



**STRATEGIC DEVELOPMENT  
PLANS FOR A JUST TRANSITION**  
*SMART, FAIR, NOW*

**Oxford Energy Day**



**Scottish & Southern  
Electricity Networks**



SSEN DISTRIBUTION

# WHO WE ARE

We're Scottish and Southern Electricity Networks Distribution. We look after the electricity cables that bring the power to your property and 3.9 million other homes and businesses across central southern England and the north of Scotland.

## OUR DISTRIBUTION NETWORK AT A GLANCE

Over **3.9 million** homes and businesses across the north of Scotland and central southern England

More than **937,300** customers on our Priority Services Register

Over **128,000km** of overhead lines and underground cables

**460km** subsea cables powering island communities

Over **4,100** employees across the country

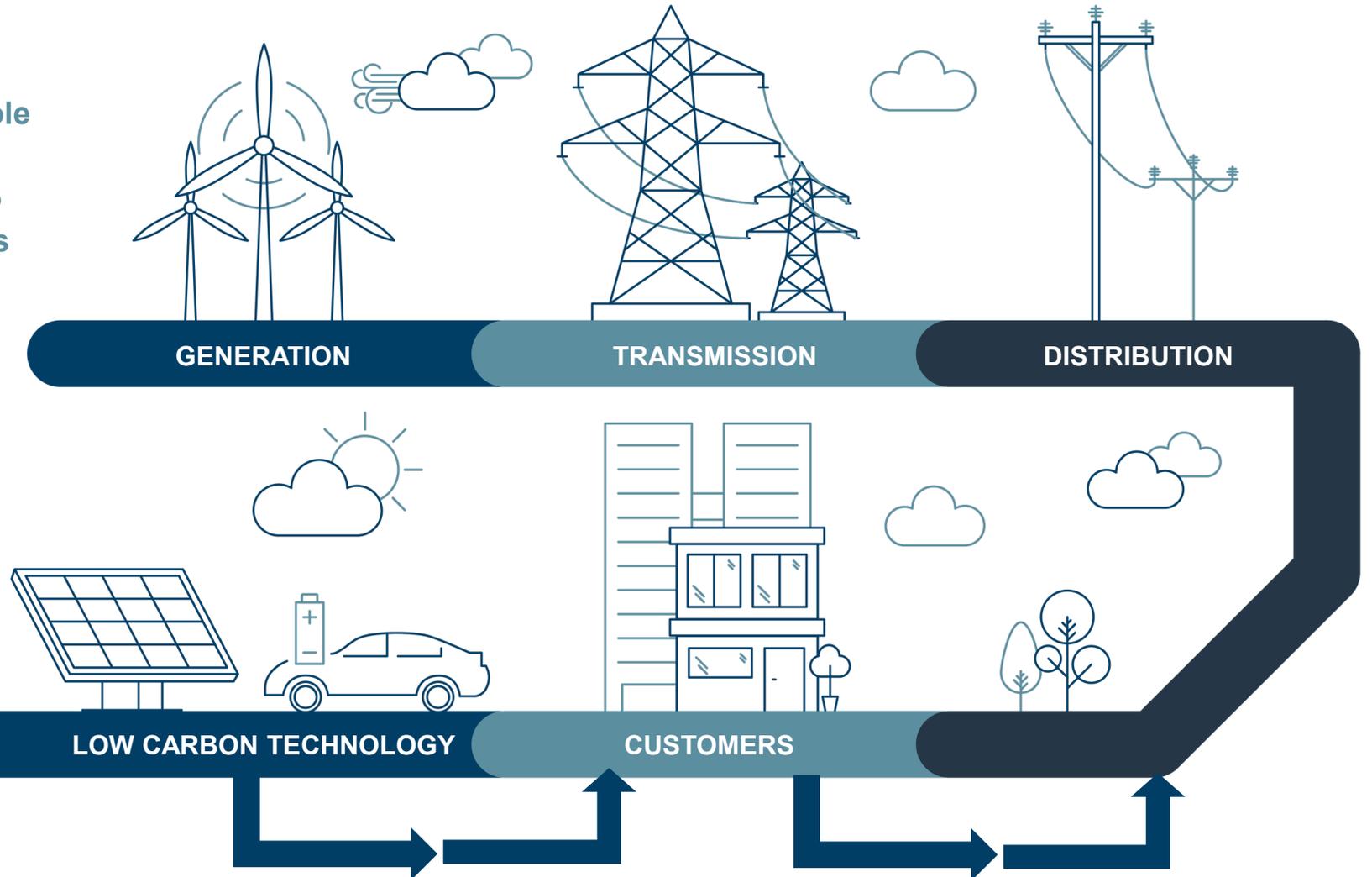




# OUR ROLE IN THE ENERGY SYSTEM

As a Distribution Network Operator, our role in the energy system is to carry electricity from the high voltage transmission grid to industrial, commercial and domestic users via a network of cables and poles.

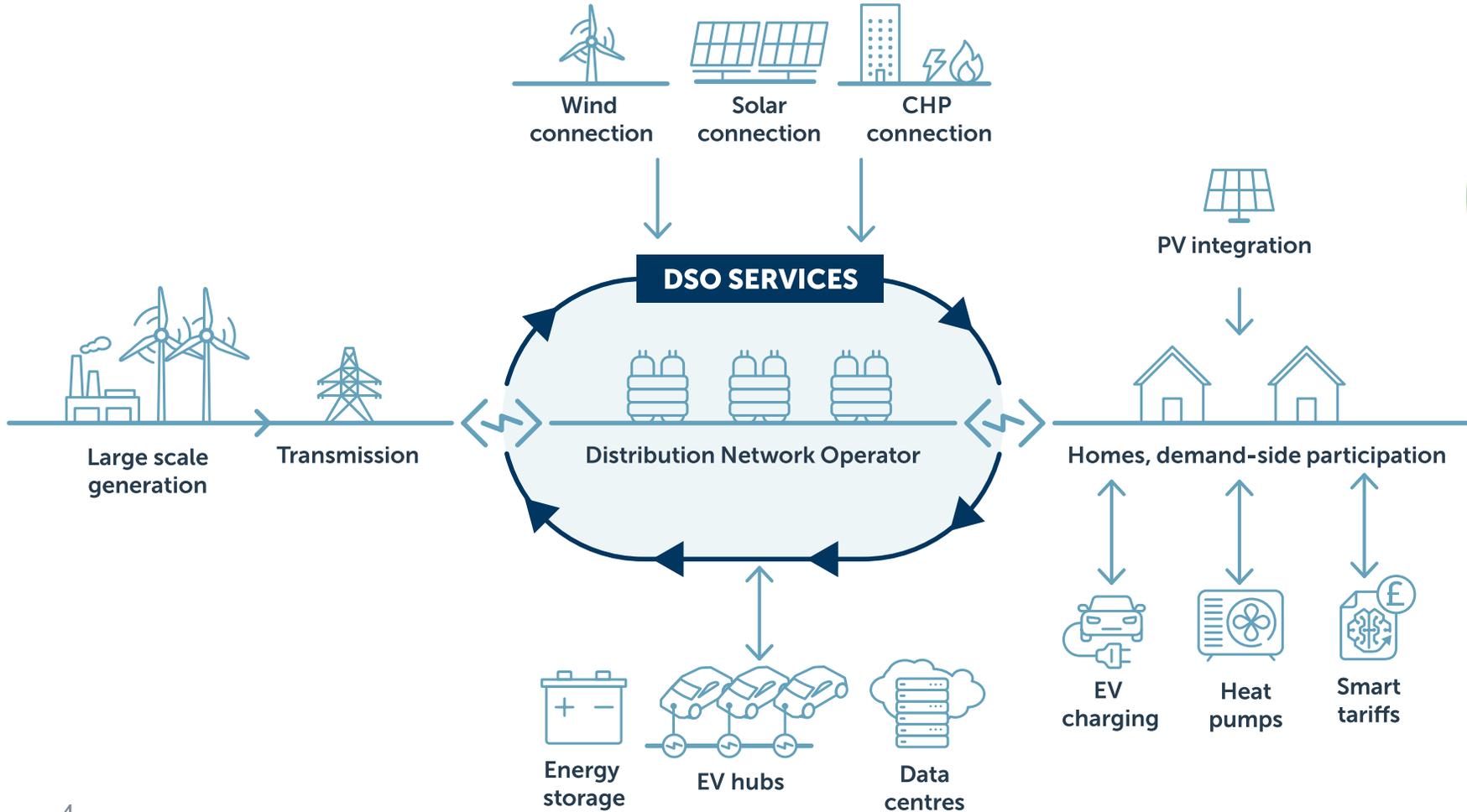
We provide this service for every home and business in the north of Scotland and central southern England regardless of who you pay your energy bills to.



