Customer Engagement Group (CEG): Western Power Distribution

Onboarding Session - Monday 29th April 2019

Agenda for the day:

Time	Topic	Presenter
9.00 - 9.30	**Recap of first onboarding** • Any questions since?	**Duncan McCombie** (CEG Chair) **Phil Swift** (Chief Executive)
9.30 - 10.30	**Priorities for RIIO-ED2** • ED2 timelines (excluding CEG role – just WPD's milestones) • WPD's progress so far • Feedback from initial stakeholder engagement	**Alison Sleightholm** (Resources & External Affairs Director) (and **Phil Swift**)
10.30 - 11.15	**Site visit – Contact Centre & Control Room** • Intro to WPD's customer service delivery (and types of contact) • Recent customer improvements/developments • RIIO-ED1 outputs the team is delivering (e.g. PSR cleanse and webchat) • Control operations overview, including how this is changing as we become DSO	**Chris Griffiths** (Contact Centre Manager) **Gwyn Jones** (Control Centre Manager)
11.15 - 12.30	**DSO transition** • Current DSO strategy • New services this might lead to • Stakeholder engagement to date • Innovation programme overview • Electric vehicles strategy	**Nigel Turvey** (Network Strategy & Innovation Manager)
12.30 – 13.30	**Lunch**	
13.30 - 14.00	**RIIO-ED2** • Recap of specific WPD timeline (with CEG's role)	**Paul Branston** (Regulatory & Government Affairs Manager)
14.00 - 14.30	**Delivering a social contract** • Sustainability First	**Sharon Darcy** (Sustainability First)
14.30 - 14.45	**Consumer engagement** • Citizens Advice	**Caroline Farquhar** (Citizens Advice)
14.45 -15.00	**Q&A session**	
15.00 - 15.45	**Role of the CEG and practical considerations** • Ways of working (sign off ToR and CoI) • (note: reinforce that WPD's contribution to the onboarding is not reflective of input at future meetings – levels will be set by the independent Chair not WPD) • Outputs • What does success look like • Agenda setting for next meeting	**Duncan McCombie** (CEG Chair)
15.45-16.00	**Wrap-up and reflections from the day**	**Duncan McCombie** (CEG Chair)

Recap of first onboarding session:

