

WESTERN POWER DISTRIBUTION INNOVATION TEAM

WPD Innovation

Local Energy, a Flexible Future

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Outline

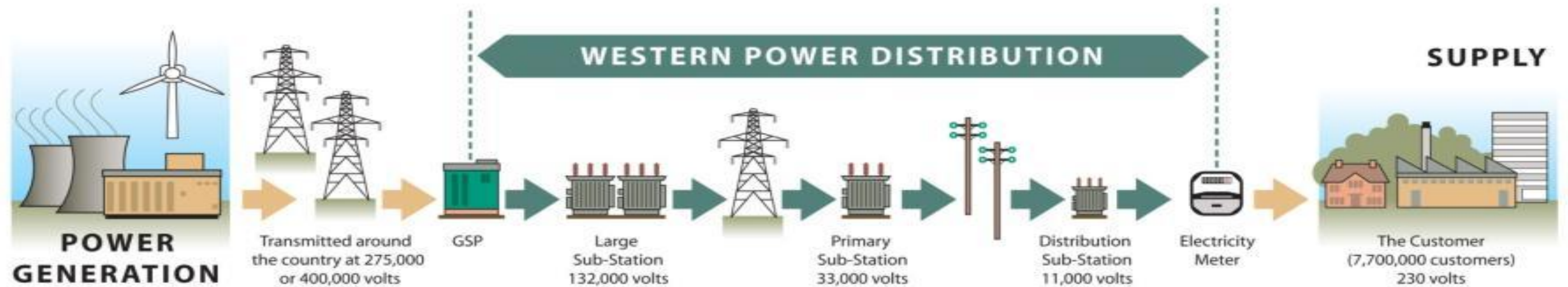
- WPD – Who we are
- How our role is changing
- WPD Innovation work
- Summary