Low Carbon Technology allows local energy generation and storage to flow back to customers and the future flexible energy system means energy can then flow from customers back into the distribution network



# WHAT IS A DISTRIBUTION SYSTEM OPERATOR?





# BUILDING ON INNOVATION: PROJECT LEO KEY LEARNINGS



Local Area Energy Plans are vital to achieving Net Zero



Aggregators in the broadest sense are key to enabling flexibility at the grid edge



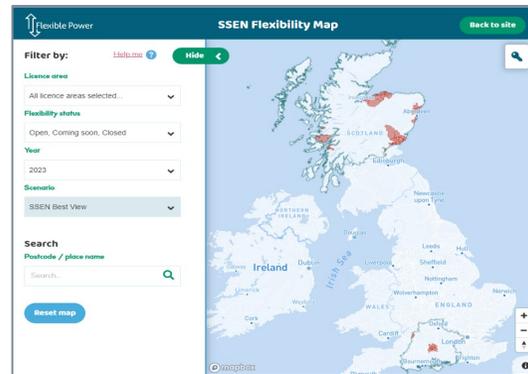
Optimisation behind the secondary substation brings a wide range of benefits



Investment in data and digital is key to enabling more efficient and smarter local area networks

## ISLE OF WIGHT NET ZERO NETWORK INVESTMENT STUDY

An evidence case report for future electricity generation and demand load growth on the Isle of Wight



