Compliance with sustainability goals



## NEEDS:

### Forecasting and planning future needs

- Information about current and future network constraints
- To be aware of developments in local area energy plans

### Developing an inclusive flexibility marketplace

- Clarity on flexibility procurement, payments and rules, DSR and tariff optimisation
- Simple and easy access to flex markets (ESO/DSO ancillary services)
- Confidence in fairness and transparency of the market

### Delivering network flexibility at scale

- A reliable connection with security of supply
- Fast and easy connections for new facilities



## Our commitments and initiatives in Y1 relevant to Keith’s journey:

Standardised flexibility products that maximise opportunities

Simple user and asset registration process

User friendly market interface that is coordinated with other DSOs

Flexibility procurement that is coordinated with the ESO

Access to market data

Access to dispatch reporting both for connections (Access) and flexibility services

Access to a data portal





# Distributed generation customer

Carla is a solar farm owner and operator. She is passionate about decarbonisation and wants to expand her current solar farm and build an investment plan for new projects. She wants to maximise her revenue from flexibility services and to make sure she picks the right location for her next solar farm.



## GOALS:

- Generate and sell excess energy
- Reduce carbon footprint
- Achieve energy independence



## BEHAVIOURS:

- Install solar panels, wind turbines CHP systems, and feed surplus energy into the grid



## PAIN POINTS:

- Grid connection challenges
- Intermittent generation
- Energy market access



## NEEDS:

### Forecasting and planning future needs

- Information about current and future network constraints

### Developing an inclusive flexibility marketplace

- Pricing options and access levels for investment plans
- Simple and easy access to flex markets (ESO/DSO ancillary services)
- Real time network information to optimise market interaction
- Reliable flexibility forecasts to plan future investments and market participations
- Confidence in fairness and transparency of the market

### Delivering network flexibility at scale

- Quick and easy connections
- Low operation cost
- Knowing when/if she will be curtailed



## Our commitments and initiatives in Y1 relevant to Carla's journey:

Standardised flexibility products that maximise opportunities

Simple user and asset registration process

User friendly market interface that is coordinated with other DSOs

Flexibility procurement that is coordinated with the ESO

Access to market data

Access to dispatch reporting both for connections (Access) and flexibility services

Access to a data portal



# Aggregator

David is the CEO of a flex aggregator company. He builds portfolios of flexible energy resources and trades them in energy markets. David works closely with various stakeholders to ensure the stability of the grid.



## GOALS:

- Aggregate and trade flexible energy resources
- Optimise revenue
- Enhance grid stability



## BEHAVIOURS:

- Build portfolios of flexible assets
- Participate in energy markets
- Provide grid services



## PAIN POINTS:

- Complex market regulations
- Resource coordination
- Data management



## NEEDS:

### Forecasting and planning future needs

- Information about current and future network constraints

### Developing an inclusive flexibility marketplace

- Simple and easy access to flex markets (ESO/DSO ancillary services)
- Coordination between system operators
- User friendly procurement platforms
- Standardised APIs for simple data exchange and flex dispatch

### Delivering network flexibility at scale

- Close to Realtime data and flexibility products to optimise portfolio
- Standardised APIs



## Our commitments and initiatives in Y1 relevant to David's journey:

Stakeholder engagement on planning tools and forecasts

Network planning data - NDP, LTDS

Network capacity heatmap and network visibility data

Standardised flexibility products that maximise opportunities

Simple user and asset registration process

User friendly market interface that is coordinated with other DSOs

Flexibility procurement that is coordinated with the ESO

Access to market data

Access to dispatch reporting both for connections (Access) and flexibility services

Access to a data portal





# Domestic customer

Kate invested in solar panels on her property when the Feed in Tariff was at its height. She has since installed a battery to store the power she generates. Kate’s employer has recently started to offer electric cars as an option and she’d like to replace her old diesel car with an EV. She has read that she might be able to make money from her new low carbon technology and she keeps getting flyers from local companies saying she could be selling something called ‘flexibility services’.



## GOALS:

- Lower energy bills
- Reduce environmental impact
- Participate in energy markets



## BEHAVIOURS:

- Install smart meters, solar panels, and energy storage, and participate in demand response programs



## PAIN POINTS:

- Lack of awareness
- Upfront costs
- Network constraints
- Technology integration challenges



## NEEDS:

### Forecasting and planning future needs

- A reliable power supply that can easily connect to an electric vehicle (EV) or other low carbon technology

### Developing an inclusive flexibility marketplace

- To understand how flexible solutions could help bring energy bills down and provide opportunities to earn money by trading capacity/ energy
- Low operation cost and simple market interaction

### Delivering network flexibility at scale

- Avoid spending too much time with different services or portals
- Simple installation of LCTs without long wait times



## Our commitments and initiatives in Y1 relevant to Kate’s journey:

Standardised flexibility products that maximise opportunities

Flexibility procurement that is coordinated with the ESO



# Vulnerable customer

Charles lives in a village with his wife who is also retired. Being on a budget, Charles and his wife enjoy cooking at home and keep their freezers full. They have stayed in the area for a long time and have a close relationship with their neighbours. Recently, they have been considering investing in solar panels with some of the neighbours but also needs to improve the energy efficiency of their home to reduce bills during the winter season.



## GOALS:

- Reliable energy access
- Affordable bills
- Being prepared for the next potential power cut



## BEHAVIOURS:

- Uses the Internet and email but prefers speaking to a person via phone calls to resolve issues
- Does grocery shopping infrequently and stocks up the freezer
- Shares useful information among neighbours through social apps and forums



## PAIN POINTS:

- Experiencing a power cut during cold winter evening and not getting updates
- Losing food in the freezer or dining out - costing more money
- Not having alternative heat source in case of an outage
- Poorly insulated house and high bills



## NEEDS:

### Forecasting and planning future needs

- Reliable power supply
- Guidance in network expansion and integration of solar panels

### Developing an inclusive flexibility marketplace

- Tariff information that could reduce energy costs
- Information about community incentives for solar panel installation

### Delivering network flexibility at scale

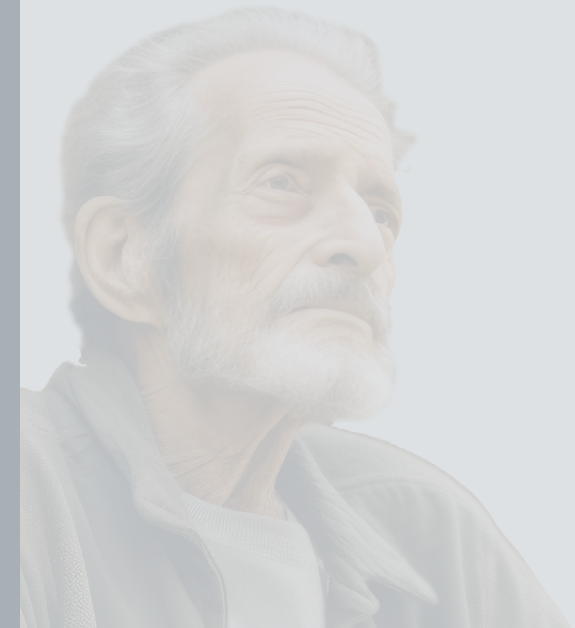
- Outage notifications
- Customer support
- Technical support for solar panel installation and operation
- Support for installing energy efficiency measures and insulation



## Our commitments and initiatives in Y1 relevant to Charles's journey:

Flexibility products and opportunities that are inclusive

Tailored connections planning support for customers, businesses and communities







# HOW WE ARE BUILDING AND EVOLVING OUR DSO

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# Forecasting and planning future needs

Planning strategic investment with local needs in mind and being open about our networks.