Duncan McCombie

CEG Chair

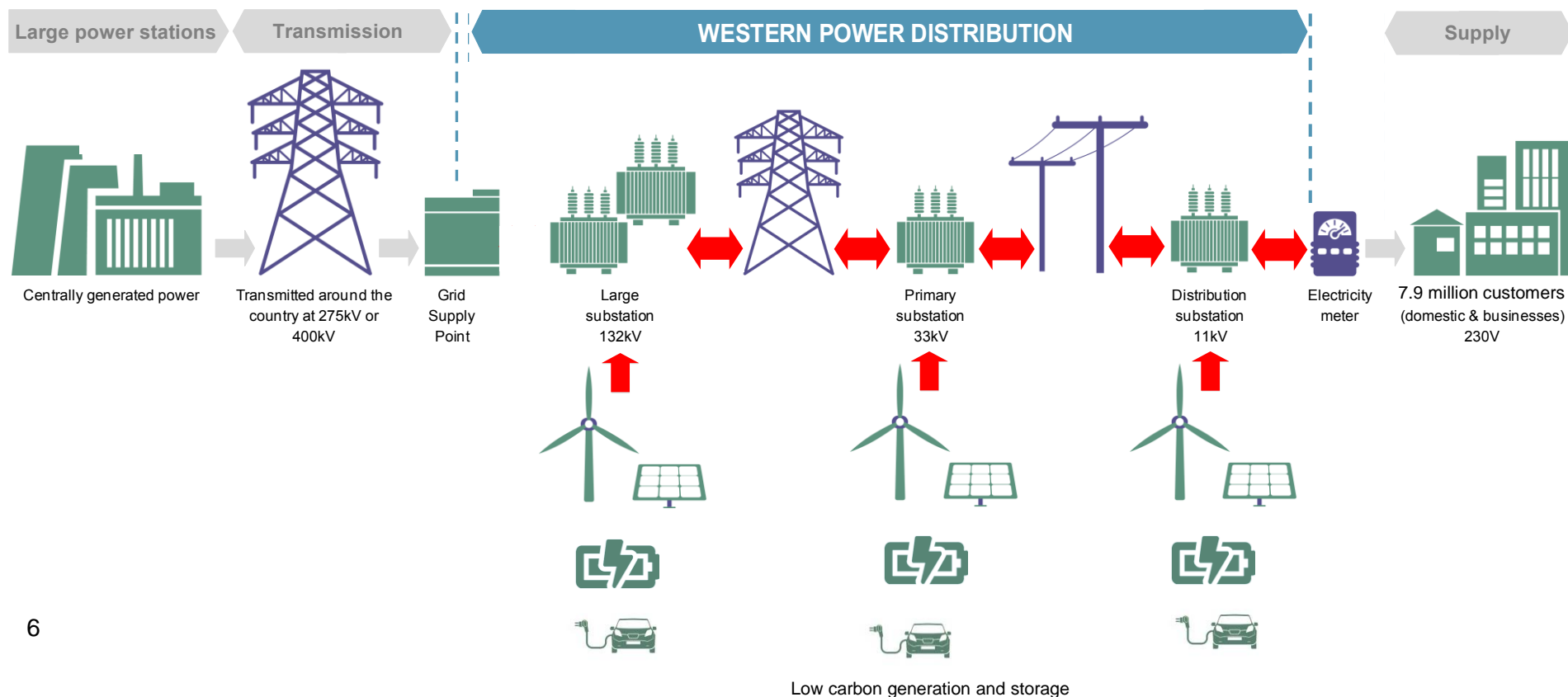# Customer Engagement Group
April 2019

WPD Key Challenges
(Phil Swift - Chief Executive)

Key Challenges for WPD

- Policy on low carbon transition
  - DNO and DSO
- Regulatory
  - RIIO2
- Political landscape
  - Brexit
  - State Ownership
- Other
  - Cyber Security

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Future Challenges – DNO to DSO

- We operate the local electricity network
- We are a Distribution Network Operator (DNO), maintaining, extending and fixing the network
- **We are transitioning to also become a Distribution System Operator (DSO),** moving from a passive to an active network

| Large power stations | Transmission | WESTERN POWER DISTRIBUTION | | | Supply |

Centrally generated power | Transmitted around the country at 275kV or 400kV | Grid Supply Point | Large substation 132kV | Primary substation 33kV | Distribution substation 11kV | Electricity meter | 7.9 million customers (domestic & businesses) 230V

Low carbon generation and storage

6

DSO Progress

- WPD lead the Energy Networks Association's (ENA) 'Energy Networks Futures Group' and the 'Open Networks Project'
- WPD was the first DNO to publish a costed DSO strategy paper
- WPD have published detailed 'Distribution Future Energy Scenarios' working with National Grid ESO on Regional Development Plans
- Launched 'Flexible Power' with real services procured in 2018
- Have advertised 'Flexible Power' requirements for 2019 flexibility (12 constraint managed zones totalling 93MW)
- WPD has recently published an EV strategy
- WPD has recently made structural changes to be able to demonstrate independent decision making of traditional reinforcement vs. flexible solutions

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Brexit

Internal Audit have conducted a 'No-deal' risk assessment

- Two main areas of focus
  - Supply chain review by procurement team
  - Strategic stock levels enhanced by advance buying of equipment and kit as necessary
  - Status of settled EU workers – less than 1% of WPD workforce

- WPD are protected to a great extent by the RIIO-ED1 package agreed to 2023

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RIIO-2 WPD feedback/challenges

- RIIO-ED1 price control is working well;
  - Ofgem acknowledges ED1 is delivering good outcomes for consumers who are receiving the highest levels of service, with interruptions and minutes at a low

- Current RIIO-T2/GD2 proposals;
  - Seem to ignore the benefits RIIO-1 has provided
  - Significant tightening on all aspects of the financial package
  - Appear to focus more on an avoid heavy penalty "incentive" package
  - Limit the ability for top performers to deliver additional returns for leading performance
  - Don't recognise that it is a package that needs to be looked at in the round, seemingly developing strategy in 'bunkered' teams driving every aspect to the 'lowest possible denominator'

- WPD recognise there are some aspects in RIIO-1 that need to be addressed. Focus of RIIO-2 should be on refinement, not fundamental change

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RIIO2 – How can we succeed?

