



Scottish & Southern  
Electricity Networks

# transition

Moving to a smart future

## Electricity Network Competition SSEN05 Project Transition

Executive Version v2.5  
September 2023

[ssen-transition.com](https://ssen-transition.com)

# Foreword

**The energy system transformation for net zero is not something that will happen in the future, it's happening now and at SSEN we're using flexibility as a key tool to help us play our part in this system.**

In conjunction with our flagship innovation project, Project LEO which ran for four years from 2019 to 2023, Project TRANSITION has been leading innovation within the energy industry to inform the requirements for a DSO-facilitated flexibility marketplace.

The project has been fundamental to our business because our objective of delivering a smart grid that can support a net zero energy system has become even more accessible as a result. Our work on developing a Neutral Marketplace Facilitator (NMF) that is both transparent and non-discriminatory and an automated Select and Dispatch tool alongside an end-to-end process for procuring flexibility at the grid edge are central to SSEN's thinking.

To meet the project objectives and complete deliverables on time, TRANSITION conducted a programme of flexibility market trials and technical trials with increasing commercial and technical complexity. We have not only met the project objectives and deliverables within the timeline but exceeded them by delivering additional learnings

through collaborating and responding to emerging findings, policy, and regulation.

Within the context of this evolving net zero policy landscape, TRANSITION has been working to test and validate flexibility markets operating on the distribution network, and develop the tools, systems, data sets, and associated technical / commercial processes required to support them.

Exploring the requirements for a DSO enabled flexibility market which supports the transition from DNO to DSO is an important development, and TRANSITION is a brilliant example of how this can be done. Within our current regulatory price control period, RII0-ED2, the learnings from both LEO and TRANSITION are being embedded into our thinking for the years ahead and we're already seeing several of the project learnings applied to other initiatives throughout SSEN.

Much of the barriers to flexibility trading that we identified are beyond our scope as a business to deliver but we hope that promoting the needs of

our customers and stakeholders will help others to fill those roles. In just a dozen years, our electricity system is due to be completely decarbonised, so now, more than ever, our investment in flexibility is critical.

Therefore, we must work together with an inclusive, whole-system mindset to ensure that everyone who wants to participate in a new zero future, has the ability to do so.

At SSEN, we are committed to continuing the conversation on our investments in DSO systems and capabilities, to best serve the specific needs of all customers across all the different relationships we manage, from household customers to our supply chain partners.

We look forward to continuing this journey with you.

**Chris Burchell**  
Managing Director  
SSEN Distribution



# Executive Summary

**We power communities to thrive today and create a Net Zero tomorrow.**

**Our aim is to support the communities we serve, beyond keeping the lights on, and work collaboratively with those communities to reach their net zero goals.**

This document describes the achievements of TRANSITION, what this means for you and how this will help us develop the functions of a Distribution System Operator (DSO) to enable our transition to Net Zero.

It also provides direction of how we and the industry will get there, but we are only part of the answer.

We need your feedback to further shape and improve it.



# Key Concepts

Here is a guide to some of the technical terms used by TRANSITION. Check out our [Glossary](#) for more.

## Bulk Supply Point (BSP) and Primary Substations

are locations on the network that connect different voltage levels and on which we run auctions to procure flexibility.

## Constraints

involve a situation where an imbalance in electricity supply or demand means the network is unable to transport sufficient electricity to meet the electricity demand at a given time and place or that is being produced by a generator.

## Distributed Energy Resources (DERs)

are anything that generates, uses or stores electricity to provide energy Flexibility (see below).

## Distribution Network Operator (DNO)

is responsible for owning, building, operating, and maintaining the electrical network in a geographical license area and delivering electricity to communities and customers throughout the license area.

## Distribution System Operation (DSO)

plays a key role in coordinating and managing the operation of the distribution electricity system. It securely operates and develops an active distribution system comprising electricity networks, electricity demand and generation management, and other flexible distributed energy resources.

## DSO-Enabled Services

sometimes known as Peer-to-Peer services, enable market participants to trade import or export capacity to improve the efficient use of existing capacity.

## DSO-Procured Services

relieve network constraints through the delivery of flexibility.

## Electricity System Operator (ESO)

manages the electricity system and ensures supply meets the required demand. The ESO performs several important functions; from second-by-second balancing of electricity supply and demand, to developing markets and advising on network investments.

## Flexibility

is the temporary change in the way you consume, generate, or store electricity when requested, to support a more efficient use of the energy network.

## Flexibility Services

are provided in response to a request. There are different sorts of services that can be provided depending on the needs of the network. These are explained [here](#).

## Low Carbon Technologies (LCTs)

including renewable generators such as wind turbines and solar panels, and demand sources, such as Electric Vehicles, that emit low or no carbon dioxide emissions.

## Neutral Market Facilitator (NMF)

is an IT platform that will in many cases automate the processes required around the procuring of flexibility services and will be connected to several other systems such as Forecasting and Power System Analysis tools.

## Network Model

provides an accurate representation of the physical network to study the resulting network under different scenarios.

## Power System Analysis (PSA) Tool

calculates anticipated power flows under different near-term topology change and forecast scenarios.

## Select and Dispatch (S&D) Tool

enables the automatic selection of contracts for dispatch whilst considering the ability of DERs to resolve the constraint via the PSA tool.

## Whole System Coordinator (WSC)

function within TRANSITION was designed to integrate the functionality of the NMF system with back-end DSO and ESO internal systems.