## Our customers and stakeholders are asking us for



- The ability to participate in shaping the development of the network where they are impacted.
- Dedicated support to guide local authorities in development and implementation of Local Area Energy Plans.
- User-friendly planning outputs which clearly outline network needs and deliver insights to customers to help them plan their operations.
- Greater transparency on how network planning decisions are made, and confidence that we are considering costs and benefits to all parties and wider society.
- To understand whole system solutions that release capacity without undue delays and offer the lowest cost.

## Our strategic objectives for RIIO-ED2 in forecasting and planning future needs:

- We will provide stakeholders with 100% visibility of our network through advanced software-based visibility solutions, smart metering data, and real-time network models, investing in network monitoring only when and where required, targeting 19% coverage of the network.
- We will provide sector-leading support for communities through our Whole Systems team and a digital planning support portal will be available for all planning authorities by 2024.
- We will secure flexibility services where valuable and deliver strategic investment to release network capacity faster to avoid unnecessary delays and costs. Our approach will be published in the first year of RIIO-ED2, and decisions will be reported and externally assured on an ongoing basis.
- We will accelerate connections for customers through customer-centric engagement, digital services, a range of flexible connections products, and close coordination with the ESO through our GSP strategies and Regional Development Programmes. Our DSO will provide the capacity needed for all connections applications ensuring optimal use of flexible solutions to deliver the capacity required.

## The products and services we are delivering

### Network visibility

Our network visibility platform utilises and processes a range of data including smart meter data to deliver insights to our customers. We currently have 100% network visibility and will continue to refine analytics and add monitors only where necessary to give us the best balance of accuracy and agility.

Processes are in place for continuous re-prioritisation of network monitoring roll-out based on KPIs and benefits.

We will publish our LV connectivity model by March 2024 to enable enhanced coordination with the ESO and other DSOs, and better enable customers to plan their operations and investments.

### Identifying system needs

Load-related needs are identified by our DSO through a transparent process – including our Local Area Energy Planning service and LENZA tools, and participative DFES approach.

Our DSO creates capacity for new connections using the most efficient mix of flexible and reinforcement in the fastest time and lowest cost.

The DNO operates the network to maintain security and asset health, and the DSO combines all needs to create our suite of planning outputs.

We are evolving our forecasting tools, as set out in our Digital Strategy, to enable more efficient planning.

We publish our DFES and full suite of planning outputs via our data portal and are evolving user experience through our data roadmap.

### Transparent options assessment

Once network needs are identified, network planning identifies and assesses options to resolve needs across all voltage levels, including network, flexibility and whole system options, which are assessed using the industry Common Evaluation Methodology.

We will consult on this process this year to provide clarity on how we will operate, specifying DSO/DNO interactions and decision governance.

To ensure transparency and scrutiny of DNOA decisions our DSO Advisory Board will provide independent assurance on our DNOA outcomes.

We will publish our DNOA outcomes twice a year to keep our stakeholders informed of our decisions.

### Whole system planning and strategic investment

Our Net Zero First investment strategy seeks to capture and quantify the benefits of strategic investment, in options assessment, enabling us not only to identify opportunities to delay reinforcement through flexibility, but also to identify sites with whole system benefits for faster investment.

We are developing regional strategies with a 2050 horizon, defining a strategic end-state to build towards. Historically, reinforcement has been reactive, but given the rapid pace of change we are experiencing this approach poses a risk of delaying our transition to a net-zero future, hence the need for a more strategic approach.

## The outcomes we are targeting



- Our DNOA outcomes will give **clear line of sight to our plans and timelines for our investment decisions.**
- Our data portal will **improve our customer's experience** when accessing the planning data they need.
- A robust needs case based on high quality data and input from our stakeholders will **decrease risk and reduce delays and costs.**
- Whole system solutions will **increase deliverability** and ensure the changes we make to our network are **efficient and fit for purpose.**

## Our early focus – by April 2024 we will:

We will consult on and publish our **DNOA process.** This will set out the way in which we will identify network needs, determine and assess options, and determine the required solutions.

We will **publish our first DNOA outcomes** this year, to set out the decisions we have taken across our network and enable external scrutiny.

We will develop and engage on our Net Zero First investment strategy, and propose a framework for embedding strategic investment into the industry standard evaluation approach.



## What we need from you



Engage in our consultations and roundtables.

Sign-up to our quarterly newsletter.

Give us your feedback on our strategy and action plan.

Click each point to get involved





# Developing an inclusive flexibility marketplace

Further expanding range of services available to stakeholders and encouraging participation in the marketplace.



## Our customers and stakeholders are asking us for



- Ensure we are using flexibility to its fullest to maximise network access and minimise cost.
- Provide long-term visibility and commitment to flexibility to help them plan future investments and market participation.
- A consistent and coordinated approach across markets for trading flexibility services, that helps them access a range of potential revenue streams.
- A user-friendly marketplace for flexibility and the associated end-to-end processes, with standardised APIs for data exchange, platform interaction and flexibility dispatch.
- A coherent range of product approaches across flexibility, access, and pricing, that best enable them to connect and participate.
- Products that are standardised across DSOs, but also allow for specific needs in the region.

## Our strategic objectives for RIIO-ED2 in forecasting and planning future needs:



- We will continue to deliver a 'flexibility first' approach to system development, making it easy to participate through regularly publishing a clear product roadmap, with a range of product and pricing options down to the grid edge, co-created with stakeholders to ensure inclusivity by design and coordination with wider system operators.
- We will enable the market through a third-party market platform partnership secured in Spring 2024, and will work with that partner to establish operations that support a variety of procurement horizons and are coordinated with the national system operator, and will drive innovation in secondary trading.
- We will develop the tools and products to build trust in the domestic flexibility market and ensure this market is inclusive, fair and transparent supporting and encouraging micro businesses and vulnerable customers to engage in new markets.

## The products and services we are delivering



### Engaging stakeholders

To maximise the value of flexibility, we must work with providers to remove barriers and promote participation.

We engage providers as part of the way we tailor products and services, through our webinars and Flex Service Providers Days, as well as bilateral engagements. We aim to move to more standardised engagement as market and broader understanding matures.

We will publish the outcomes of this engagement through quarterly newsletters and lessons learnt reports to demonstrate how feedback shapes our approach.

We are proactive in engaging with Open Networks by leading the Settlement workstream and actively participating in workstreams to drive standards in products, contracts and processes to make it easy for customers to interact with multiple DSOs.

### Publishing market data

Providing visibility of our market needs and progress in market development is critical to driving participation.

We will publish our flexibility needs beyond the next 12 months in March/April 2024 to enable stakeholders to plan their investments and operations, and will refresh this view annually.

A wide range of market data will be available on our portal. Data will be available in a range of formats to make it easy to access and use, including with APIs and an enhanced user experience.

These data and portal services will be prioritised with stakeholders based on the benefits they provide.

### Developing market products

A wide range of products suiting the needs of our providers is essential. Our approach is to collaborate with the ENA to mature the standard products and explore new solutions for the bespoke needs of our customers.

We will publish a product roadmap by January 2024, with a range of flexibility and access products, coordinated with wider system operators, alongside a forecast of our needs.

We are working to enable flexibility at scale, down to our low voltage network, and lead on products for hard-to-reach customer segments, such as through our Load Managed Areas initiatives.

We will proactively focus on ESO coordination of services, including provision of products such as CLASS.

### Enabling the market

As a neutral market facilitator, the DSO must provide market access for customers that is simple and effective.

We will partner with a third-party market platform to achieve the best possible service, by Spring 2024.

We will channel the majority of our service procurement through this platform and support a variety of procurement horizons.

We are building on our data exchanges with the national system operator to ensure that procurement can be coordinated to enable customers to stack value in multiple markets.

We are exploring secondary and peer-to-peer trading through innovation and will establish support for participants should this prove valuable.