- Deliver the ED1 business plan
    - Outstanding levels of Customer service
    - Continue to deliver on Network performance commitments
    - Maintain high levels of investment in the network
    - Deliver efficiently
- Ensure we adapt to change
    - Moving from DNO to DSO
- Be socially responsible and ensure we are embedded in our communities
- Put forward imaginative and creative proposals to continue to move the sector forward

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'State Ownership'

- WPD has good relationships with local MPs and key policy makers based on an enduring annual programme that develops trust
- UK networks are acknowledged as performing well at a low cost to end users
- Transparent - WPD is the only Distribution Network Operator (DNO) to publish RIIO accounts, tackling erroneous claims regarding profit
- High levels of investment now and in the future
- Responding to the smart future
- Socially responsible

But…..

- If Labour were able to form a government they have pledged to return water, rail, **energy** and postal services to public ownership

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Cyber Security

- We take Cyber Security very seriously
- Cyber initiatives are taking an increasing amount of time & resource
- We manage compliance and have robust policy set against multiple frameworks e.g.
  - Networks and Information Systems (NIS) Directive
  - NIST Cybersecurity Framework (US)
  - Smart Energy Code (Smart Metering)
- Regular penetration testing and vulnerability scanning to check effectiveness
- We're not complacent - there is always more we can do
- A moving target - new vulnerabilities and attacks every day

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Customer Engagement Group
April 2019

Alison Sleightholm
Resources and External Affairs Director

Agenda

- Introduction

- ED2 timeline

- WPD's progress so far

- Feedback from initial stakeholder engagement

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REA

U.K. Regulation – Timetable

March 2018	RIIO-2 framework consultation
April 2018	RIIO-2 enhanced engagement guidance
July 2018	RIIO-2 framework decision
December 2018	GD2/T2 sector-specific methodology consultation
May 2019	GD2/T2 sector-specific methodology decision
Q3 2019	ED open letter
Q1/Q2 2020	ED sector methodology consultation
Q3/Q4 2020	ED sector methodology decision
TBD	Business plan submission, analysis and determinations
Q4 2022	Statutory licence consultation
Q1 2023	Licence decision
April 1, 2023	Start of RIIO-2 price control for ED

Progress so Far

- Established CEG

- Established WPD Steerco

- Annual WPD workshops 2019 focussed on ED2 planning

- Regular engagement with Ofgem

- Participation in industry working groups

- Focus on ED1 delivery

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WPD's stakeholder engagement events

- **Dates/locations**

Tues 5th Feb – Cardiff	**Tues 12th Feb - Birmingham**
Wed 6th Feb – Bristol	**Wed 13th Feb – Nottingham**
Thurs 7th Feb – Cornwall	**Thurs 14th Feb - Lincoln**

- **Purpose**
  - Focus on our future business plan (RIIO-ED2)

  - Sessions established stakeholders' high-level priorities and the outcomes they want us to deliver

  - There was an inevitable focus on the future of networks (e.g. becoming a Distribution System Operator) and challenging the status-quo of how we currently do things (e.g. non-traditional business models, flexible services, new incentives/charging arrangements)

  - **Seeking to innovate, we filmed the Birmingham event and will publish the videos online alongside online polling results**

WPD's stakeholder engagement events

- **Format**
  - Four morning workshops in total:
  - Short senior manager presentations (c.15min)
  - Facilitated roundtable discussions (c.25min)
  - Electronic voting (c.5min)

  - Choice of four afternoon "in-depth" surgery sessions
  - Led by senior manager responsible for each area
  - Focus on current action plans and proposals
  - Walk through plans and open discussions

- **Attendees**
  - **A record 330 attended** covering every segment of our customer base

  - Stakeholders mixed on every table to ensure balanced views/debate

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Session 1: Introduction to WPD and our RIIO-ED2 engagement plan

WPD session:

- Why did you attend the workshop?
- Do you want to be involved in our consultation at key points?
- What methods of engagement suit you and the wider stakeholders/customers you represent?
- Are there any key stakeholder groups that you feel it is vital to involve?

Key feedback:

- Many, understandably, were most interested in subjects relating to their roles - e.g. those from more technical background were most interested in DSO transition and many local authority representatives were interested in the growth agenda.