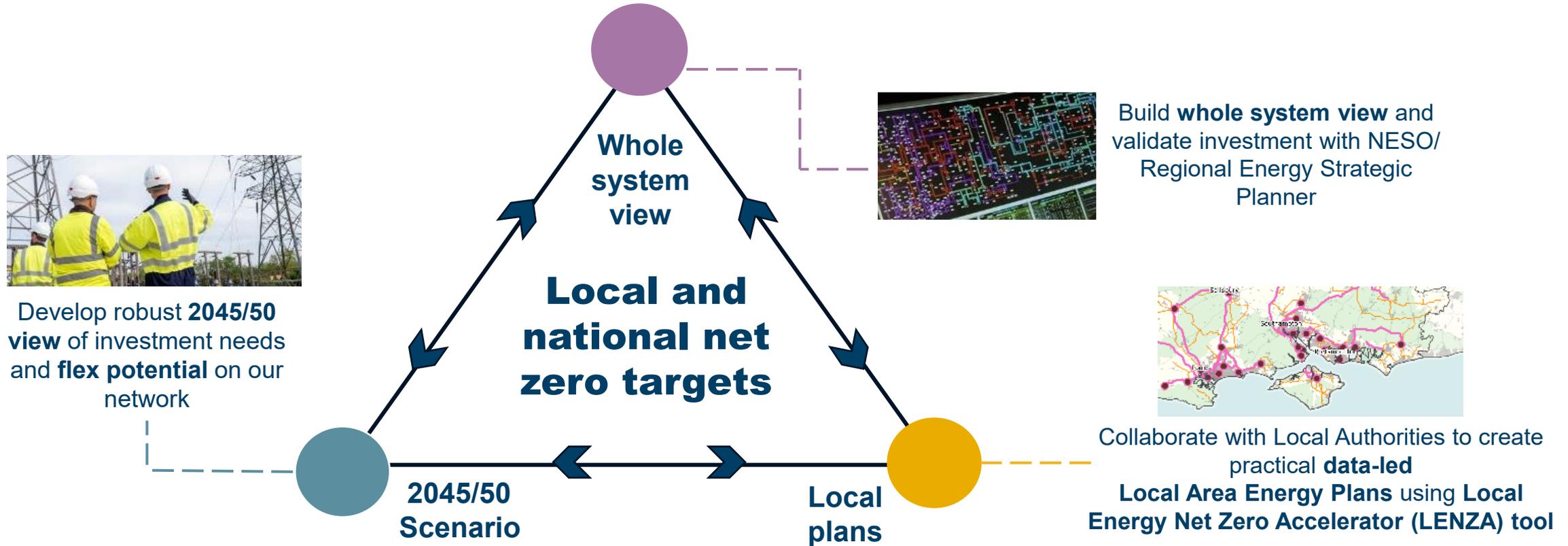
# 5GW

of flexibility tendered by March 2028, up from 0.5GW in ED1





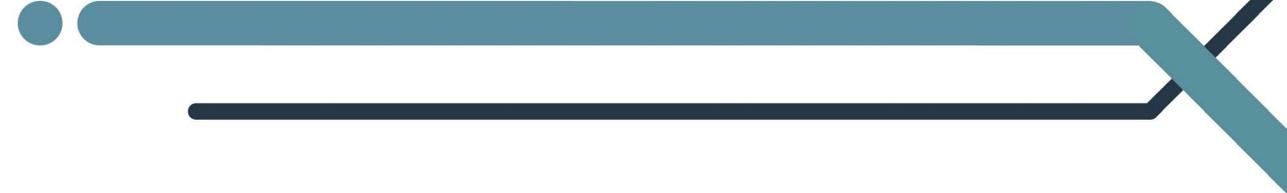
# TAKING A NET ZERO FIRST APPROACH TO DRIVING GREEN GROWTH



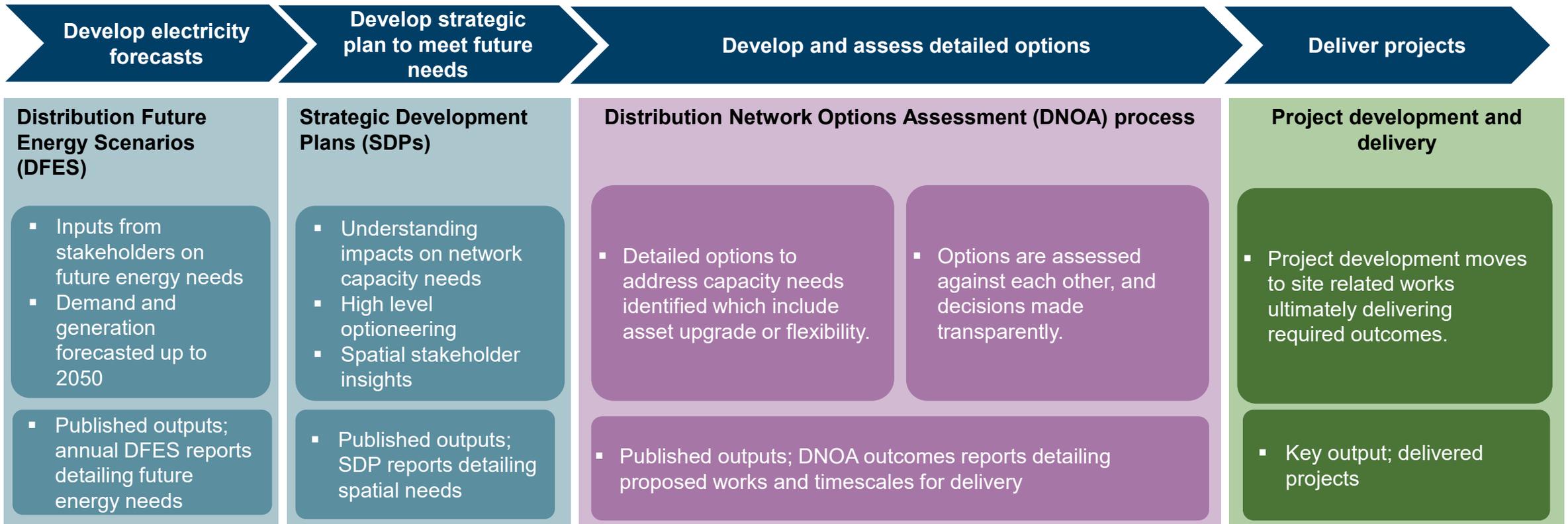
- Net Zero First is about **thinking beyond the five year price control cycle** to plan efficiently for the longer-term.
- It puts our **communities at the heart of our decision-making**, recognising that many Local Authorities have declared a climate emergency, and many Local Authorities are in the process of developing Local Area Energy Plans (LAEPs).
- It requires a **whole system view and democratic input**, both of which will be facilitated in the medium-term by the Regional Energy Strategic Plans (**RESP**).