## The outcomes we are targeting



- **Increased participation in flexibility markets** and market liquidity through the right product mix and greater awareness of our forward plans.
- **Improved provider experience for flexibility procurement** through process improvements and our move to a third-party market platform.
- **Increased volumes of flexibility procured and dispatched**, reducing reinforcement costs and enabling faster network access.
- **Improved ESO access to flexibility resources on the distribution network**, lowering wider system costs and providing increased revenue for participants.

## Our early focus – by April 2024 we will:



Consult on and publish our future market vision and flexibility product roadmap. This will set out our plans and timelines for future market products.

Engage with a third-party market platform partner to improve our flex procurement customer experience.

Complete our next flexibility tender to sign up providers to support our GSP strategies.

## What we need from you



Engage in our consultations and roundtables.

Sign-up to our quarterly newsletter.

Give us your feedback on our strategy and action plan.

Click each point to get involved



# Delivering network flexibility at scale

Supporting delivery of flexibility with a range options for dispatch and coordination with electricity system operator.



## Our customers and stakeholders are asking us for



- To provide great transparency on how we make decisions regarding the use of flexibility.
- To provide greater visibility of operational data, outage plans, and forecasts or dispatch and curtailment to enable them to plan their operations and investments.
- To coordinate closely with the ESO to ensure that flexibility can be utilised where it is most valued to improve provider returns.
- To make it easy for them to participate in the provision of flexibility services through systems that are easy to interface and standardised with other system operators.

## The outcomes we are targeting



- Providing our customers, flexibility providers, and stakeholders with clarity and confidence in how we will schedule and dispatch flexibility, to stimulate participation.
- Provide clarity on the system services we will need in future to assist flexibility service providers in planning their operations and investments.
- Enabling the optimal use of flexibility on the network to create capacity for connections, enable DER to participate in ESO markets, and reduce network costs for all.
- Validate our roadmap for the development of our network operations capabilities to ensure we are focusing investment where our customers and stakeholders value it most
- Lead industry on the initiatives where our network can deliver benefits and learnings for a wide range of stakeholders.

## Our strategic objectives for RIIO-ED2 in forecasting and planning future needs:



- We will drive transparency in dispatch through consulting on and publishing our dispatch decision making framework and process by April 2024, and will report on both our dispatch volumes and our compliance with the dispatch decision making framework on an ongoing basis.
- We will utilise flexibility for a range of long-term and short-term system needs and enable coordination with our customers, stakeholders and the ESO. We will do this by publishing outage plans, operational forecasts, and schedules up to the day-ahead stage. This will utilise standard products and dispatch interface options and share data in real time with wider system operators.

## The products and services we are delivering



### Operational visibility and forecasting

Our network visibility strategy sets out how we are rolling out monitoring and utilising third party data to deliver 100% visibility down to our LV network.

Our Near Real-time Data Access (NeRDA) portal is live publishing power flow information from our EHV, HV and LV networks to help inform local plans, products and services. We are expanding the visibility of operational data for stakeholders in line with our data roadmap.

We are developing our operational forecasting of generation, demand, and constraints down to LV level, incorporating a wide range of data sources and expanding the type of constraints being forecast.

### Planning and scheduling

We are developing our Distribution System Operability Framework (DSOF) to provide clarity on our future needs and transparency of how we make scheduling and dispatch decisions.

We will develop this further with stakeholders and publish this year.

We will provide greater visibility of outage plans and forecasts of flexibility service needs and curtailment, starting this year, and are working toward more comprehensive publication of full planning and scheduling outputs.

Our 3-year plan is to integrate our short-term forecast with scheduling support tools and control room systems, to enable the scaling of the use of flexibility across our network.

### Coordination with ESO

We are coordinating closely with the ESO and NGET in our Constraint Managed Zones for curtailment, and are on a journey to develop coordination in scheduling and dispatch of flexibility

We are in the process of delivering an Inter-Control Centre Link by early 2024 with the ESO to facilitate data exchange, and our 3-year plan is to automate data exchanges at the day-ahead stage, and to expand the range of services and geographical areas under management.

We will follow and contribute to industry standards development to expand areas of conflict resolution, defining Primacy Rules for service conflicts through the Open Networks technical working groups.

### Dispatch, monitoring, and reporting

We aim to make dispatch as easy as possible for participants, through system support to enable automation and ease of integration where desired.

We currently utilise Flexible Power as our dispatch platform, which provides API interfaces and is standardised with other DSOs.

We will coordinate through the Open Network project to further develop our dispatch capabilities in line with industry standards and ensuring system interoperability with the ESO.

We will report on our dispatch volumes and decisions and seek external assurance via our DSO Advisory Board.

## Our early focus – by April 2024 we will:



Consult on our Distribution System Operability Framework, including our dispatch decision-making framework and Seasonal Operability Report.

Review and improve our operating model (KPIs, core systems) to enhance the value of DSO outcomes for our stakeholders from ever more efficient and transparent functionality.

Accelerate learnings from our recent innovation projects LEO and TRANSITION into BaU in our DSO network control processes.

## What we need from you



Engage in our consultations and roundtables.

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Give us your feedback on our strategy and action plan.

Click each point to get involved

# Our data roadmap and collaboration plan



Improving our ability to use and share data supports the delivery of all our DSO strategic objectives

## Data portal

- Making our data visible and accessible, through our website and Open Data portal is a key enabler for the delivery of Net Zero. By opening network data, the portal is creating opportunities for the flexibility markets, helping to identify the best locations to invest in flexible resources, avoiding unnecessary and costly delays for connections faster, as well as supporting local authorities for Local Area Energy Planning.
- In October we launched our new data portal along with 16 new data sets and we are planning to release more data sets by April.
- We will continue to engage with customers to improve the functionality of our data portal.
- Our Open Data licence obligation means anyone can access NeRDA, and see visualization of our network data via maps, dashboards, downloading datasets and can even connect directly via an API (machine to machine) to automate the data streams into their own internal systems.

## Network visibility strategy

- Our Network Visibility Strategy objective is to have 100% visibility of power flows across all parts of our network, from the higher voltages, down to the low voltages.
- We currently have 100% network visibility and will continue to refine analytics and add monitors only where necessary to give us the best balance of accuracy and agility. This level of visibility allows us to plan with more certainty, to manage our assets more effectively and provide the data necessary to facilitate markets and allow optimal utilisation of the network.
- We have access to over two million smart meters in our SEPD and SHEPD regions, collecting and receiving data at a granular level, allowing us to monitor parts of the network previously unseen. Smart meters will help us monitor the power quality, and half hourly demand across each section of the network.
- We receive immediate alerts when the power to a property is off supply, and we can remotely check the supply status at a property to ensure the customers power is restored. This level of visibility means we can proactively support customers, particularly the most vulnerable, and can identify and restore power cuts more quickly. SSEN aims to be the first DNO to publish the smart meter consumption data on our Open Data Portal.



### Forecasting and planning future needs

- In October we published our network capacity for connections, network development reports, and DFES data. We are working in partnership with stakeholders to support the development of local and regional net zero strategies.
- Our priority will be to provide tools that forecast the use and benefits of flexibility services under different circumstances and across different products. In the long term, we will share increasingly detailed information and insight across different organisations to support whole system planning in the local area through tools like the LENZA tool.



### Developing an inclusive flexibility marketplace

- A wide range of market data will be available on our portal. Data will be available in a range of formats to make it easy to access and use, including with APIs and an enhanced user experience. These data and portal services will be prioritised with stakeholders based on the benefits they provide.



### Delivering network flexibility at scale

- In September 2023 we implemented our Near Real-time Data Access (NeRDA) tool which makes the most granular data on our network, from the higher voltages, down to the low voltage network, available to anyone in near real-time.
- By publishing operational forecasts, schedules, and real-time network performance and demand data through our data portal, we can achieve better coordination with wider system operators, customers and stakeholders, and meet a wide range of system needs with flexibility. We will forecast constraints down to LV level by incorporating wider range of data sources and utilising advanced forecasting methodologies.