- It was suggested that topic-specific workshops be held on topics such as Electric Vehicles and Community Energy.

- Webinars and online engagement were supported by some stakeholders, especially those from more remote areas, but it was accepted they are limited in terms of their feedback.

- The majority of stakeholders (77%) told us they were keen to be involved in WPDs RIIO-ED2 consultation programme and a number of stakeholder groups whose feedback should be sought on WPDs plans for RIIO-ED2 were suggested.

Proposed actions:

1. **WPD will run local network investment engagement with LEPS and LAs with DMs and planners across our regions**

2. **WPD will engage widely with stakeholders on ED2 programme, particularly at stages 1 (first draft) and 3 (initial submission to Ofgem).**

3. **Ensure more organisations are included in consultations – including commercial customers.**

4. **WPD will expand its education programme to include more engagement with senior schools and colleges to raise our profile with future customers and promote diversity (e.g. through STEM).**

5. **WPD will commission research to explore alternative engagement methods for people who are not internet-savvy.**

Session 2: The RIIO-ED2 framework and your expectations of WPD
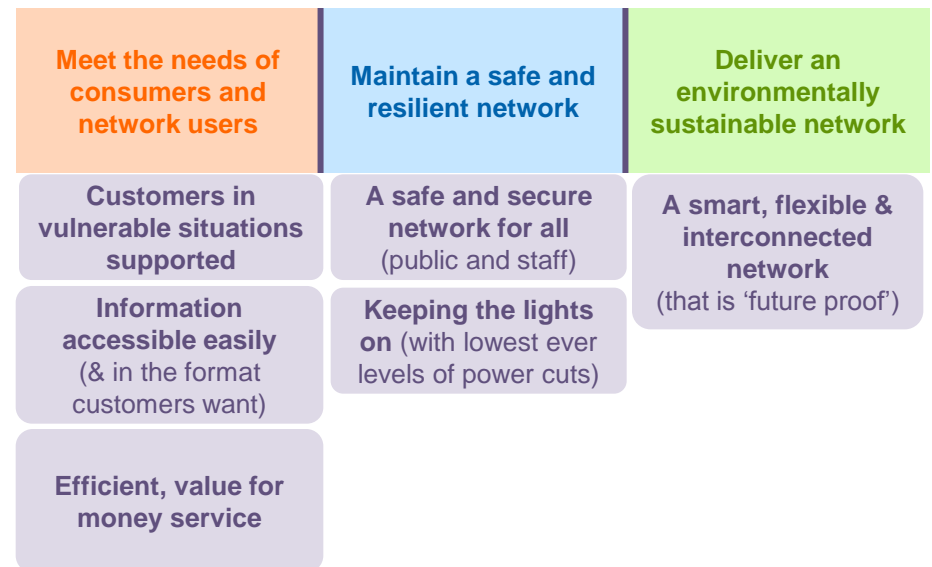
WPD session:
- Covered the six strategic priorities
- Does WPD deliver value for money?
- How should we present the commitments we make to you as stakeholders?

Key feedback:

- Stakeholders were broadly of the view that WPD delivers good value for money for the services it provides (when asked to vote out of on this, the mean score was 7/10).

- The preferred approach from stakeholders, was that the company should develop a pool of outputs stakeholders want it to deliver, structure these within Ofgem's framework, and then promise to deliver any that don't fit as "wider commitments".

Proposed actions:

6. WPD's RIIO-ED2 Business Plan will include the outcomes specified by stakeholders:

Meet the needs of consumers and network users	Maintain a safe and resilient network	Deliver an environmentally sustainable network
Customers in vulnerable situations supported	A safe and secure network for all (public and staff)	A smart, flexible & interconnected network (that is 'future proof')
Information accessible easily (& in the format customers want)	Keeping the lights on (with lowest ever levels of power cuts)	
Efficient, value for money service		

7. Any outputs outside of the six approved stakeholder outcomes will be delivered as "wider commitments".

8. WPD will continue to undertake the Willingness to Pay exercise and include customers' willingness to participate in flexibility services as part of future 'Willingness to Pay' research

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Session 3: Your priorities – outputs for us to deliver

Key feedback:

- Stakeholders were asked to vote electronically on which priority areas were most important to them. The results were (scores out of 10):