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Project TRANSITION  
in Context

transition

# 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 (or by 2045 for those in Scotland), the energy industry needs to fundamentally change to allow transport and heat to decarbonise.

For this transition to be successful it requires:

- Greater **use of DERs**, across electricity, heat and transport
- A clear understanding of **the value flexible DERs can provide** at any one time
- Greater **real time co-ordination with the Energy System Operator (ESO)** to ensure that DERs can be 'optimised' across the energy system as a whole.

## The DSO is critical to delivering the future energy system

### Forecasting and Planning Future Needs

DSO will provide data to ESO and other parties to allow them to plan and optimise whole system solutions, network investment and flexibility services that will provide communities with the energy capacity they require at an efficient cost.

### Developing a Flexibility Market Place

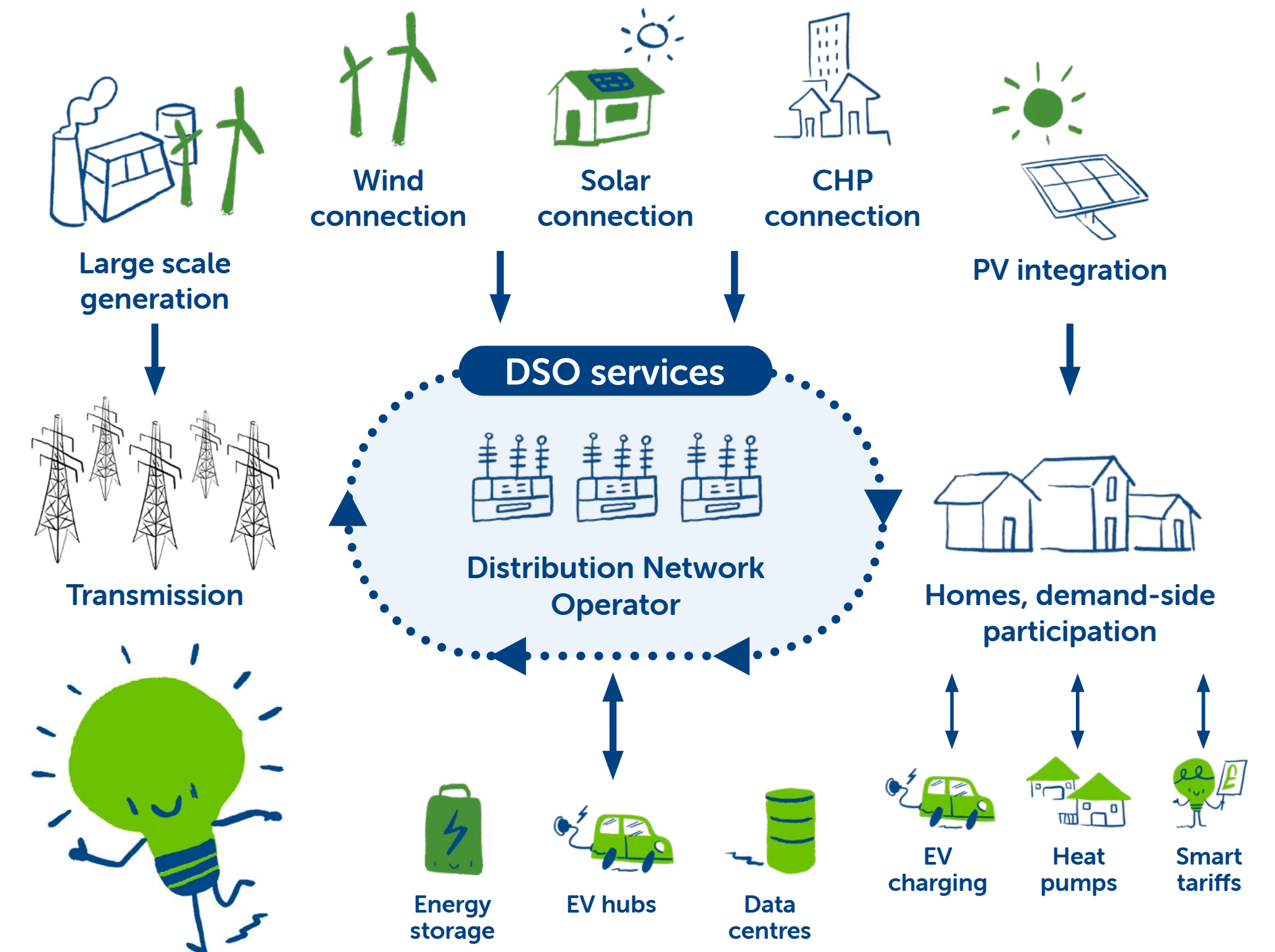
DSO and DNO will coordinate activities to ensure assets are operating safely, reliably, efficiently and maintaining supply for consumers at the lowest cost.

### Delivering Network Flexibility

DSO will provide point of connection services, secure flexibility services and drive the development of distributed clean energy resources that will decarbonise our energy supply.

## DSO Services

New DSO services will result in lower costs per unit of energy, opportunities for new markets for customers to buy and sell clean energy, and viable local energy solutions that will drive decarbonisation at the community level.



# Project TRANSITION

Since 2018, Project TRANSITION has been leading innovation within the DSO space to inform on the requirements for a DSO-facilitated flexibility marketplace.