# Transparency, Collaboration, and Coordination



Transparency, Collaboration, and Coordination will be embedded throughout our DSO in how we operate and everything we do

## Our strategic objectives for RIIO-ED2 in Transparency, Collaboration, and Coordination



- We will drive transparency in our decision making and build customer trust by establishing a new DSO Advisory Board that will scrutinise our DSO delivery plans and operational decisions on a quarterly basis, and that will commission and present an annual independent audit of the transparency of our operations.
- We will continuously engage and collaborate stakeholders to inform the development of our DSO, publishing and consulting on our key processes, and prioritising data releases on our data roadmap and collaboration plan as per our stakeholders' needs.
- We will report on benefits delivered by our DSO to the DNO, ESO, customers, and wider society, to transparently demonstrate our progress and focus areas. We will review benefits delivered and reprioritise activities with our stakeholders at our annual DSO conference.

## DSO and DNO: Trusted Integration

- Our position remains unchanged (since our ED2 business plan and response to Ofgem's call for input in April 2022) on the benefits of DSO/DNO integration. Our analysis with NERA shows the increased efficiencies and coordination we can deliver from an integrated business model, where our DSO function makes decisions on the optimal whole system solution. However, we recognise this organisational structure means we need to be transparent in our decision making, and stakeholders are asking us.
- As detailed in our ED2 business plan, we have a separate DSO directorate that reports into SSEN Distribution's Executive Committee. We are experienced in "Business Separation" education, as part of the broader SSE Group and we will extend similar training in support of DNO-DSO transparency.
- In our response to Ofgem's local governance consultation (May 2023), we highlighted the need for a Regional Energy Coordinator to encourage democratic decision making for LAEPs. We are continuing to work in this area while Ofgem continues their consultation. Our focus on increasing the visibility of our network data and transparently sharing our decision-making processes and outcomes mean we are prepared for the outcome of Ofgem's consultation, and that our stakeholders are involved in the decisions we make today.

## DSO Advisory Board

- Our DSO Advisory Board will be established in winter 2023 and will be made up of independent advisors representing all our stakeholder, provider, and customer groups
- This Board will scrutinise all elements of our decision making, including how we identify system needs, seek and assess options and solutions, and schedule and dispatch flexibility
- The Board will provide an annual report and commission independent audit where required to demonstrate we are adhering to the highest standards of transparency

## Transparency, Collaboration, and Coordination in everything we do

	Transparency	Collaboration	Coordination
Forecasting and planning future needs	Consulting on and publishing our Net Zero First investment strategy Regular and broad-reaching data publications and network visibility Scrutiny of decisions from our new DSO Advisory Board	Stakeholder engagement throughout our Net Zero First investment strategy at every stage Leading services for Local Authority engagement – including our Local Area Energy Planning service and LENZA tools	Cross-vector and whole system engagement through our options assessment approach Exploring strategic investment where necessary to enable customers and stakeholders
Developing an inclusive flexibility marketplace	Regular publication of a clear product roadmap alongside a forecast of our flexibility needs and reporting of procurement outcomes Delivering a 'flexibility first' approach to system development and channelling service procurement through our market platform	Working with stakeholders and customers to tailor industry standard products to suit local needs Leveraging the capabilities of a third-party market platform to deliver the best services for flexibility providers	Aligning with open networks flexibility products to drive standardisation for our customers and providers Adopting a variety of procurement horizons that are coordinated with the national system operator to enable providers to participate in multiple markets
Delivering network flexibility at scale	Consulting on and publishing our Distribution System Operability Framework (DSOF) Progressing to regularly publish operational plans and service schedules Publication of our Service Operability Report and dispatch KPIs	Working closely with the ESO and TOs to implement Regional Development Plans and Local Constraint Markets at scale	Aligning with Open Networks, for example enacting Primacy Rules and weekly Risk of Conflict reports to manage ESO service conflicts. Establishing an Inter-Control Centre Communications Protocol (ICCP) link
Central DSO enablement	Establishing our DSO Advisory Board and annual audit of decision-making Reporting on DSO benefits delivered and annually publishing our DSO Action Plan	Extensive engagement with stakeholders to feedback, prioritise and shape the design of our services and decision-making processes Reprioritising DSO delivery focus with our stakeholders at our annual DSO conference	Providing enhanced user services and a wide range of data on our data portal, with releases prioritised with stakeholders



# HOW WE ARE DELIVERING

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# Our 3-year plan to deliver a DSO that's fit for the future



We have set our focus for the next three years to provide visibility for stakeholders and focus for our programme where long lead-time capabilities and systems development is required. We will continue to update our longer-term plans based on engagement with stakeholders on their priorities, as well as responding to external changes, so we can continue to focus our efforts where they will provide most benefit to our stakeholders.

- Our stakeholders' feedback will always help us prioritise our activities. Our extensive engagement plan with stakeholders will continue beyond 2024 and our quarterly newsletters will have additional KPIs guided by what our stakeholders want to see.
- We will increase the frequency and depth of our DNOA outcomes, reporting and challenge to provide stakeholders with the transparency they are asking for. We will also engage stakeholders on the need for strategic investment to ensure networks are best enabling our customers and service providers to deliver Net Zero.
- As we dispatch more operational flexibility, we will further define our DNO/DSO code to support the increasing complexity of forecasting needs and new market roles (e.g. the potential future Regional Energy coordinator).
- We will continue to engage stakeholders on the types of flexibility products they need to tailor standard products and services to suit local needs. Once we have procured our market platform, we will continue to enhance its capability as informed by our stakeholders' needs.
- As we engage more flexibility service providers, we will enhance our dispatch and coordination capabilities, and will develop and consult on our Distribution System Operability Framework (DSOF) to enhance our control room capabilities to optimise across a broader range of operational solutions.
- We will continue to release new data products, prioritised by our stakeholders' needs. We will keep our stakeholders informed on our progress of benefits delivery, adding new KPIs as required. We will enhance the DSO capabilities to deliver these benefits and customer outcomes and we will increase the scope of what our DSO advisory board reviews.

	Year 1 (23/24)	Year 2 (24/25)	Year 3 (25/26)
<b>Overarching milestones and regulatory timelines</b>	<b>DSO strategy refresh</b> (Oct) <b>HOWSUM reopener</b> (Jan)	<b>LRE reopener</b> (Oct)	<b>Digitalisation reopener</b> (Oct)
<b>Stakeholder engagement</b>	DSO strategy and Year 1 engagement plan	Ongoing stakeholder engagement to inform all publications and decisions	
<b>Forecasting and planning future needs</b>	Build / consult on DNOA process Lead industry forwards on strategic investment	Increase frequency of DNOA reporting / challenge board scrutiny Develop strategic investment reopeners	
<b>Developing an inclusive flexibility marketplace</b>	Build / consult on Flex Product Roadmap Market platform strategy	Ongoing consultation and product releases Third party services procurement	Market platform capability releases
<b>Delivering network flexibility at scale</b>	Build / consult on Dispatch Framework DSO / DNO operations target model	Phased releases of forecasting, scheduling, ESO coordination, and dispatch capabilities aligned with product roadmap Consult on DSOF DSO / DNO operations target model DSO / DNO code	
<b>Driving transparency and coordination</b>	Consult on data roadmap and coordination plan Launch / publicise Data Portal Publish DSO CBA/ KPIs supported by DSO TOM Mobilise DSO Advisory Board	Ongoing releases with a focus on stakeholder value and customer experience Deliver DSO investment plan and measure against CBA and KPIs, course correcting vs. industry change Deliver DSO op model capabilities Ongoing Advisory Board consultation	