Network reliability	8.46
Build a smart network	7.94
Network resilience	7.87
Cyber resilience	7.41
Innovation and new services	7.26
Vulnerable customers	6.83
Whole systems approach	6.82
Connections	6.77
Customer service	6.70
Electric vehicles	6.66
Environment	6.65
Affordability	6.23
Workforce resilience	6.21
Fuel poverty	5.79

Proposed actions:

9. **WPD will maintain the current levels of innovation expenditure and consult annually on our Innovation Strategy.**

10. **WPD will undertake RDP and gas cross sector work through Open Networks WS4.**

11. **WPD will promote existing opportunities available to all customers through flexible power.**

12. **WPD will continue to engage with universities via our commitment to the Power Academy, or when appropriate directly, so as to attract skilled Under and Post Graduate talent to support our ongoing business requirements.**

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Session 4: Being a responsible business: Building a social contract

WPD session:
- To establish what WPD's social contract should contain and how it should be presented.

Key feedback:

- When stakeholders were asked how a social contract should be presented, almost half (49%) were of the view that it should be a separate section in WPD's Business Plan.

- Stakeholders were keen that an independent third party should provide scrutiny.

- Stakeholders felt that KPI's should be included in a social contract to ensure that WPD adheres to it.

Proposed actions:

13. WPD will produce a social contract including elements of the table below:

Industry leading performance	Positive outcomes for customers in vulnerable situations	Community and environmental benefits
Fair prices and returns/profits	Local community investment	A framework for engaging local communities
Clarity on tax affairs and dividend payments to shareholders	Responsible and transparent Board governance arrangements	Transparent mechanisms so customers & stakeholders can influence decisions
Excellent environmental performance	Inclusion of methods for measuring the social impact of activities	Innovation to meet societal challenges (not just reg/technological ones)

Consequences if we fail to deliver on our social contract?

14. The social contract will be scrutinised by the CEG.
15. The social contract will be included within the business plan.
16. KPI's / measurable targets will be attributed to the social contract.

Session 5: Smart future and new possibilities

WPD session:
•Covered DSO strategy, scenario based forecasting, flexibility, electric vehicle readiness and electrification of heat

Key questions we asked customers:
•How likely are you to participate in flexible services?
•How likely are you to replace your boiler/purchase an Electric Vehicle?

Proposed actions:

17.WPD will create a map illustrating how we are building a smarter network by providing examples of how customers are using offerings such as flexible power and EV charge points, for example.

Key feedback:

▪ Many stakeholders said they would be interested in participating in flexibility services.

▪ Stakeholders expressed that certain commitments, such as the number of new connections made, the number of EV charge points installed and progress on the rollout of flexibility services should be published on the WPD website, with maps to make this information as accessible as possible.

▪ There was little appetite from stakeholders for buying a renewable energy heating system such as a heat pump although many stakeholders could see themselves buying an electric vehicle.

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Key actions in response to surgery feedback:

Connections
- Publicise more information on innovation in connections internally and externally.
- Continue to engage with community groups.
- Produce and publish online a guidance document to navigate customers through the connections application process .

EV's and wider innovation
- Undertake at least 1 EV workshop in each of the 4 licence areas to guide, educate and inform stakeholders of progress.

Network charging
- Publish information on unit charges and how a generators location impacts charges.

Consumer vulnerability
- Commission a project working with PSR customers on the smart meter rollout.
- Promote more widely the work we do / have done to identify areas with a high concentration of vulnerable customers.
- Pilot a project to engage customers with mental health issues.

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DSO Strategy, Innovation and EVs:

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Nigel Turvey
DSO and Future Networks Manager, WPD

DSO Strategy

Agenda

- Drivers for change

- What is a DSO

- Our vision and structure – facilitating a neutral market

- Our DSO Strategy

- Scenario planning

- Flexibility

- Future services

- Signposting future requirements

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Drivers of change - general

- Climate change and international agreements on reducing carbon emissions

- EU and UK binding targets – to be delivered through renewable Distributed Generation (DG), Electric Vehicles and Renewable Heat

- Rapid changes in GB generation - Much greater levels of Distributed Generation and community energy

- Rapid changes in technology, demands for open data and consideration of whole system issues

- Significant uncertainty over the pace of change

- Often summarised as the 4 'D's – Decarbonisation, Decentralisation, Digitisation and Democratisation