TRANSITION, an Ofgem Electricity Network Innovation Competition (NIC) funded-project led by SSEN in conjunction with project partners Electricity Northwest Ltd, CGI, Origami and Atkins. TRANSITION was funded as part of a collaboration agreement between TRANSITION and two other NIC projects: **Electricity Flexibility and Forecasting System**<sup>3</sup> led by National Grid Electricity Distribution, and **FUSION**<sup>4</sup>, led by SP Energy Networks, all three projects collectively known in the industry as **T.E.F.**

TRANSITION is focussed on implementing the outputs from Energy Networks Association (ENA) Open Networks project (ON-P)<sup>5</sup> by developing and deploying key elements of a market platform that enables the transition to DSO to deliver benefits of up to £292m for network customers by 2050. The main aims of TRANSITION were:



Informing design requirements for the NMF platform and Whole System Coordinator (WSC).



Developing the roles and responsibilities within the marketplace.



Developing the market rules required for the trials.



Implementing and testing the concept of the systems by means of trials in Oxfordshire.

To deliver the above, TRANSITION developed and ran a programme of Project Trials in Oxfordshire in conjunction with Project LEO, a UK Industrial Strategy funded project; the objectives of both projects are closely aligned and, when combined, significantly enhance the overall learning. These trails allowed us to test and validate our DSO functions in a real-world setting, which will provide an evidential basis for our DSO strategy.

## Our flexibility market trials are;



Being run in areas across Oxfordshire



A unique collaborative programme of trials bringing two key energy innovation projects together



Trialling new innovative markets and commercial approaches, smart systems and platforms in a real world environment



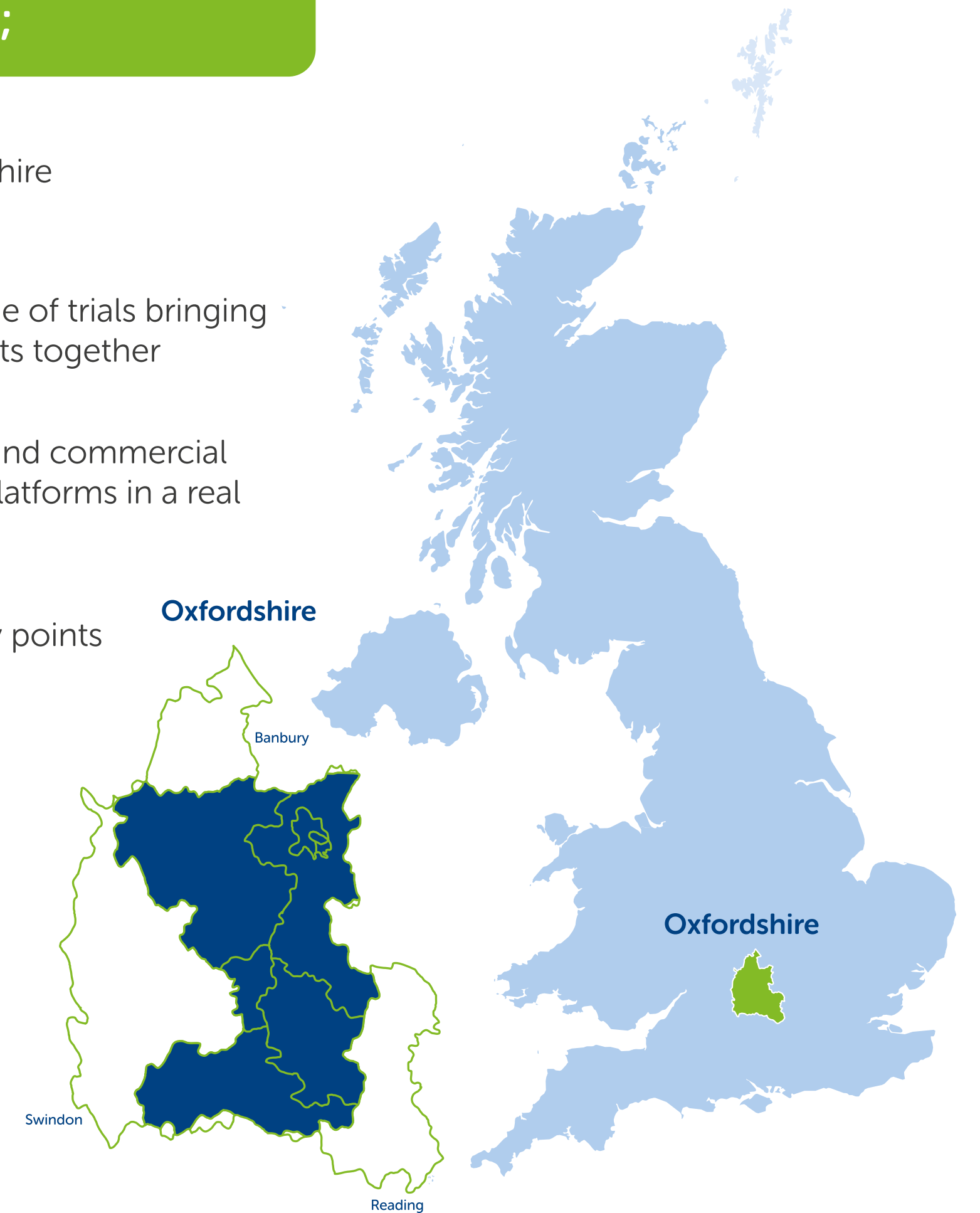
Running across seven bulk supply points and 13 primary substation areas



Open to businesses across the trial areas able to offer flexibility services



Unique opportunities for peers to trade spare connection capacities between each other



<sup>3</sup> RIIO-ED2 Final Determinations Overview document (ofgem.gov.uk) <sup>4</sup> National Grid - EFFS  
<sup>5</sup> Fusion - SP Energy Networks

# Overview of Project Achievements

A series of Market and Technical Trials were run over four periods, during which the scale and complexity was increased to maximize learnings.

