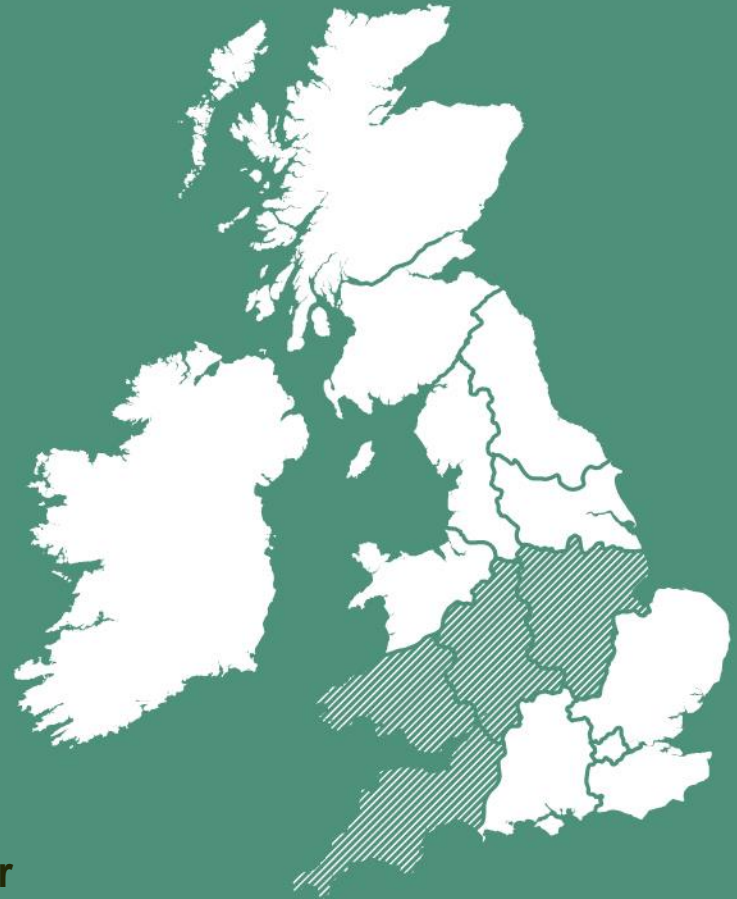


**NEXT GENERATION
NETWORKS**

The transition from DNO to DSO

Sam Rossi Ashton
Innovation and Low Carbon Networks Engineer
Western Power Distribution

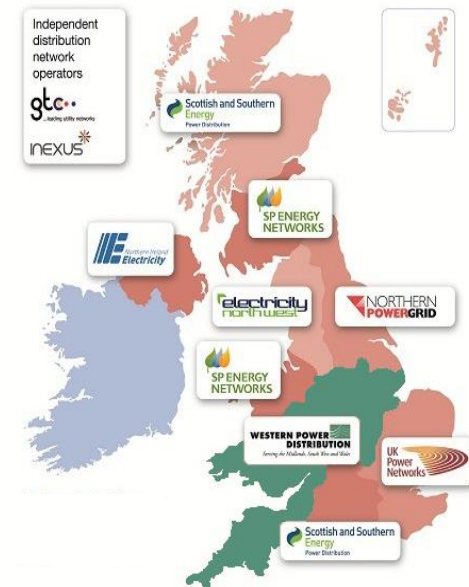


Outline

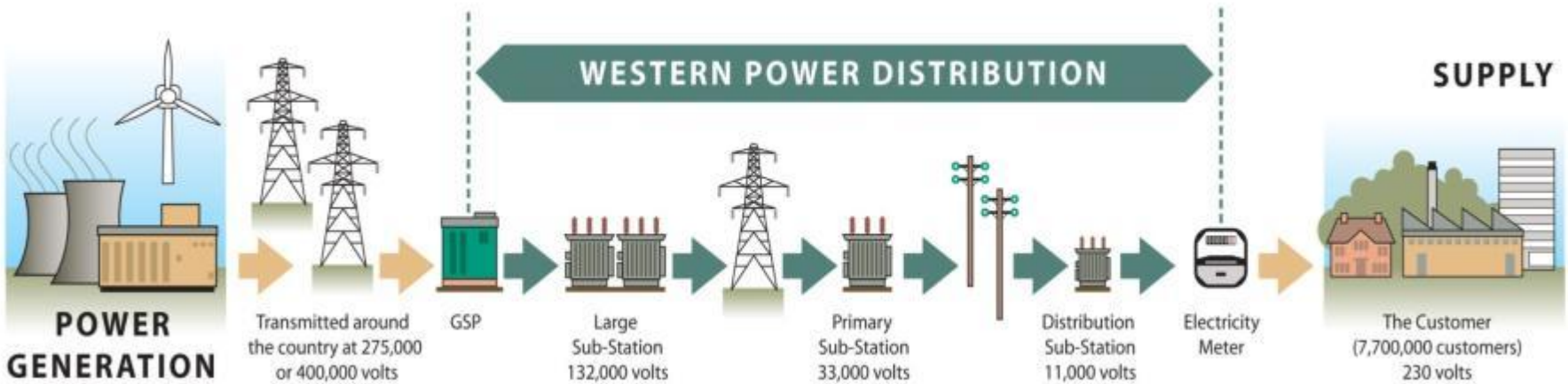
- Western Power Distribution – Who we are
 - How our role is changing
 - What does that mean for communities and what do communities think it means to them?
-