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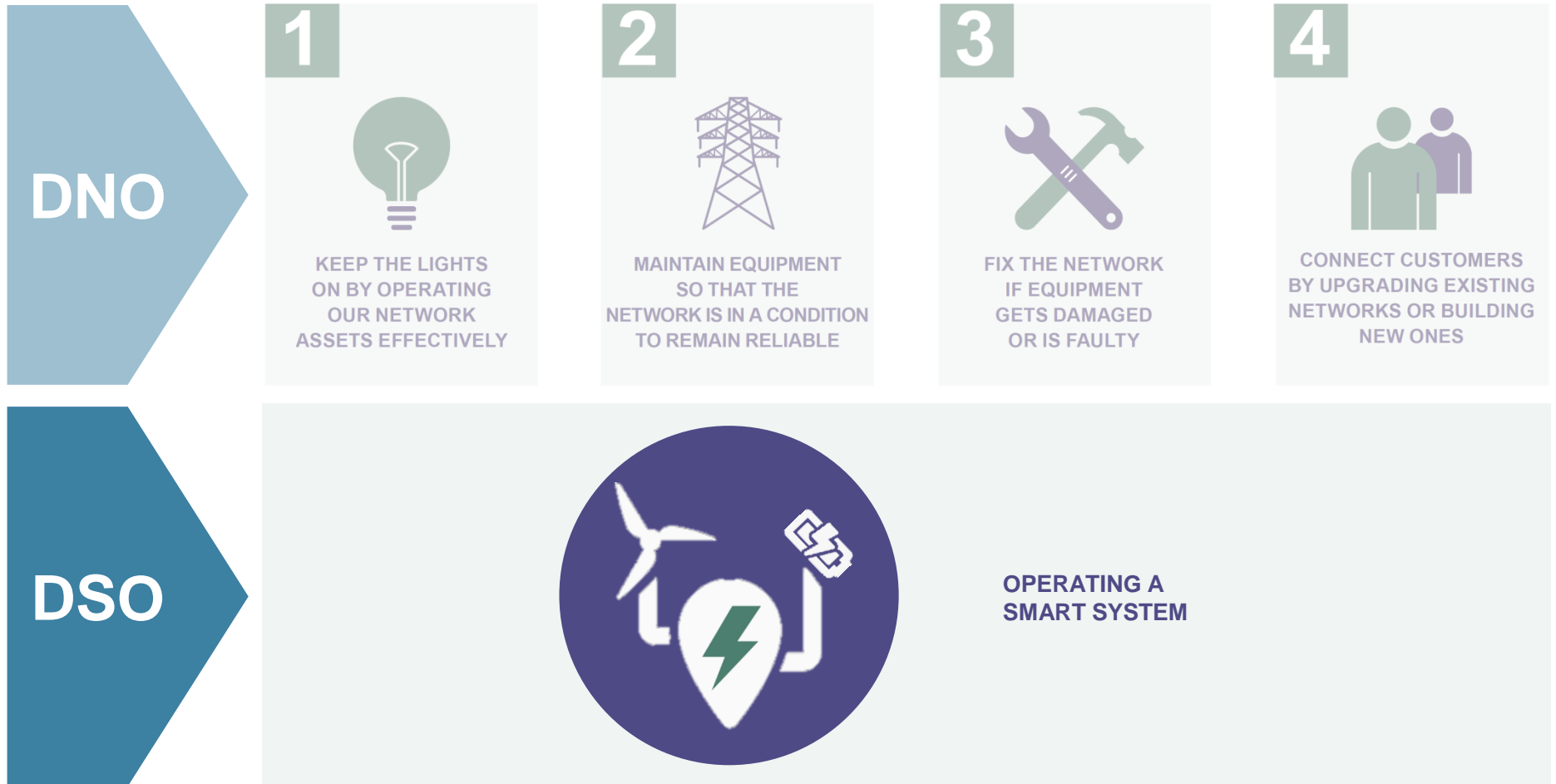*Serving the Midlands, South West and Wales*