These trials were run in Oxfordshire with Project LEO to test and validate flexibility markets operating on the distribution network, and develop the tools, systems, data sets, and associated processes required to support them.

Market Trials			
<p><b>Trial Period 1</b></p> <p>November 2021 - February 2022</p> <p>Cumulative No. of Contracts - 35 Flex Delivered - 560.2 Number of Assets - 24</p> <p><b>Type of Auction:</b> Week Ahead</p> <p><b>Scheduled Events</b></p> <p><b>Highlights:</b></p> <ul style="list-style-type: none"> <li>Tested the Sustain Peak Management, Trading Import Capacity (Exceeding MIC) and Trading Export Capacity (Exceeding MEC services.</li> <li>Ran auctions on three BSPs</li> <li>Contracted flexibility at Week-Ahead</li> <li>Enabled two platforms to provide participants with an alternative route to market - Battery, V2G, Hydro and Solar PV</li> </ul>	<p><b>Trial Period 2</b></p> <p>May 2022 - September 2022</p> <p>Cumulative No. of Contracts - 92 Flex Delivered - 1118.7 Number of Assets - 39</p> <p><b>Type of Auction:</b> Season Ahead Week Ahead Day Ahead</p> <p><b>Scheduled Events</b></p> <p><b>Highlights:</b></p> <ul style="list-style-type: none"> <li>Tested three additional services: Sustain Export Peak Management, Dynamic Constraint Management and Secure Constraint Management</li> <li>Added auctions on three more BSPs</li> <li>Contracted flexibility at Day Ahead</li> <li>Increased diversity of participating DERs and market participants, including those providing flexibility from domestic appliances and HVAC</li> </ul>	<p><b>Trial Period 3</b></p> <p>November 2022 - February 2023</p> <p>Cumulative No. of Contracts - 180 Flex Delivered - 3078.2 Number of DERs - 82</p> <p><b>Type of Auction:</b> Season Ahead Week Ahead Day Ahead</p> <p><b>Scheduled Events</b></p> <p><b>Highlights:</b></p> <ul style="list-style-type: none"> <li>Added auctions on four primary substations</li> <li>Contracted flexibility at Season Ahead</li> <li>Onboarded an aggregator who enabled flexibility from domestic assets at the grid edge</li> <li>Enabled participants to stack contacts for different services</li> </ul>	<p><b>Technical Trials</b></p> <p>March 2023 until May 2023</p> <p>Cumulative No. of Contracts - 307 Flex Delivered - 4757 Number of DERs - 16</p> <p><b>Type of Auction:</b> Week Ahead Day Ahead</p> <p><b>Forecasted Events</b></p> <p><b>Highlights:</b></p> <ul style="list-style-type: none"> <li>Advanced the technical capabilities, processes, data and tools required to run a flexibility market and test these in an integrated manner</li> <li>Procured for contracts based off of real-time data</li> <li>Procured flexibility using Sensitivity Factors</li> </ul>





# High Level Outcomes and Key Messages from TRANSITION

## Informed Decisions on Market Design for Flexibility Services

**TRANSITION** has delivered an evidential base to inform decisions on market design for flexibility services and proven the value of collaboration and coordination, leading to a whole systems approach in ED2.

## Developed Commercial Arrangements for Flexibility Services

Simplified contractual arrangements are key to enabling wider participation and unlocking flexibility from aggregators and suppliers.

## Applied a Price Evaluation Methodology

A liquid market requires a price for flexibility that is reflective of the value across the energy supply chain including wider socio-economic benefits.

## Developed and Tested the NMF Platform

**TRANSITION** successfully tested that the neutral facilitation of a marketplace can enable the delivery of a variety of flexibility and capacity services and products (delivery timescales).

## Developed System Architecture and Data Exchanges for DSO Tools

A diverse range of data sources, from supply through delivery to use, can improve short term planning and decision making.

## Developed an Integrated Network Model

Robust digital models of the LV network at the street level form the basis for accurate forecasts that can enable greater uptake of Low Carbon Technologies (LCTs).

## Developed and Tested the PSA

The automation of PSA modelling at all voltage levels can facilitate the identification and communication of flexibility requirements within DNOs and to potential flexibility providers.

## Developed and Tested the Select and Dispatch Tool

Automatic constraint prediction and economic optimisation tools are required to enable the efficient use of flexibility at scale.



# 2

How to find the information most important to you in our executive version

# What our customers want from us

- As electricity becomes more essential for heating and transport, we need to deliver a new set of services for customers who want to connect to and use the electricity network in new and different ways.
- Every network customer has different needs and priorities, but often we can group these so we can design our services in a way that meets the largest set of needs.
- Using our **DSO Action Plan<sup>6</sup>** as a basis, we have summarised our understanding of what different customers want and need into six stakeholder groups.
- From this we have aligned our extensive learnings from TRANSITION across these stakeholder groups to enable you to find the information that is most relevant to you.