# STRATEGIC PLANNING PROCESS



We are providing the capacity on the network to deliver a net zero future whilst powering our communities to thrive today.



Ensure we're making the appropriate use of flexibility services to deliver efficient whole system solutions at the optimum time



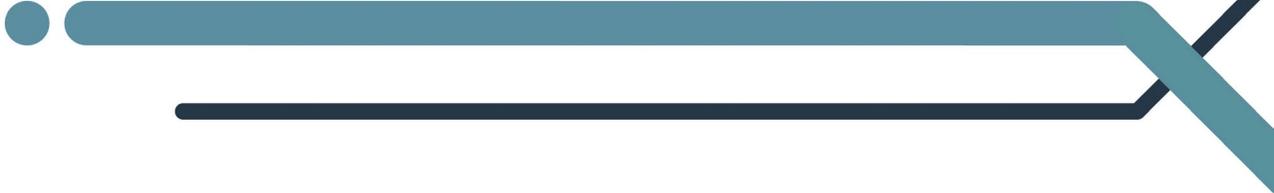
Consider future investment needs at all voltage levels including down to street level.



Stakeholder collaboration to ensure the network develops to meet the needs of our customers of today and tomorrow



# LOCAL ENERGY NET ZERO ACCELERATOR (LENZA)

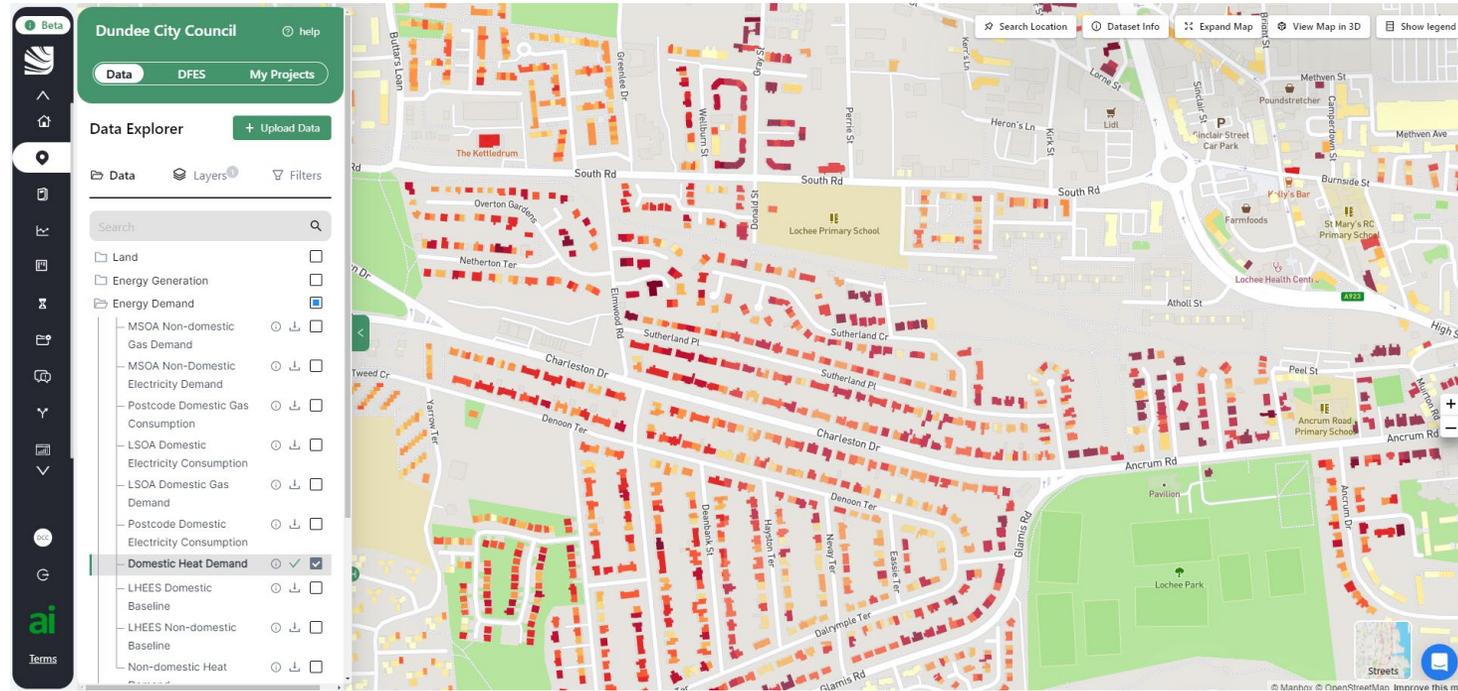


SSEN  
(Distribution)  
network data

Renewable  
potential data

Building data

Gas network  
data



Local Area  
Energy  
Plans

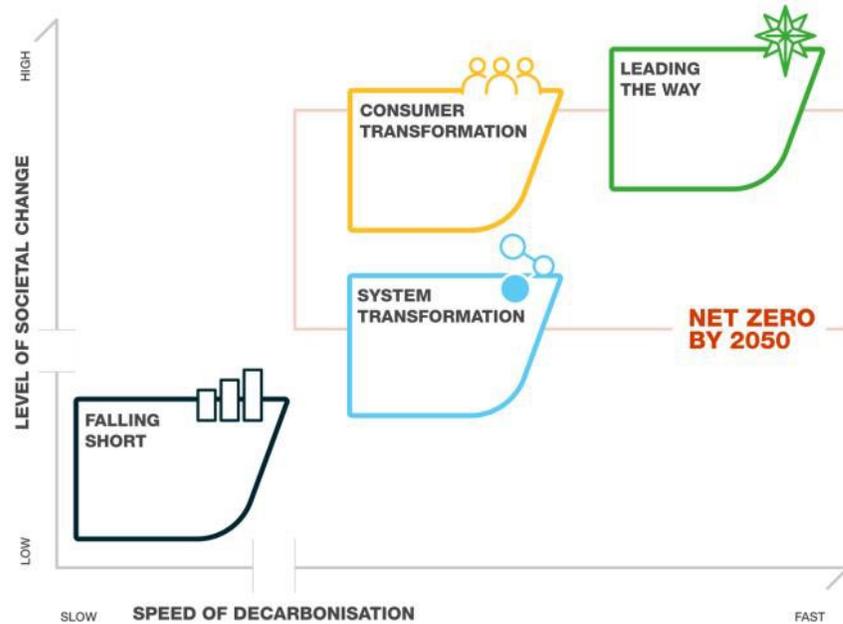


# IDENTIFYING LOAD-RELATED NEEDS

## Identifying future system needs

The DNOA process