Drivers for change – Regulatory/Political

- Governments Industrial Strategy
- BEIS/Ofgem – Smart System and Flexibility Plan
- Speech by Secretary of State Greg Clarke (Nov 2018)
  - *'How to evolve natural monopoly regulation that allows any credible supplier - be it Tesla, Nissan, Siemens, Rolls Royce, DeepMind or some brand new start-up - to help reduce system costs is one of the big challenges facing us. That is the challenge for today's regulators.'*
  - *'The principle of making sure that there is no conflict of interest between the network equipment owner and the network operator is very important. Distribution companies are currently taking action to resolve their conflicts of interest, but we need to accelerate reform. Network companies need to satisfy the public that they are structured in such a way as to provide infrastructure at the lowest cost.'*
- CEER conclusions paper
- Ofgem/BEIS support for ENA Open Networks Project

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High Performing DNO

- WPD has a long track record of using innovation to be more efficient
- We will build on this as we take on additional roles within the energy system

DNO

1 KEEP THE LIGHTS ON BY OPERATING OUR NETWORK ASSETS EFFECTIVELY

2 MAINTAIN EQUIPMENT SO THAT THE NETWORK IS IN A CONDITION TO REMAIN RELIABLE

3 FIX THE NETWORK IF EQUIPMENT GETS DAMAGED OR IS FAULTY

4 CONNECT CUSTOMERS BY UPGRADING EXISTING NETWORKS OR BUILDING NEW ONES

DSO

OPERATING A SMART SYSTEM

DSO Vision

- Facilitate the transition to a low carbon economy
- Enhance system security
- Keeping network costs down and facilitating third party flexibility access to national and international markets
- Facilitate quicker and lower cost connections
- Trusted by all parties as a neutral market facilitator

- Our focus areas are:
  - Using third party flexibility where economic compared to asset solutions
  - Whole system solutions in both planning and operating timescales
  - Open data wherever possible

DSO Structure

- To address both the expanding DSO activity and the perceptions around the potential conflicts of interest between asset solutions and use of third party flexibility we have separated DSO activities into a separate management structure

- Our DSO and Future Networks area will be responsible for:
  - development of future energy scenarios
  - identification of future network capacity needs
  - assessment of whether third party flexibility is more economic than traditional asset solutions
  - contracting for flexibility where economic along with development of flexibility products and where appropriate, markets
  - Working with the ESO to develop whole electricity network solutions to capacity, voltage or fault level issues
  - the development and implementation of operational and SCADA systems to support a smart flexible electricity network, and
  - the associated data, strategies, policies and innovation activity

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                          │  Operations Director │
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                     │  DSO and Future Networks Manager   │
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Operations Director

DSO and Future Networks Manager

Network Strategy	Connections Policy	DSO Development	DSO Systems and Project Manager
- DFES (1) - EHV planning data - Identification of EHV capacity needs - Assessment of asset vs flexibility solutions at EHV - Flexibility tendering/ procurement - DSOF (2) - SoW(3) - Grid Code data	- Connections policy - Connection agreements management - ICE (4) plan management - CiC code management	- DSO strategy/ communication - Smart grid policy - EV strategy/ policy - Smart metering strategy/ policy - Losses strategy/ policy	

DSO Systems and Project Manager branches into:

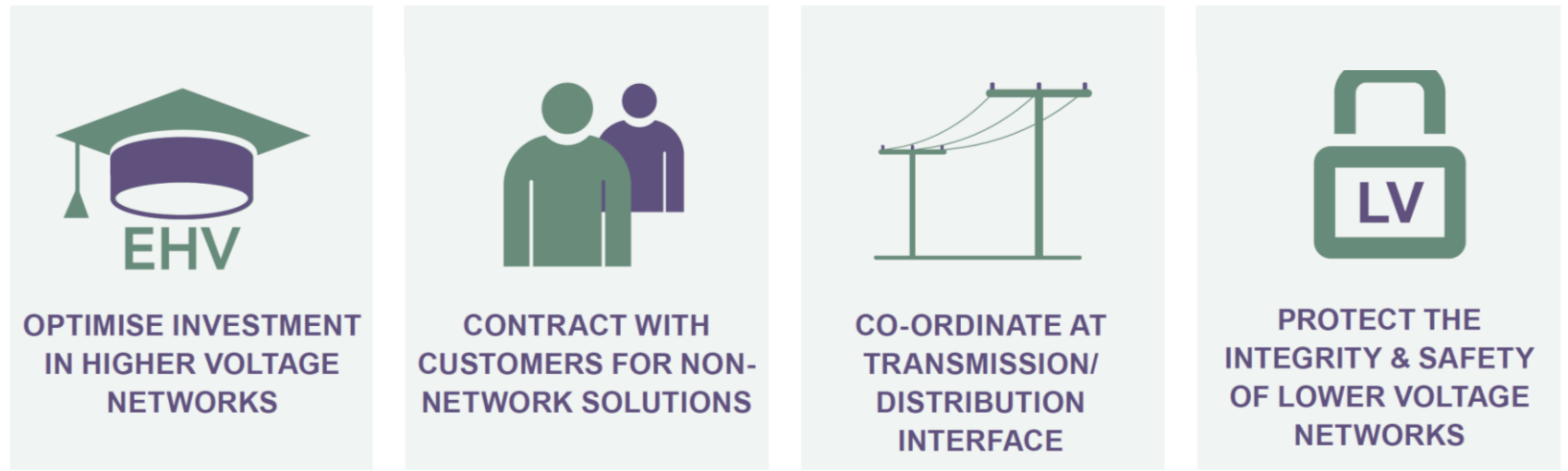| DSO Tech Support TM	Innovation TM
- Power ON support and development including operational data	- Innovation strategy - Delivery of innovation projects