Which group are you part of?		What do you need?		
	Domestic and small business customers who want to passively participate in the DSO Flexibility Market	<b>"Help to understand flexibility and how this can benefit me"</b>		
	Flexibility Providers (DER owners and technical aggregators) who can provide flexibility to the DSO Flexibility Market	<b>"Help to understand how my flexibility will be used and future opportunities"</b>		
	Commercial Aggregators who want to participate in the DSO Flexibility Market	<b>"Standardisation to make it easier to participate in different markets"</b>		
			Which group are you part of?	
	FSO, Regulation and Planning Partners (including local authorities) who are developing a whole system approach	<b>"Understand how DSO Flexibility Markets can support the bigger picture and the requirements to support this"</b>		
	Other DSOs who are developing their DSO functionality	<b>"Understand the methods trailed and the lessons learnt to inform ED2"</b>		
	Supply Chain Partners who are developing technology solutions to enable the DSO Flexibility Market	<b>"Better understanding of the bigger picture around flexibility trading, the tools we need and opportunities"</b>		

<sup>2</sup> our-dso-action-plan.pdf (ssen.co.uk)

# Key messages mapped to the needs of different Stakeholder Groups

Understanding the Outcomes and Key Messages from the perspective of different stakeholder groups allows us to interpret the key learnings, outcomes and resources that are relevant for you.

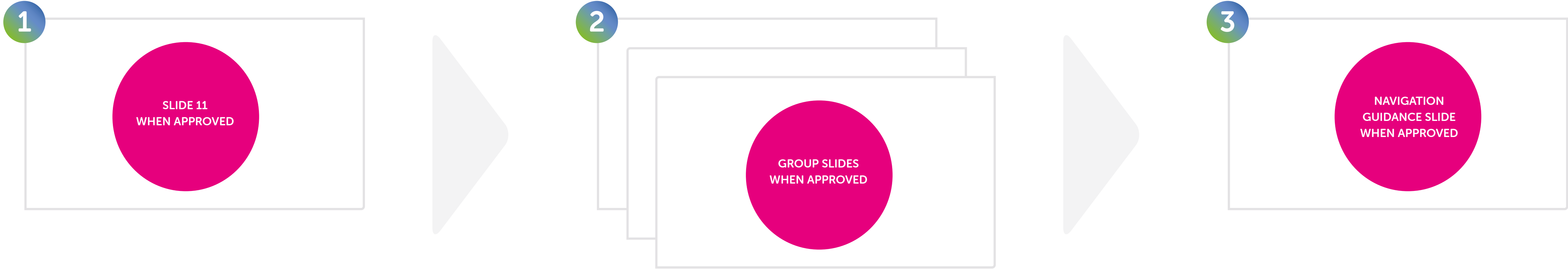
Outcome	Key Message	Energy Consumers	Flexibility Providers / Participants	FSO, Regulation and Planning	System Operator	Technology Supply Chain Partner
Market Design	1		Standardisation of services, processes and solutions to enable market participation	Learnings to inform decisions on market design	A clear framework for how to work together and align plans to support the whole system	Standardisation across different markers
Contractual Arrangements	2	Information on what flexibility means for you and how this can help you save money or benefit more from your connection	Simple tools and processes to enable market participation	Feedback on commercial requirements to inform future DSO flexibility markets	Access to the contractual arrangements used to develop solutions for your network	Increased visibility of our programmes of work and early engagement to enable innovation
Price Evaluation Methodology	3	Information on how flexibility can reduce costs and help support Net Zero	A fair value for flexibility and certainty to enable investment in DERs	An understanding of the barriers that restricted market participation	A clear framework for how to work together and align plans to support the whole system	
NMF Platform	4	Accurate information on the necessary changes, costs, and timeframes	A single marketplace for services with different routes to market	Learnings on market facilitation to inform future markets	Opportunities for innovation and new business models	Better understanding of the bigger picture around flexibility and opportunities

# Key messages mapped to the needs of different Stakeholder Groups

Understanding the Outcomes and Key Messages from the perspective of different stakeholder groups allows us to interpret the key learnings, outcomes and resources that are relevant for you.

Outcome	Key Message	Energy Consumers	Flexibility Providers / Participants	FSO, Regulation and Planning	System Operator	Technology Supply Chain Partner
System Architecture and Data Exchanges	5			Adapting shared data to reflect changes in policy and regulations	Better understanding of the DSO systems requirements and data flows	Better understanding of the DSO systems requirements and data flows
Integrated Network Model	6	Put in processes to safely handle and use customer data	Improved data to support investment decisions at LV	Expertise that helps identify "whole system" energy solutions across home, business, heat and transport systems	Access to learning and data to accelerate the development of solutions for your network	Better understanding the tools we need
PSA Tool	7		Increased market opportunity for flexibility services		Access to learning and data to accelerate the development of solutions for your network	Better understanding the tools we need
S&D Tool	8		Clear communication and transparent rules for contracting, delivering and setting flexibility		Access to learning and data to accelerate the development of solutions for your network	Better understanding the tools we need

# We've used what you've told us to bring our strategy to life, and to help you navigate around this document



We have written down 6 groups that summarise the different needs each group of stakeholders may have

For each stakeholder group we have developed a tailored view of the outcomes of TRANSITION that explains:

1. What each customer group needs from us
2. The Key Learnings and Outcomes that are relevant for you
3. Key resources which can provide you with more information
4. How we are progressing our DSO capabilities to best serve you

**READER INSTRUCTIONS**

This means you only need to read the parts of the strategy that are relevant to you.