# What we are delivering this year

**KEY**



- Stakeholder engagement
- Data set release

	Q1 (Apr – June 2023)	Q2 (Jul – Sept 2023)	Q3 (Oct-Dec 2023)	Q4 (Jan-March 2024)	
<b>Forecasting and planning future needs</b>	Whole systems team established		Engagement on our Net Zero First investment strategy – including needs identification, whole system coordination, DNOA, and strategic investment		
			Iterate our Net Zero First investment strategy based on feedback	Consult on our Net Zero First investment strategy, including CBA methodology	
	GSP strategies: Define our longer term flex and strategic investment needs at a local level			Bi-annual DNOA publication	
	Rollout of enhanced LAEP+ support services and tools			DFES engagement	
		Engagement on data set prioritisation	Consult on network visibility strategy	Publish forecast of flexibility and strategic investment needs	
		Data portal launch – New data sets: smart metering near real time data, network capacity / connections	Enhancements to DFES publication and forecast visibility		
	Whole systems strategy for the Scottish Islands				
<b>Developing an inclusive flexibility marketplace</b>	Flex performance reporting	Engagement on future market vision and flex customer experience	Iterate our flex product roadmap based on feedback	Consult on flex product roadmap	
			Third-party market platform partnership tender		
	Open Networks collaboration – standardisation of flexibility products				
	Engagement on flex market needs – spring tenders / global call			Product releases e.g. Load Managed Area trial, Connections access product	
				Engage on Inclusive Flex products with the Vulnerability team	Flex procurement KPIs published
			Flex needs publications for ongoing tender rounds		
		Future of LMAs workshops			
		HomeFlex engagement	Launch HomeFlex Code of conduct (October)	Review HomeFlex Code of conduct (following use in winter DFS)	
<b>Delivering network flexibility at scale</b>		Engagement on Distribution System Operability Framework (DSOF) and whole system coordination	Iterate our DSOF framework based on feedback	Consult on DSOF	
			ESO engagement on coordination		
			Whole system coordination data sets	Progress design activity for forecasting, scheduling and dispatch systems in line with DSOF	
				Flex dispatch KPIs published	
<b>Driving transparency and coordination</b>		Engagement on data priorities, DSO benefits and transparency	Advisory Board mobilised: for transparency scrutiny	Publish DSO benefits targets and KPI framework	
			Develop collaboration plan and customer journeys for engagement with the data portal	Refresh 3-year target operating model in line with year 1 engagement and design work	
			DSO strategy Refresh		
				Publish and engage on Digital Strategy and Action Plan	Iterate Digital Strategy and Action Plan based on feedback and design work
	Completion of major DSO innovation projects: LEO and Transition		Data portal launch	Develop and implement processes for translating innovation to BaU	
				Consult on our collaboration plan	

# Our DSO Operating Plan (1/2)





Throughout 2023/24 we are investing in our business, our people, the way we work and our technology to deliver the plan that our customers want over the next 12 months and the years that follow.

Strategic priorities	Functions	Capabilities	Process and policies	Systems and tools	Data and insights	Skills and talent
<b>Forecasting and planning future needs</b> 	<b>Forecasting Function</b>	<ul style="list-style-type: none"> <li>Forecasting network needs over short, medium and long term</li> <li>Engaging with whole system stakeholders to understand local and system wide needs</li> <li>Improve visibility of our networks</li> </ul>	<ul style="list-style-type: none"> <li>LAEP+ process</li> <li>DFES process</li> <li>GSP strategy development process</li> <li>LTDS and NPD production process</li> <li>Network visibility processes</li> </ul>	<ul style="list-style-type: none"> <li>Network models (down to LV)</li> <li>LAEP+ tools</li> <li>Network monitoring</li> <li>Data analytics to complement measured network data</li> </ul>	<ul style="list-style-type: none"> <li>Gathering a wide range of data inputs e.g. LAEP, DFES, network models</li> <li>Sharing outputs in formats our stakeholders have asked for</li> </ul>	<ul style="list-style-type: none"> <li>Focused development of graduate system planners</li> <li>Growing our data analytics capability</li> <li>Mobilised new whole systems team with LA engagement specialists</li> <li>Digital skills to address data and visibility gaps and create new insights</li> </ul>
	<b>Solution Evaluation Function</b>	<ul style="list-style-type: none"> <li>Identifying network constraints from our forecasts</li> <li>Assessing and transparent publishing of network options for both flex and strategic investment</li> </ul>	<ul style="list-style-type: none"> <li>DNOA process</li> <li>Strategic investment methodology</li> <li>Advisory board scrutiny processes</li> </ul>	<ul style="list-style-type: none"> <li>Strategic investment CBA</li> <li>Common Evaluation Methodology</li> <li>Investment optimisation tools ("touch the network once")</li> </ul>	<ul style="list-style-type: none"> <li>Sharing DNOA outcomes</li> <li>Publishing strategic investment CBA methodology and results</li> </ul>	<ul style="list-style-type: none"> <li>Focus on retaining system planning talent</li> <li>Growing our commercial and CBA skillsets through recruitment and training</li> </ul>
<b>Developing an inclusive flexibility marketplace</b> 	<b>Flexibility data function</b>	<ul style="list-style-type: none"> <li>Define and publish flexibility needs</li> <li>Customer experience design for our data portal</li> <li>Improving data quality and accessibility</li> </ul>	<ul style="list-style-type: none"> <li>Flex product roadmap development and service design processes</li> <li>Flex tender processes</li> <li>Customer journeys</li> </ul>	<ul style="list-style-type: none"> <li>Network capacity and flex needs heat maps</li> <li>DPS (Dynamic Procurement Systems) and new third party flex platform</li> </ul>	<ul style="list-style-type: none"> <li>Publish flex market needs and procurement data in formats stakeholders need</li> <li>Forecast flex revenue for customers</li> </ul>	<ul style="list-style-type: none"> <li>Developing and recruiting service design skills</li> <li>Growing our technology centres of excellence to support technology procurement</li> <li>Developing and recruiting commercial contract management skills</li> <li>Improving links with our customer service, connections and vulnerability teams</li> </ul>
	<b>Flexibility commercial function</b>	<ul style="list-style-type: none"> <li>Managing our flexibility qualification and contracting</li> </ul>				
	<b>Flexibility development function</b>	<ul style="list-style-type: none"> <li>Engage and support market participants</li> <li>Customer experience design for market interaction</li> <li>Design and develop new and standardised products</li> </ul>				

# Our DSO Operating Plan (2/2)



Throughout 2023/24 we are investing in our business, our people, the way we work and our technology to deliver the plan that our customers want over the next 12 months and the years that follow.