Western Power Distribution – Who we are

- WPD is a Distribution Network Operator (DNO)
- We distribute electricity to 7.8 million customers
- We operate 4 of 14 distribution licence areas in the UK



Western Power Distribution – Who we are



Key Activities

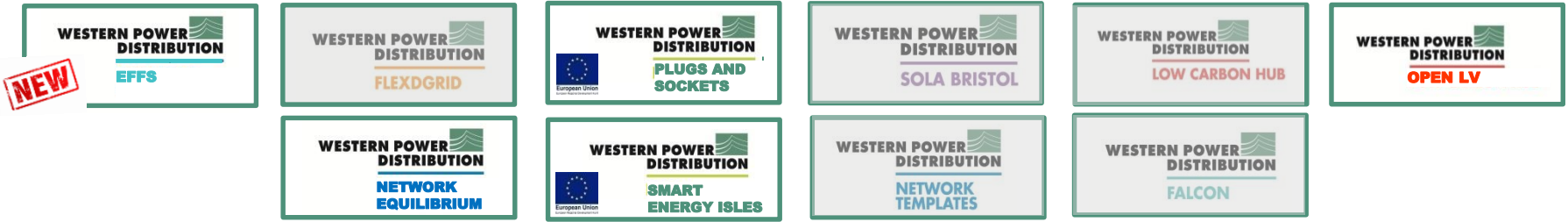
- Maintain the network
- Connect new customers
- Fix the network

Reducing carbon emissions – our role is changing...

- Government has ambitions to reduce carbon emissions by 50% by 2025.
 - The way we use, generate and distribute energy is changing to meet these reduction targets.
 - Therefore, in response to these changes, WPD is transitioning from a Distribution Network Operator to a Distribution System Operator.
-

A Distribution System Operator (DSO):

- Securely operates and develops an active distribution system.
 - Enables customer's competitive access to markets as energy producers and consumers as a neutral facilitator.
 - Facilitates the optimal use of Distributed Energy Resources (DER).
-



Future Networks Programme

Assets

- Telemetry
- Decision support
- Improved assets
- New assets
- Flexibility
- Automation
- Incident response

Customers

- New connections
- Upgrades
- Information
- Self Serve
- Products/Service
- Tariffs
- Communities

Operations

- Reliability
- Forecasting
- DSO
- DSR
- GBSO Interface
- Efficiency
- SHE and Security

Network and Customer Data

- Airborne Inspections
- AIRSTART¹
- Telecoms Analysis
- Superconducting Cable
- SF6 Alternatives
- MVDC Test Lab
- Smart Energy Laboratory
- Statistical Ratings
- Primary Network Power Quality Analysis

- FREEDOM - Hybrid Heat Demo
- Hydrogen Heat & Fleet
- Carbon Tracing
- HV Voltage Control
- Solar Storage
- LV Connect and Manage
- Sunshine Tariff
- Electric Nation (formerly CarConnect)
- Industrial & Commercial Storage
- Smart Systems and Heat²

- DSO/SO Shared Services
- Project SYNC
- Project ENTIRE
- Smart Meter data for Network Operations
- Distribution Operability Framework
- Times Series Data Quality
- Voltage Reduction Analysis
- LV Connectivity
- Losses Investigation

What does this mean for community groups?

A smarter system
to enable charging
of cars, heating
homes, generating
and storing energy
locally

New income
streams and
exciting
opportunities to
take part in
flexibility services

Better value for
money by avoiding
costly
reinforcement and
using network
capacity more
intelligently

What do community groups think it means to them?

- We run a consultation where we asked communities what they think this transition means to them and if/how they'd like to participate.
- To identify what communities would like us to do more in the future as part of our transition.



What do community groups think it means to them?

- Communities showed clear willingness to be part of the industry changes and participate in the areas they can.
 - But uncertainty was expressed to whether they would have the skills, knowledge and resource needed to participate in these changes (for example in future flexibility services).
 - Communities suggested changes to regulation that would enable them to take advantage of these opportunities, which we will forward to the regulator.
 - Open dialogue with the DNO is always appreciated, so we will continue and build on our community energy work based on the feedback we received.
-

Responding to the feedback received in our previous events and in our DSO communities consultation in 2019/2020 we will:

Improve the WPD website and our network information tools

- To make it easier finding information
- Communities will shape the website/tools through dedicated workshops

Run workshops for community groups in the areas where we need flexibility services

- To inform communities about the services needed and how they can participate
- To ensure that communities receive the support they need in order to provide services if they can

Continue our community energy work programme

- To ensure that communities are kept informed about industry changes
- To continue supporting community energy and learning what communities want from their DNO

Responding to the feedback received in our previous events and in our DSO communities consultation in 2019/2020 we will:

Improve the Flexible Power diagram

- To incorporate the feedback received and make the diagram understandable by all

Continue to set no minimum threshold when procuring flexibility services

- To ensure that we are inclusive of smaller scale players

Ensure that communities are aware of the material and information available to them

- By continuing to promote the material on social media
- So that they can use the resources available and learn about all of the exciting industry changes

THANKS FOR LISTENING

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