Using our navigation tool (on the following slide) you can quickly find the information most important to you.

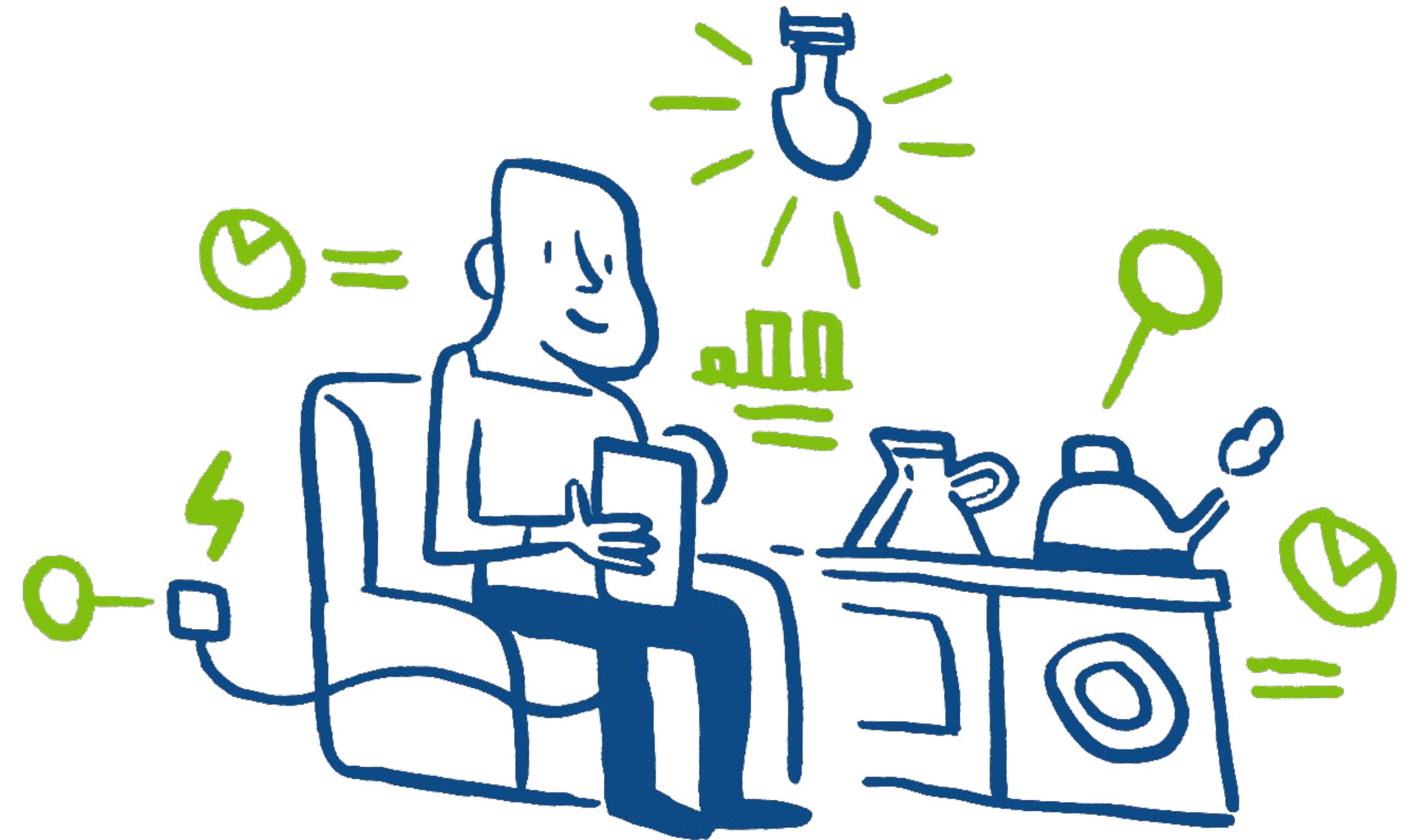
# How to find the information most important for you



We have designed our Executive Version so you can quickly find the information most relevant to you...

If you are a...

Please go to page...



# 3

What the outcomes of  
**TRANSITION** means for you

transition



# Domestic and Small Business Customers

Domestic and small business customers who want to passively participate in the DSO Flexibility Market.



What you need from us:

"Help to understand flexibility and how this can benefit me"

Please see our website for further information on our:

- Flexibility services
- 'Plain English' glossary of terms
- Aggregator's report on local flexibility
- DSO Action Plan and Strategy
- Digital Action Plan and Strategy

Click here



## What does DSO mean for you:

- Information on what flexibility means for you and how this can: help you save money or benefit more from your connection, reduce costs and support Net Zero
- Accurate information on the necessary changes, costs, and timeframes, and what we need from you
- Put in processes to safely handle and use customer data.

## The key learnings from **TRANSITION** and what we are doing next...

### Key Learnings and Outcomes

- 1 Flexibility from LCTs in your home or business may be small individually, but added together can help us manage the network more efficiently and make a significant contribution to Net Zero.
- 2 Third parties (e.g., aggregators) can help you participate in the market, allowing you to make money from your connection.
- 3 Understanding how electricity is used on our network and when, helps us to connect more LCTs, including solar panels and Electric Vehicle chargers at your homes.