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 – Our role

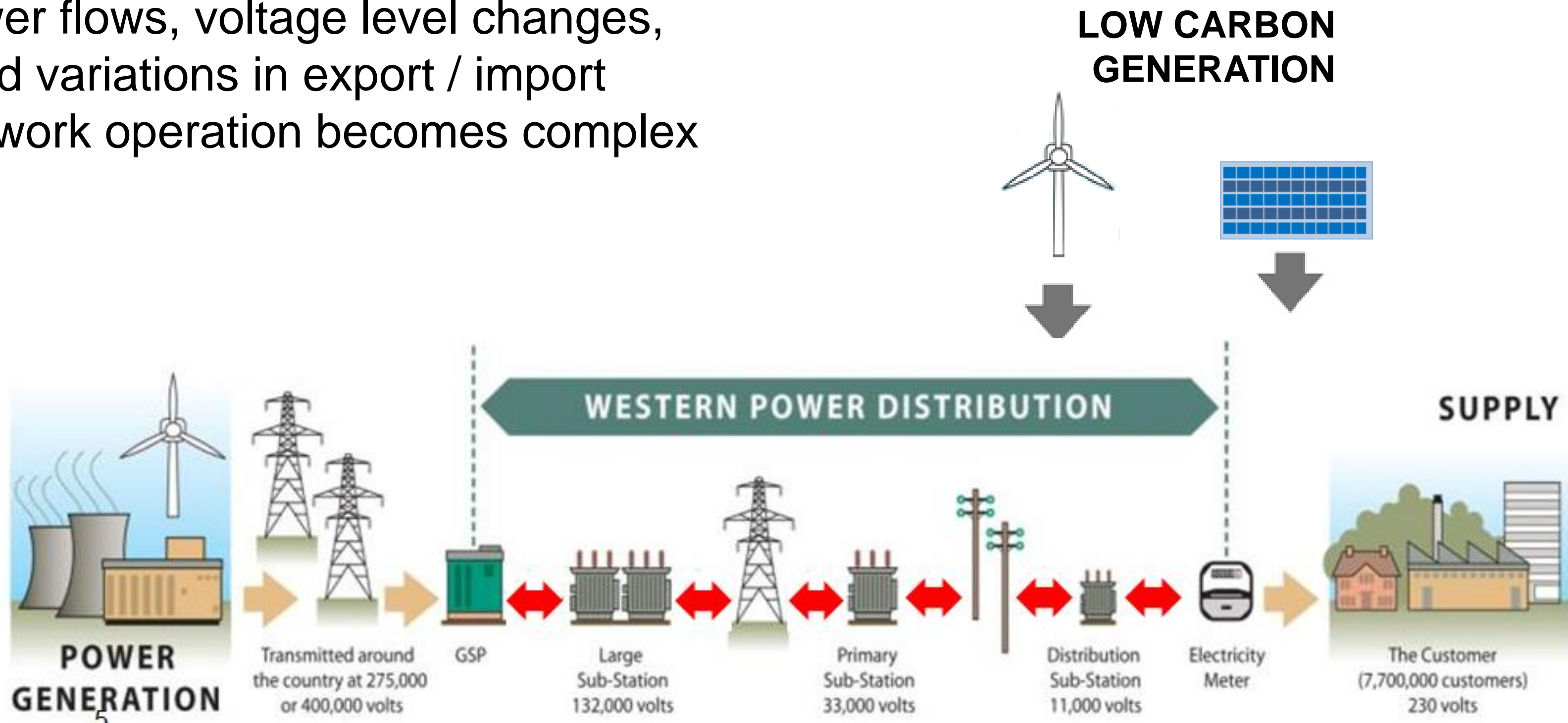


Key Activities

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

Western Power Distribution – Our role

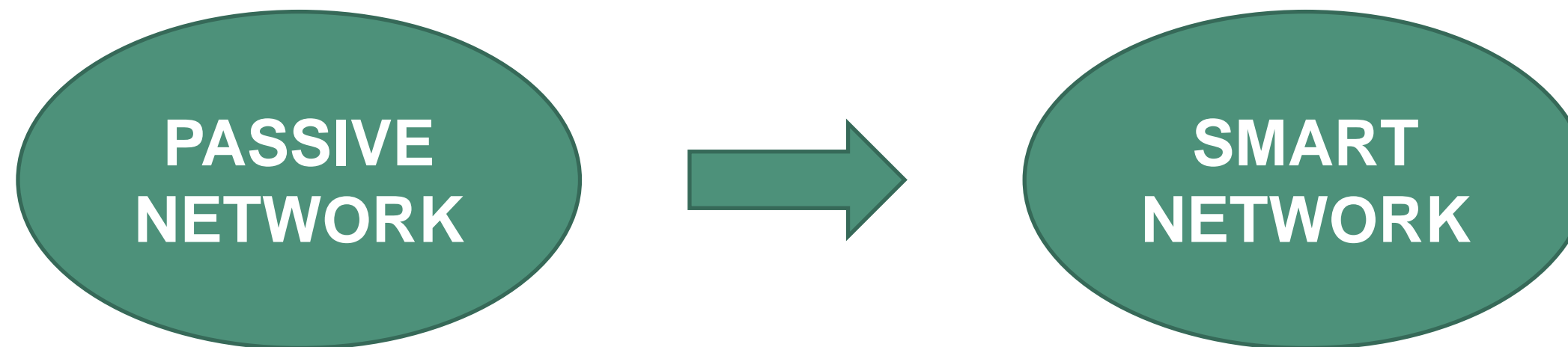
- Localised generation causes reverse power flows, voltage level changes, rapid variations in export / import
- Network operation becomes complex



Western Power Distribution – Our role

- 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.

What is changing?



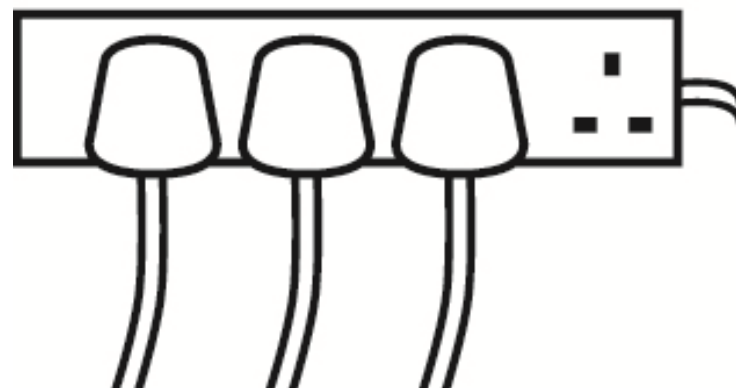
- Historic and real time energy flows.
- Forecasting future energy volumes across the network.
- Active reconfiguring of the system as needed.
- Commercial arrangements to contract DG, active demand and storage services.
- Simple platform for energy suppliers, generators/ storage, local community schemes and other market participants to trade in energy services.

Visibility Plugs and Sockets Project

Development of platform (by Centrica) for flexibility services.

First UK DNO flexibility marketplace.

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



Visibility Plugs and Sockets Project

- WPD to procure services to remove network constraints.
- Trials of the platform started in May 2019 and will run until January 2020.
- Learning on contractual arrangements for sellers/buyers.
- Practicalities of operating and purchasing flexibility services through third party platform.

OpenLV Project

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.



OpenLV Project

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

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

App showing demand across a village to enable local balancing.

WPD Innovation Summary

**WPD – DNO of
Midlands,
South West
and Wales**

**We are
transitioning
to a DSO –
innovation is
the basis of
this
transition**

**Participating
in Plugs and
Sockets - the
first DNO
platform for
flexibility
services in
the UK**

**Open LV -
giving
communities
access to LV
data and the
opportunity
to run their
own apps**

Workshop questions

- What projects have you been involved with in the past?
- What kind of community projects do you see your group doing in the future?
- Do you have any ideas for innovation projects?
- What else would you like to see WPD doing to support community energy?

Any Questions?