### Develop future forecasts



### Identify load-related needs

*Power system analysis to identify capacity needs and constraints for the forecasted period.*



Figure source: National Grid ESO Future Energy Scenarios 2023



# ENSURING A JUST TRANSITION FOR ALL



10 **EDUCATION AND COLLABORATIVE ACTION**



**TACKLING EMERGING VULNERABILITIES**



**EQUAL ACCESS TO INFRASTRUCTURE AND SERVICES**



**SUPPORTING REMOTE AND RURAL COMMUNITIES**



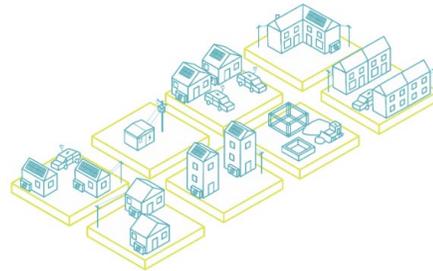
# ENSURING A JUST TRANSITION FOR ALL



## JUST TRANSITION, VULNERABILITY AND FUTURE ENERGY SCENARIOS

Planning for a fairer net zero future

April 2024



**EDUCATION AND  
COLLABORATIVE ACTION**



**TACKLING EMERGING  
VULNERABILITIES**



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INFRASTRUCTURE AND SERVICES**