### What we are doing next

- 1 Use flexibility to speed up connections and improve the efficiency of the existing network.
- 2 Reduce barriers to entry to ensure all customers can take part and benefit from the DSO transition.
- 3 Increasing our LV network monitoring, where beneficial, to improve visibility of the network and deliver insights to customers.



# Flexibility Providers (DER owners and technical aggregators)

Flexibility Providers who can provide flexibility to the DSO Flexibility Market.



What you need from us:

"Help to understand how my flexibility will be used and future opportunities"

Please see our website for further information on our:

- Flexibility services
- End-to-End process
- Tools and Platforms
- Commercial Arrangements
- Learnings from our Market Trials

Click here



## What does DSO mean for you:

- Simple and standardised services, processes and solutions to make it easier to participate in different markets
- Improved data and a fair value for flexibility to support investment.
- A single marketplace for services with different routes to market
- Increased market opportunity for flexibility services
- Clear communication and transparent rules for contracting, delivering and settling flexibility

## The key learnings from **TRANSITION** and what we are doing next

### Key Learnings and Outcomes

- 1 Alternative routes to market, e.g., via different platforms, can provide more access opportunities for participants.
- 2 The ability to stack different revenue streams is imperative to a liquid market in which both Market Participants and the network can benefit.
- 3 Market participants need contractual mechanisms that are fair, easy to understand, concise, efficient, and accessible.

### What we are doing next

- 1 Use feedback to inform the tools, products and services we will develop in Business as Usual.
- 2 Review the service requirements and primacy rules to ensure market participants can participate across markets.
- 3 Use feedback to ensure future contractual mechanisms are appropriate for all market participants.



# Commercial Aggregators

## Commercial Aggregators who want to participate in the DSO Flexibility Market



What you need from us:

"Standardisation to make it easier to participate in different markets"

Please see our website for further information on our:

- Flexibility services
- End-to-End process
- Tools and Platforms
- Commercial Arrangements
- Aggregator's report on local flexibility

Click here



### What does DSO mean for you:

- Simple and standardised services, processes and solutions to make it easier to participate in different markets
- Improved data and a fair value for flexibility to support investment.
- A single marketplace for services with different routes to market
- Increased market opportunity for flexibility services
- Clear communication and transparent rules for contracting, delivering and settling flexibility

## The key learnings from **TRANSITION** and what we are doing next

### Key Learnings and Outcomes

- 1 See the "Key learnings and outputs for flexibility providers" (previous slide).
- 2 Aggregators will be crucial in enabling small DERs at the grid edge, who may provide more reliability than a small number of large providers.
- 3 General Data Protection Regulation requirements increased aggregator and DSO workload to register DERs, requiring additional resource time.

### What we are doing next

- 1 See "What we are doing next for flexibility providers" (previous slide).
- 2 Work with the ENA and Ofgem to standardise processes and services across all networks and ensure aggregators can operate across different markets.
- 3 Share our feedback on the commercial barriers faced by domestic aggregators to ensure future solutions are appropriate.



# FSO, Regulation and Planning Partners

FSO, Regulation and Planning Partners who are developing a whole system approach



What you need from us:

"Understand how DSO Flexibility Markets can support the bigger picture and the requirements to support this"

Please see our website for further information on our:

- Flexibility services
- Commercial Findings Workshop
- DSO Functions Workshop
- Service Conflict Resolution Workshop
- Learnings from our Market Trials

Click here



## What does DSO mean for you:

- Learnings to inform decisions on market design and market facilitation to inform future markets
- Feedback on commercial requirements to inform future DSO flexibility markets
- An understanding of the barriers that restricted market participation
- Adapting shared data to reflect changes in policy and regulations
- Expertise that helps identify "whole system" energy solutions across home, business, heat and transport systems

## The key learnings from **TRANSITION** and what we are doing next

### Key Learnings and Outcomes

- 1 There is a strong appetite for the standardisation of different flexibility market elements to help design markets for scale and enable Market Participants to participate across different markets.
- 2 There is a high level of interest in DSO-Enabled Services, although limited liquidity meant there were insufficient trades during the Project Trials.
- 3 The DSO can run a functioning market to mitigate constraints on their network; however, market liquidity needs to be increased by reducing barriers and ensuring flexibility is fairly rewarded.

### What we are doing next

- 1 Work with the ENA and Ofgem to standardise processes and services across all networks and review primacy rule to ensure market participants can participate across markets.
- 2 Continue to explore and provide clarity around how and when market participants can trade capacity.
- 3 Share our feedback on the Common Evaluation Model to industry to ensure adequate incentive for future flexibility.



# Distribution system operators

## Other DSOs who are developing their DSO functionality



What you need from us:  
"Understand the methods trialled and the lessons learnt to inform ED2"

Please see our website for further information on our:

- End-to-End process
- Tools and Platforms
- Commercial Arrangements
- Baseline Tool
- Aggregator's report on local flexibility

Click here



## What does DSO mean for you:

- A clear framework for how to work together and align plans to support the whole system picture
- Access to solutions, learning and data to accelerate DSO functionality
- Opportunities for innovation and new business models
- Better understanding of the DSO systems requirements and data flows

## The key learnings from **TRANSITION** and what we are doing next

### Key Learnings and Outcomes

- 1 Framework Agreements can enable closer to real time procurement and thereby scale up the procurement of flexibility.
- 2 The DSO Tools developed by TRANSITION (PSA, S&D and Forecasting) can reduce the time taken to contract and deliver flexibility, enabling procurement and delivery closer to real-time.
- 3 The ENA baselining tool can provide a solid basis or future development, but users should consider limitations within these methodologies and their suitability for different DER types.