Strategic priorities	Functions	Capabilities	Process and policies	Systems and tools	Data and insights	Skills and talent
<b>Delivering network flexibility at scale</b> 	<b>Operational flexibility function</b>	<ul style="list-style-type: none"> <li>Scheduling and optimisation of dispatch</li> <li>Delivery of flexibility with a range of options for dispatch</li> <li>Short-term forecasts to inform operational and flexibility needs</li> </ul>	<ul style="list-style-type: none"> <li>DER dispatch decision making framework</li> <li>Seasonal Operability reporting</li> </ul>	<ul style="list-style-type: none"> <li>DERMS (learning lessons from innovation experience on LEO/ Transition)</li> <li>Forecasting toolkit</li> </ul>	<ul style="list-style-type: none"> <li>Publishing dispatch data in formats stakeholders need</li> <li>Network monitoring and external third-party data (e.g. smart meter data and weather).</li> </ul>	<ul style="list-style-type: none"> <li>Growing our technology centres of excellence to support technology procurement</li> <li>Knowledge sharing from our innovation teams</li> <li>Learning from stakeholders and partnerships</li> </ul>
<b>Driving transparency and coordination</b> 	<b>Stakeholder function</b>	<ul style="list-style-type: none"> <li>Engaging stakeholders to inform and prioritise our forward plans</li> <li>Developing and iterating our personas to inform and validate design work</li> </ul>	<ul style="list-style-type: none"> <li>Stakeholder feedback triangulation and synthesis (building on ED2 process)</li> <li>Service design processes</li> </ul>	<ul style="list-style-type: none"> <li>Stakeholder insights database</li> <li>DSO customer personas</li> </ul>	<ul style="list-style-type: none"> <li>Stakeholder feedback is used to prioritise the forward plan and inform design decisions</li> </ul>	<ul style="list-style-type: none"> <li>Growing our stakeholder and corporate affairs teams</li> <li>Embedding stakeholder engagement within all performance objectives</li> </ul>
	<b>Market coordination function</b>	<ul style="list-style-type: none"> <li>Managing our flexibility qualification and contracting</li> </ul>	<ul style="list-style-type: none"> <li>Flex product roadmap development and service design processes</li> <li>DER dispatch decision making framework</li> </ul>	<ul style="list-style-type: none"> <li>DERMS</li> <li>Inter-Control Centre Communication Protocol link</li> <li>MW Dispatch Service</li> </ul>	<ul style="list-style-type: none"> <li>ESO Standard Planning data share on Week 24/50</li> <li>Conflict of Risk Register for ESO</li> </ul>	<ul style="list-style-type: none"> <li>Recruiting talent with ESO experience</li> <li>Mobilised and growing our whole systems engagement team</li> </ul>
	<b>DSO digital and data function</b>	<ul style="list-style-type: none"> <li>Engage and support market participants</li> <li>Customer experience design for market interaction</li> <li>Design and develop new and standardised products</li> </ul>	<ul style="list-style-type: none"> <li>Service design processes</li> <li>Regional Development Programme</li> </ul>	<ul style="list-style-type: none"> <li>Data portal</li> <li>Common Grid Exchange Specification</li> </ul>	<ul style="list-style-type: none"> <li>As above</li> </ul>	<ul style="list-style-type: none"> <li>Growing our technology centres of excellence to support technology procurement</li> <li>Growing our data analytics capabilities</li> </ul>



# Scaling operations to meet demand

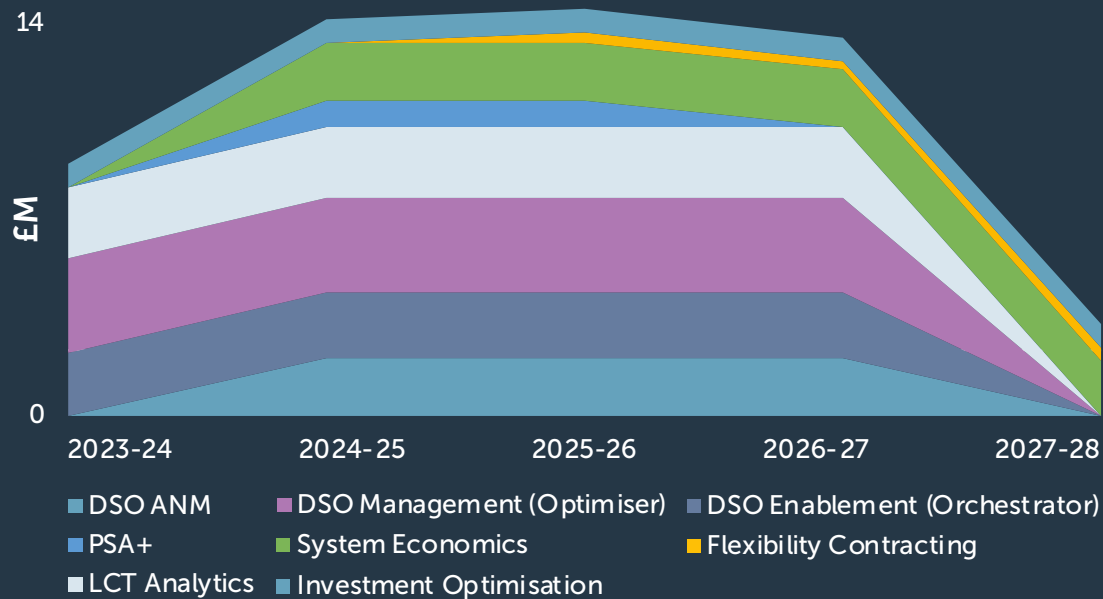


Our investment plan allows us to scale up to develop the systems, processes and teams over the five-year RIIO-ED2 delivery period. The activity on the timeline reflects this resource matching and where we are in the investment cycle.

## Note on growth in flexibility services

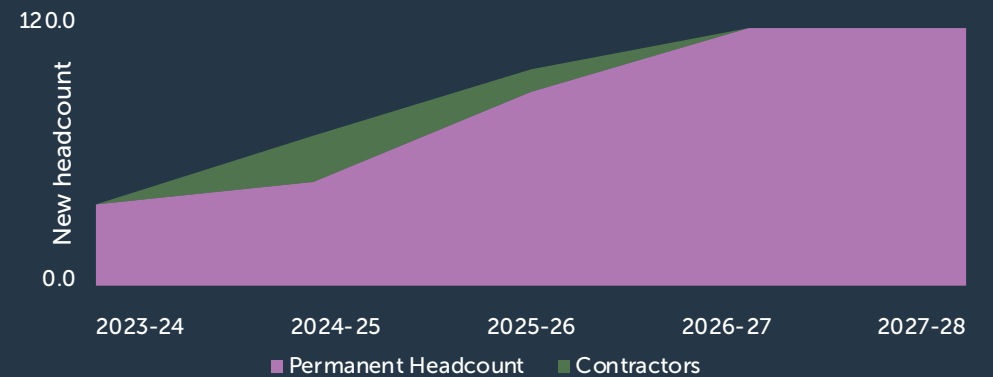
We are targeting 5GWs of flexible services procured over ED2. We're confident in our forecast over the first three years, while estimates for flexible services in later years may benefit from updates, as growth scenarios are developed or adapted and more information becomes available about future products and technology innovations.

## INVESTMENT IN ENABLING IT OVER ED2

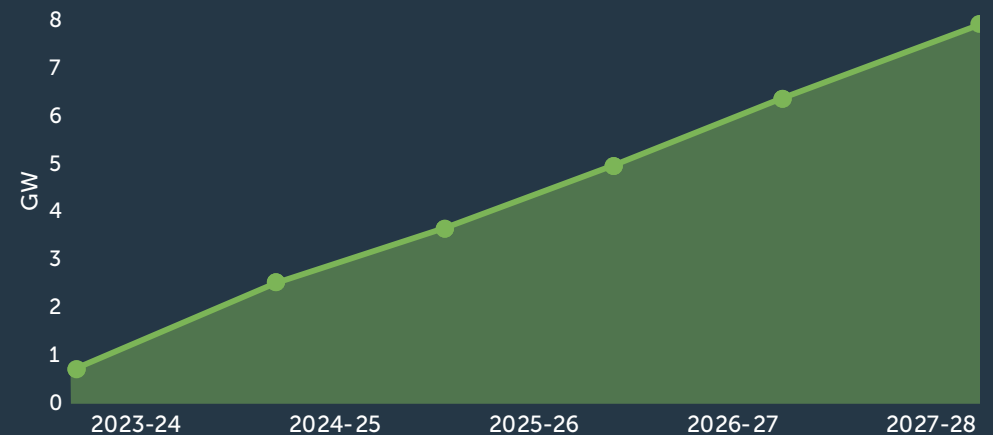


Investment in new digital products tails-off once the new systems are fully functional.

## INVESTING £28.2M IN HEADCOUNT GROWTH OVER ED2







## GROWTH IN FLEXIBILITY SERVICES



# How we will measure success



To ensure we are sharing progress of the benefits we deliver for the DNO and our broader stakeholders and society in a transparent way, we have identified key performance indicators across each of our strategic objectives. We will publish our progress quarterly to our stakeholders through our DSO newsletter.



