Enabling the Efficient Development of Future Networks
SSEN Overview

We own and operate the Electricity Transmission and Distribution Networks in the North of Scotland and the Distribution Network in Central Southern England.

- SSEN is regulated by Ofgem under RIIO; part of SSE plc (UK FTSE listed).
- We have 4,000 employees, 85 depots/offices across 7 regions
  - serving 3m customers in England and 0.75m customers in Scotland
  - 130,000 km of lines and cables and 106,000 substations
  - over 100 subsea cables, powering island communities
  - we take 550,000 calls from our customers p.a. (over 1,500 a day).
- Strong supporter of the 2050 Net Zero emissions target, and committed to investing in its network to support 10 million EVs in the UK by 2030.
- Accommodated the rapid rise in renewables with 28 GW of local generation capacity connected - enough to power 4 million homes.
- SSE are supporters of the Living Wage and Fair Tax.
The transition is a team effort.
Industry Collaboration through the:

ENA Open Networks Project.

- 98 Total responses from across the industry to our 2019 consultations
- 95% Open Networks products concluded in 2019
- 3 New Community Energy Forums announced for 2020
- 16 Flexibility tenders run by the Distribution Network Operators
- 6 Next steps for flexibility committed to
- 10 DFESs published
- 1333 Innovation opportunities mapped on the Route to DSO
- 947MW Of flexibly tendered out in 2019 for DSO Services
- Delivering a commitment to open and expand local markets for flexibility services
- Securing ground-breaking industry agreement on continuing the transition to Distribution System Operation
- Increasing the provision and transparency of data through a System Wide Resource Register
- Supporting Net Zero by reforming the connections processes for customers looking to connect renewable energy
- Bringing gas and electricity networks closer together for the first time in a whole system approach
The Road Network Analogy.

**Predictable**
Long Term investment

**Uncertain**
Optionality

Network Investment

Congestion

Scottish & Southern Electricity Networks
Making the right decisions.

- Predictability: Long Term Investment
- Active Control
- Markets
- Distribution System Operation
- Smart Solutions
- Local Solutions
- Uncertainty: Optionality

Optimal choices
The Enablers of the Transition to DSO.

- Connectivity models and Real time monitoring
- Open Data Exchange
- Market design
- Digitalisation and automation
- SystemsThinking
- Aligned Regulatory reward mechanisms
- A healthy Flexibility Market place
Scalability?

- Efficiency
- Managing complexity and risks
- Exceptional Events
- Portfolio Risk optimisation
- Gaming and unintended consequences
- Market Development / Liquidity
- Standards
- Continued Innovation
- Informed Agile Regulation
- Rewarding the right behaviours
- Incentives in the market place
- Continued and deep co-creation with stakeholders
Learning by doing – Key Projects

“LEO and transition bring together local community aspirations with energy industry drivers”

The projects provide a £40m programme which is further leveraged by £46m public sector investment.

<table>
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<th>Customer Expectations</th>
<th>National Policy</th>
<th>Statutory Duties</th>
<th>SSEN Business Model</th>
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| Demonstrate readiness for RIIO-ED2 negotiation, enabling SSEN to influence new regulatory mechanisms. | Inform new business approaches which aid the funding of renewable generation and low carbon technologies. | Inform economic case for a DSO and develop a business model for RIIO-ED2 and beyond. | Deliver the role of a DSO acting as a neutral market facilitator. |
| Understand customer drivers, risks and business cases. | Inform the interaction between traditional and emerging energy actors. | Demonstrate methodologies for new and changed SSEN business functions required for DSO. | Maximise the commercial opportunities for customers through the service market, peer to peer trading, etc. |

The projects provide a £40m programme which is further leveraged by £46m public sector investment.
A Distribution System Operator (DSO) securely operates and develops an active distribution system comprising networks, demand generation and other flexible distributed energy resources (DER).
Questions and further information?

ENA Open Networks Materials
- ENA Open Networks

Piclo Flexibility Platform
- Piclo

Ofgem
- Flexibility

Energy Data Task Force
- Energy Data Report