### What we are doing next

- 1 Via the ON-P, promote the TRANSITION Flexibility Service Agreement as a framework agreement with increased standardisation of Appendices.
- 2 Share detailed information and insight across different organisations to support the development of DSO tools.
- 3 Share our feedback on the baselining methods to support future methodologies.



# Current or Potential Technology Supply Chain Partners

Supply Chain Partner who are developing technology solutions to enable the DSO Flexibility Market



What you need from us:

"Better understanding of the bigger picture around flexibility trading, the tools we need and opportunities"

Please see our website for further information on our:

- Tools and Platforms
- Baselining Tool
- Digital Action Plan and Strategy
- Context Diagram
- Show and Tell Workshops

Click here



What does DSO mean for you:

- Standardisation across different markets
- Increased visibility of our programmes of work and early engagement to enable innovation
- The bigger picture around flexibility and future opportunities
- Better understanding of the tools DSOs need, their requirements and data flows

The key learnings from **TRANSITION** and what we are doing next

Key Learnings and Outcomes

- 1 DSOs need fit-for-purpose IT solutions to run auctions (NMF), simulate and resolve constraints (PSA), and select contracts for dispatch (S&D tool) closer to real-time.
- 2 Standardisation of data interaction, naming conventions (CIM) and programming language supports data sharing and reduces development time.
- 3 Accurate and real-time data is key to ensuring the accuracy of network models, PSA results and forecasting.

What we are doing next

- 1 Standardised contracts and agreements that make it faster to on-board supply chain partners to help us develop IT solutions.
- 2 Work with others to agree common language, data and priorities.
- 3 Develop more open data sets to support partner innovation, incorporating new ways of using the data into planned products, services and network capabilities.



# 4

Internal Investments we  
are making in our business

Investment

# The investments we are making in our business to deliver our recommendations from TRANSITION

The outcomes and learnings from TRANSITION will be imperative to enabling SSENs transition to DSO.

There will be a balance of adopting these in Business as Usual (BaU) directly and using them to inform future solutions.

For each outcome, the below provides commentary on the investments we are making in our business to deliver our recommendations from TRANSITION, and any work required to ensure we can move towards a decarbonised, whole system future for our network.



### Market Design for Flexibility Services

- Engage with the ON-P to review:
  - the **baseline methodologies**, and their necessity in BaU operations.
  - the **primacy rules** required to enable market participants to participate across all markets.
  - the standardisation of products and **services** across different markets

### Commercial Arrangements for Flexibility Services

- Develop the **Flexibility Service Agreement** as a framework agreement to reduce the time taken to contract flexibility and promote this via the ON-P.
- Review the **Temporary Capacity Variation** approval process to ensure that it is fit for purpose.

### Price Evaluation Methodology to Determine Market Pricing

- Engage with the ON-P to review the **Common Evaluation Method** model and ensure it considers the broader socio-economic benefits released from flexibility, and the deliverability of widespread reinforcement.

### NMF Platform

- Use the learnings from developing and using the **NMF platform** to guide the way we engage with the marketplace to meet our flexibility commitments in ED2.
- Consider how to address asset complexity / scalability and market readiness prior to implementation.

### System Architecture and Data

- Use the operational **forecasting tool** to inform the requirements / specifications of a near term tender for BaU who are looking to develop this functionality in practice.

### Network Model

- Continue to develop integrated **network models** that span multiple voltage levels (e.g., Extra High Voltage and High Voltage combined) during ED2.
- Consider how network model development and ongoing maintenance can be made more efficient.

### PSA Tool

- Use learnings from the development and implementation of the **PSA tool** to inform the requirements / specifications of an analogous BaU tool which will be implemented as part of SSEN's ED2 plans for flexibility management.
- Consider how to address asset complexity / scalability and market readiness prior to implementation.

### S&D Tool

- Use the learnings from the development and implementation of the **S&D tool** to inform the requirements / specifications of an analogous BaU tool which will be implemented as part of SSEN ED2 plans for flexibility management.
- Consider how to address asset complexity / scalability and market readiness prior to implementation.



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How you  
can get involved

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We value stakeholder feedback to improve our business and your views will make a real difference to the future operation of the DSO so please let us have your opinions.

Customer participation in future flexibility services is critical to meeting GB's Net Zero targets. This document sets out the learnings from TRANSITION and what this means for you. These learnings will inform how we develop the functions of a Distribution System Operator to enable our transition to Net Zero. However, we also need

your feedback to ensure we develop the functions and solutions that work for you.

Please get in touch with any comments relating to any aspect of the information available in this report, or if more convenient, please visit our website and respond to all or any of the questions opposite.



We'd love to hear your feedback about the report. Please scan the QR code to visit our survey



For more information and to access our full library of reports, please scan the QR code or visit our website [ssen-transition.com/library/](https://ssen-transition.com/library/)



transition  
Moving to a smart future



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