Our strategic objectives	Our key performance indicators	
<b>Forecasting and planning future needs</b> 	<ul style="list-style-type: none"> <li>■ Primary forecasting accuracy – The forecast in our Long Term Development Strategy. vs. our measured network Load Index**</li> <li>■ Number of Local Authorities we are in coordination with</li> <li>■ % of outcomes per scheme (e.g. flexibility vs. reinforcement)**</li> <li>■ Secondary network visibility*</li> </ul>	
<b>Developing an inclusive flexibility marketplace</b> 	<ul style="list-style-type: none"> <li>■ Total MW of need at different substations</li> <li>■ Number of flexibility auctions per product across different network levels</li> <li>■ Flexibility market testing (%) – Flexibility Reinforcement Deferral (flexibility vs. reinforcement)*</li> <li>■ Curtailment efficiency*</li> <li>■ Curtailable connections (no. and capacity)**</li> </ul>	
<b>Delivering network flexibility at scale</b> 	<ul style="list-style-type: none"> <li>■ % of different substations with loading &gt; 80% rated cap. **</li> <li>■ Transmission level capacity released with dist. flexibility (MW)</li> <li>■ Primacy rule-based mitigation action taken (MVA or MWh affected)</li> <li>■ MWh scheduled and delivered of flexibility services</li> </ul>	
<b>Driving transparency and coordination</b> 	<ul style="list-style-type: none"> <li>■ Number of EV charge points connected, number of heat pumps connected, MW of generation connected (SSEN ED2 output)</li> <li>■ ESO market access enabled (MWh)</li> <li>■ Number of outages avoided through flexibility (or CI/CML)</li> <li>■ Avoided carbon through flexibility</li> <li>■ Number of publishable data resources updated</li> </ul>	<ul style="list-style-type: none"> <li>■ Number of data access requests</li> <li>■ Number of users registered on the data portal</li> <li>■ Number of stakeholder engagement events / stakeholder consulted</li> <li>■ Number of innovation projects delivered into BaU</li> <li>■ DSO team FTEs</li> </ul>

\* Related to Outturn Metrics (as part of the DSO incentive)  
 \*\* Related to RRE (annual DSO reporting to Ofgem)

# Further details on our DSO Action Plan for 2023/24





Throughout 2023/24 we are investing in our business, our people, the way we work and our technology to deliver the plan that our customers want over the next 12 months and the years that follow.

Strategic priorities	Commitments	Key Activities for 2023/24	Outcomes
<p><b>Forecasting and planning future needs</b></p> 	<ul style="list-style-type: none"> <li>■ We will provide stakeholders with 100% visibility of our network through advanced software-based visibility solutions, smart metering data, and real-time network models, investing in network monitoring only when and where required targeting 19% coverage of the network.</li> <li>■ We will provide sector-leading support for communities through our Whole Systems team and a digital planning support portal will be available for all planning authorities by 2024.</li> <li>■ We will secure flexibility services where valuable, and deliver strategic investment to release network capacity faster to avoid unnecessary delays and costs. Our approach will be published in the first year of RIIO-ED2, and decisions will be reported and externally assured on an ongoing basis.</li> <li>■ We will accelerate connections for customers through customer-centric engagement, digital services, a range of flexible connections products, and close coordination with the ESO through our GSP strategies and Regional Development Programmes. Our DSO will provide the capacity needed for all connections applications ensuring optimal use of flexible solutions to deliver the capacity required.</li> </ul>	<p><b>DNOA (Distribution Network Options Assessment):</b> By January we will publish and consult on our DNOA process, we will then update our process based on stakeholder feedback. We will publish the results of our first DNOA outcomes and will validate these outcomes with the DSO Advisory Board.</p> <hr/> <p><b>GSP strategies:</b> By April we will publish our GSP strategies which will include our regional long term needs for both reinforcement and flexibility.</p> <hr/> <p><b>Strategic investment methodology and benefits:</b> By April we will publish our methodology, including proposed changes to the Ofgem CBA framework and the CEM drive efficient strategic investment and to take account of wider DSO benefits from strategic investment.</p> <hr/> <p><b>LENZA:</b> By April we will have engaged 34 Local Authorities on our LENZA tool to support the development of their LAEPs.</p> <hr/> <p><b>Network Visibility:</b> We are currently have 100% network visibility. We will be publishing our full LV connectivity model* by March 2024 to enable enhanced coordination with the ESO and other DSOs.</p>	<ul style="list-style-type: none"> <li>■ Faster and more effective transition to net zero through effective local planning and strategic network investment.</li> <li>■ Reduced network costs (inc. transmission) through optimising the use of reinforcement and flexibility and maximising existing infrastructure.</li> <li>■ Efficient rollout of DER and renewable generation.</li> <li>■ Transparent processes to enable stakeholders to make informed long-term decisions.</li> </ul>
<p><b>Developing an inclusive flexibility marketplace</b></p> 	<ul style="list-style-type: none"> <li>■ We will continue to deliver a 'flexibility first' approach to system development, making it easy to participate through regularly publishing a clear product roadmap, with a range of product and pricing options down to the grid edge, co-created with stakeholders to ensure inclusivity by design and coordination with wider system operators.</li> <li>■ We will enable the market through a third-party market platform partnership secured in the first year of RIIO-ED2, and will work with that partner to establish operations that support a variety of procurement horizons and are coordinated with the national system operator, and will drive innovation in secondary trading.</li> </ul>	<p><b>Flexibility product roadmap:</b> By January we will publish and consult our future distribution flexibility market vision as well as our flexibility product roadmap. Stakeholders will inform the inclusive design and prioritisation of product releases for this year and beyond, and we will standardise our products with Open Networks. We will publish our flexibility needs and our performance on volumes of contracted flexibility.</p> <hr/> <p><b>GSP strategies:</b> By April we will secure a partner for our third-party market platform to improve the customer experience of flexibility procurement.</p>	<ul style="list-style-type: none"> <li>■ Enabling a just transition through inclusive product design tailored to local needs.</li> <li>■ Faster connections and maximising network access through our connections products.</li> <li>■ Standardisation of products to drive consistency for customers and improve market liquidity through sharing longer term network needs.</li> </ul>