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RURAL COMMUNITIES**



# REGEN RECOMMENDATIONS

## Pathways to Equitable Energy Transition



### 1. Embed Just Transition in DFES

- Make just transition and vulnerability analysis and reporting part of DFES processes as standard, including creating a “fairer” scenario



### 2. Advocate Socio-economic Analysis

- Advocate to incorporate socio-economic analysis into ESO’s FES and pathway reporting



### 3. Broaden Stakeholder Engagement

- Broaden stakeholder engagement to account for emerging trends and issues around vulnerability and the just transition

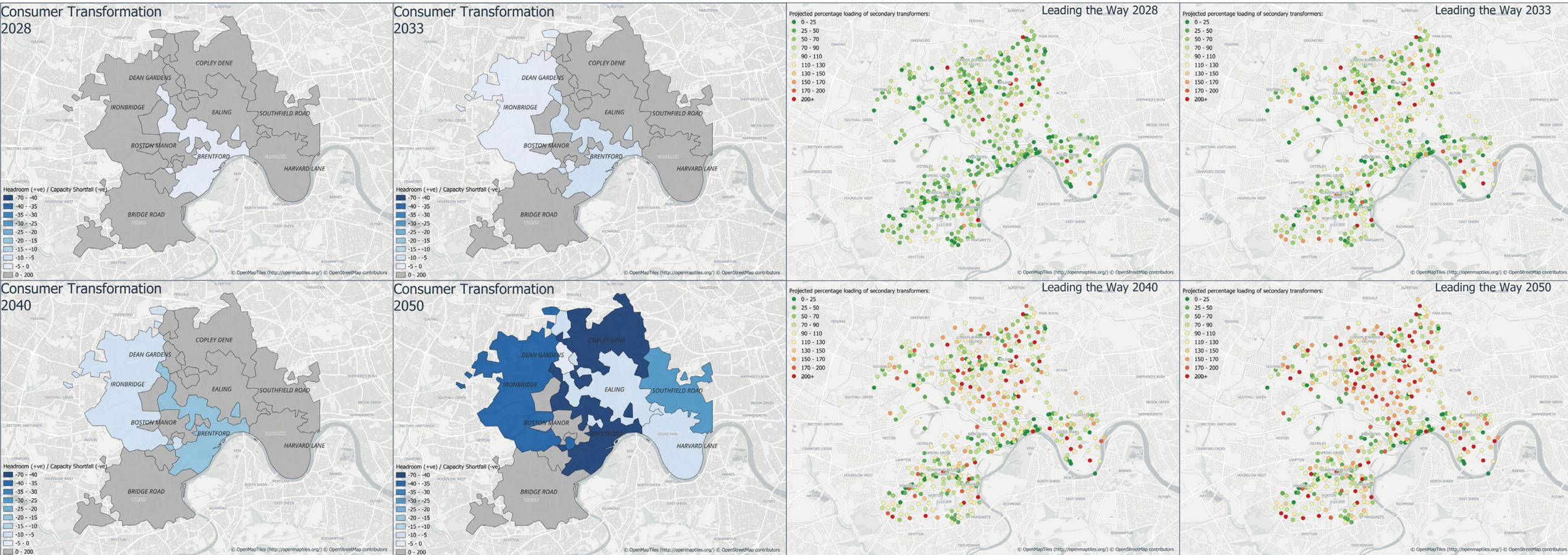


### 4. Appraise Next Steps in Planning

- Appraise next steps in the network planning process to understand current vulnerability and just transition considerations and highlight opportunity to go further



# EALING GRID SUPPLY POINT – SPATIAL PLANS OF FUTURE NEEDS



Ealing EHV/HV spatial plans (units = MVA)

Ealing HV/LV spatial plans

The Strategic Development Plan includes spatial plans of future needs for 2028, 2033, 2040, and 2050 based on DFES 2022, Consumer Transformation, and stress-tested against a range of scenarios

# ENGAGE WITH US

For any queries or to request further information, please contact us on:



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