

**NEXT GENERATION  
NETWORKS**

**Flexibility Markets for Beginners**  
**Fazeley Studios, Birmingham**  
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# Outline

- Western Power Distribution – Who we are
  - WPD's Innovation Strategy
  - Innovation Projects with Communities
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# Western Power Distribution – Who we are

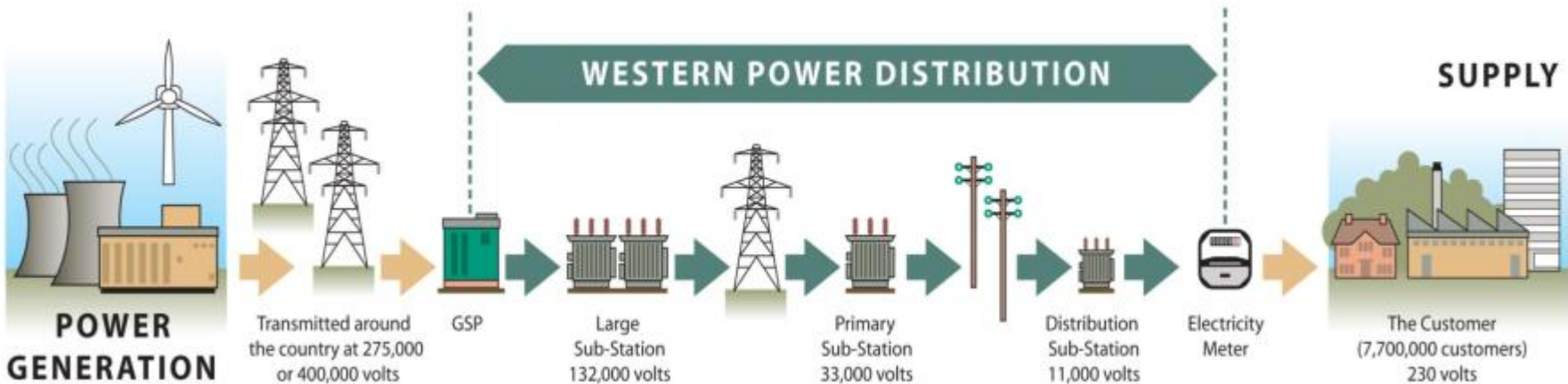
WPD is a Distribution Network Operator (DNO)

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



## 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
- AIRSTART<sup>1</sup>
- 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 Heat<sup>2</sup>

- 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

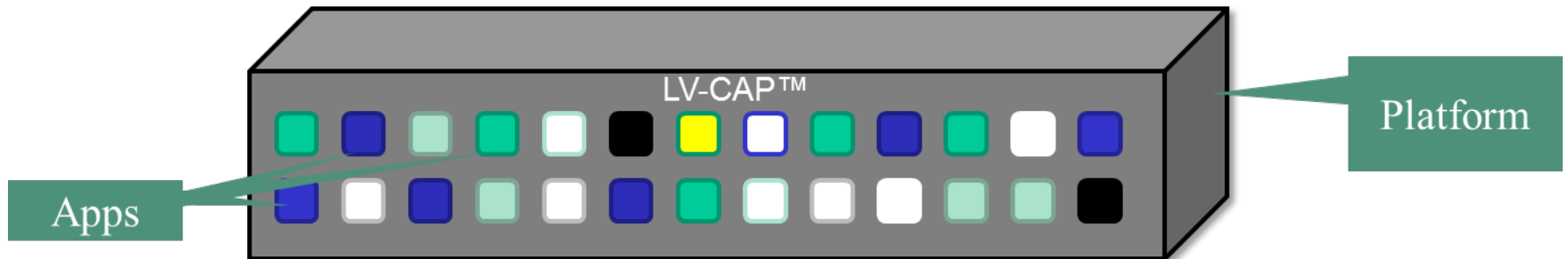
# INNOVATION PROJECTS WITH COMMUNITIES

## OPEN LV

Software  
Platform  
installed at 80  
LV substations.

To provide  
community  
energy groups  
access to LV data  
and trigger new  
ideas!

And give the  
opportunity to  
develop apps  
that can run  
on the  
platform.



# INNOVATION PROJECTS WITH COMMUNITIES

## OPEN LV

- Community energy groups and businesses had the chance to submit their ideas for the apps they wanted to develop.
- 7 Community Energy groups and 17 businesses have been selected and will be implementing their proposals.

App showing demand across a village to enable local balancing.

App informing residents how to save money by using power at off-peak times.

Investigation on how smart appliances can provide flexibility to the grid.

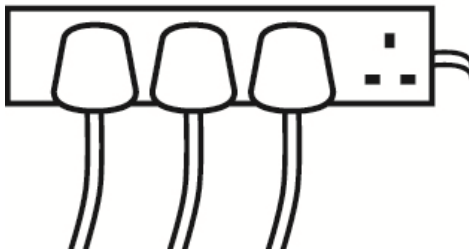
# INNOVATION PROJECTS WITH COMMUNITIES

## Plugs and Sockets - Cornwall Local Energy Market

Development of platform (by Centrica) for flexibility services.

Platform will allow customers to alter generation/demand to benefit a third party.

First UK DNO flexibility marketplace.



**centrica**

**nationalgrid**

UNIVERSITY OF  
**EXETER**

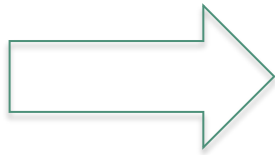


# INNOVATION PROJECTS WITH COMMUNITIES

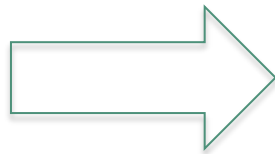
## Plugs and Sockets - Cornwall Local Energy Market

- The platform is now live!
  - WPD will be placing bids onto the platform in the following weeks and aggregators/businesses will be able to respond to them.
  - The aim is to enable the DNO to remove constraints from the distribution network through the flexibility services others can offer.
  - Participants can also access the platform as observers to see the requests for services and transactions.
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## Additionally...



**We run 8 Community Energy Events every year at our key locations where community energy groups can come to find out what is happening in the industry and speak to us.**



**We have a dedicated Community Energy page with animations, guides, and podcasts on topics that Community Energy groups are interested in!**

**Click [here](#) for more information on our events and to access the material we have produced for Community Energy Groups!**

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## Summary

- WPD – DNO of Midlands, South West and Wales.
  - We have a big portfolio of projects as part of our Innovation Strategy.
  - We are currently running innovation projects that involve communities.
  - The Open LV project is giving community energy groups access to LV data and the opportunity to run their own apps.
  - We are taking part in the Cornwall Local Energy market which is trialling the first DNO platform for flexibility services in the UK.
  - We are continuously supporting community energy through the events, animations, podcasts and guides we produce every year!
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THANKS FOR LISTENING



*Serving the Midlands, South West and Wales*

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