# Further details on our DSO Action Plan for 2023/24



Strategic priorities	Commitments	Key Activities for 2023/24	Outcomes
<p><b>Delivering network flexibility at scale</b></p> 	<ul style="list-style-type: none"> <li>We will drive transparency in dispatch through consulting on and publishing our dispatch decision making framework and process by April 2024, and will report on both our dispatch volumes and our compliance with the dispatch decision making framework on an ongoing basis.</li> <li>We will utilise flexibility for a range of long-term and short-term system needs, and enable coordination with our customers, stakeholders, and the ESO, through publishing outage plans, operational forecasts, and schedules up to the day-ahead stage, utilising standard products and dispatch interface options, and sharing data in real time with wider system operators.</li> </ul>	<p><b>DER dispatch decision making framework:</b> By April we will publish and consult on our dispatch decision making framework, we will then update our process based on stakeholder feedback and engagement with the ESO.</p> <p>Consult on our <b>Distribution System Operability Framework</b>, including our dispatch decision-making framework and Seasonal Operability Report.</p> <p>We will publish our performance on flexibility dispatch.</p> <hr/> <p><b>DERMs:</b> By April we will have defined our requirements for our automated dispatch solution. We will also publish data on more short-term dispatch forecasting.</p>	<ul style="list-style-type: none"> <li>Reduced cost of outages through greater use of flexibility solutions.</li> <li>Reduced costs and system balancing.</li> <li>Improved access of DER to ESO markets.</li> </ul>
<p><b>Driving transparency and coordination</b></p> 	<ul style="list-style-type: none"> <li>We will drive transparency in our decision making and build customer trust by establishing a new DSO Advisory Board that will scrutinise our DSO delivery plans and operational decisions on a quarterly basis, and that will commission and present an annual independent audit of the transparency of our operations.</li> <li>We will continuously engage and collaborate stakeholders to inform the development of our DSO, publishing and consulting on our key processes, and prioritising data releases on our data roadmap and collaboration plan as per our stakeholders' needs.</li> <li>We will report on benefits delivered by our DSO to the DNO, ESO, customers, and wider society, to transparently demonstrate our progress and focus areas. We will review benefits delivered and reprioritise activities with our stakeholders at our annual DSO conference.</li> </ul>	<p><b>DSO strategy refresh:</b> By October we will relaunch our DSO strategy and forward engagement plan to give our stakeholders clarity on what to expect and when, as well as how they can engagement going forwards to inform our priorities for this year and beyond.</p> <hr/> <p><b>DSO Advisory Board :</b> By winter 2023-24 we will mobilise our Advisory board. They will review our forward plan and progress on a quarterly basis as well as validating our DNOA outcomes.</p> <hr/> <p><b>Data portal, roadmap and collaboration plan:</b> In October we launched our new data portal along with 16 new data sets including our network capacity for connections, network development reports, DFES data and our load model for SEPD. We will continue to update our data and improve the functionalities of the portal based on stakeholder needs. By January we will publish the load model for SHEPD and smart meter data.</p> <p>By January we will publish and consult on our data roadmap and collaboration plan to inform prioritisation of future data releases.</p> <hr/> <p><b>Digital action plan:</b> By December we will publish and get feedback on our latest digital action plan, which will include updated information on DSO digital products and services.</p> <hr/> <p><b>Network Visibility:</b> We are currently have 100% network visibility. We will be publishing our full LV connectivity model by March 2024 to enable enhanced coordination with the ESO and other DSOs.</p> <hr/> <p><b>Innovation into BaU:</b> By April we will publish our performance on transitioning DSO related innovation projects in BaU and our forward plans for next year.</p>	<ul style="list-style-type: none"> <li>Faster and more effective transition to net zero through effective local planning and strategic network investment.</li> <li>Reduced network costs (inc. transmission) through optimising the use of reinforcement and flexibility and maximising existing infrastructure.</li> <li>Efficient rollout of DER and renewable generation.</li> <li>Transparent processes to enable stakeholders to make informed long-term decisions.</li> </ul>



# Understanding your views

Customer participation in future flexibility services is critical to meeting GB's net zero targets, and we have set out our customers personas across this strategy and action plan, to help us gain a deeper understanding of our diverse range of customers and stakeholders, allowing us to design tailored and inclusive initiatives, products and services to meet their needs. But the work doesn't stop there.

Your feedback will help inform our approach to accelerating improvements across our current price control period, RIIO-ED2 , and beyond. We also encourage engagement throughout the year, and you can stay engaged on our key DSO milestones, project updates and upcoming engagement events and surveys by signing up to our [DSO newsletter](#). Please get in touch with any comments relating to any aspect of the plan, or if more convenient, using the feedback form below:



- 1** To what extent do you agree with the content of our Action Plan? Please let us know where you think SSEN could improve?
- 2** To what extent has this document increased your understanding of the opportunities for you, enabled by DSO? Please let us know where clarity can be improved?
- 3** How confident are you in SSEN's ability to deliver our commitments and your expectations of DSO in RIIO-ED2 and beyond?
- 4** Do you have any needs or questions that we haven't addressed in our plan?

## Your feedback

Your feedback is greatly appreciated, and each feedback form will be reviewed to inform our decision making and future initiatives. Thank you in advance.

[Access our online feedback page here](#) 



# Glossary



Term	Description
<b>Aggregators</b>	A new type of energy service provider which can increase or moderate the electricity consumption of a group of consumers according to total electricity demand on the grid.
<b>BAU</b>	Business As Usual
<b>CMZ</b>	Constraint Managed Zones . These zones make use of technologies providing flexibility to alleviate network constraints, deploying them as an alternative to traditional network reinforcement in the management of peak demand.
<b>Data triage</b>	Systematically find issues which should inhibit open data, identify the ‘least impact’ mitigation technique(s) and make the process transparent.
<b>Decarbonisation</b>	Reducing the carbon intensity in terms of emissions per unit of electricity generated.
<b>DER</b>	Distributed Energy Resources. Any resource on the distribution system that produces or stores electricity. This can include distributed generation, storage, heat pumps and electric vehicles as well as other technologies.
<b>Digital System Map/ Digital Twin</b>	A digital representation of a real-world entity or system.
<b>DNO</b>	Distribution Network Operator
<b>DNOA</b>	Distribution Network Options Assessment
<b>DSO</b>	Distribution Systems Operator. The directorate within SSEN that supports a more flexible network operation. Uniquely placed to ensure simple and consistent access to new markets for our active customers through maximising the utilisation of our existing electrical and communication networks.
<b>DSAP</b>	Digital Strategy and Action Plan
<b>ESO</b>	Electricity System Operator. The electricity system operator for Great Britain, making sure that Great Britain has the essential energy it needs by ensuring supply meets demand.
<b>EV</b>	Electric Vehicle
<b>FSO</b>	Future System Operator. Ofgem intend to set up an expert, independent FSO with responsibilities across both the electricity and gas systems and the ability to expand its remit to additional energy vectors when needed. The FSO will be in the public sector, with operational independence from government.
<b>GDN</b>	Gas Distribution Network
<b>GIS</b>	Geographic Information System
<b>GW</b>	Gigawatt
<b>HV</b>	High Voltage
<b>IDNO</b>	Independent Distribution Network Operator
<b>kWh</b>	Kilowatt hour

Term	Description
<b>LAEP</b>	Local Area Energy Plan. A data-driven and whole energy system, evidence-based approach that sets out to identify the most effective route for the local area to contribute towards meeting the national net zero target, as well as meeting its local Net Zero target.
<b>LCT</b>	Low Carbon Technologies
<b>LENZA</b>	Local Energy Net Zero Accelerator. SSEN’s tool for supporting local authority LAEPs.
<b>LEO(N)</b>	Local Energy Oxfordshire (Neighbourhood)
<b>LTDS</b>	Long Term Development Statements. Designed to help to identify and evaluate opportunities for entering into arrangements with us relating to use of system or connection.
<b>LV</b>	Low Voltage
<b>MW</b>	Megawatt
<b>NDP</b>	Network Development Plan
<b>NeRDA</b>	Near Real-Time Data Access
<b>NIA</b>	Network Innovation Allowance
<b>NMF</b>	Neutral Market Facilitator will provide a market for trading use of Distributed Energy Resources (DERs).
<b>Open Data</b>	Data in a machine-readable format that can be freely used, shared and built on by anyone, anywhere, for any purpose.
<b>PSR</b>	Priority Services Register. Our register of vulnerable customers.
<b>RIIO-ED2</b>	Price control for Electricity Distribution (2023-2028)
<b>RSP</b>	Regional System Planner. Ofgem proposal for regional energy system planning bodies.
<b>SDG</b>	Sustainability Development Goals
<b>SEPD</b>	Southern Electric Power Distribution
<b>SHEPD</b>	Scottish Hydro Electric Power Distribution
<b>SIF</b>	Strategic Innovation Fund
<b>SME</b>	Small Medium Size Enterprise
<b>SSE</b>	Scottish and Southern Electricity
<b>TO</b>	Transmission Owner
<b>TOM</b>	Target Operating Model
<b>VFES</b>	Vulnerability Future Energy Scenarios
<b>VIVID</b>	Vulnerability Identification Via Informative Data



# ENGAGE WITH US

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