(1) Distribution Future Energy Scenarios
(2) Distribution System Operability Framework
(3) Statement of Works
(4) Incentive on Connections Engagement

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DSO Strategy

We have published our DSO Strategy

- It outlined our four key focus areas for DSO implementation and our plan to achieve them

- We highlighted key enablers in monitoring, control & automation, communications and data systems to enable us to be a high performing DSO

EHV
OPTIMISE INVESTMENT IN HIGHER VOLTAGE NETWORKS

CONTRACT WITH CUSTOMERS FOR NON-NETWORK SOLUTIONS

CO-ORDINATE AT TRANSMISSION/ DISTRIBUTION INTERFACE

LV
PROTECT THE INTEGRITY & SAFETY OF LOWER VOLTAGE NETWORKS

- We consulted on this approach and updated our plan based on feedback
- **We are the only DNO to have provided a costed DSO implementation plan**

www.westernpower.co.uk/our-network/strategic-network-investment/dso-strategy

DSO Strategy

There are a number of key challenges within the energy transition which our DSO strategy addresses:
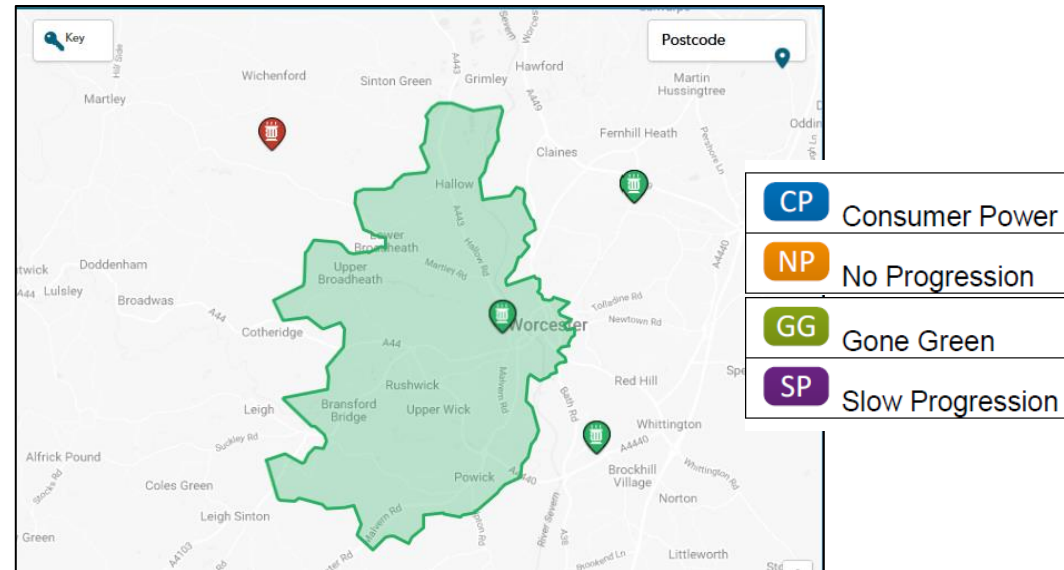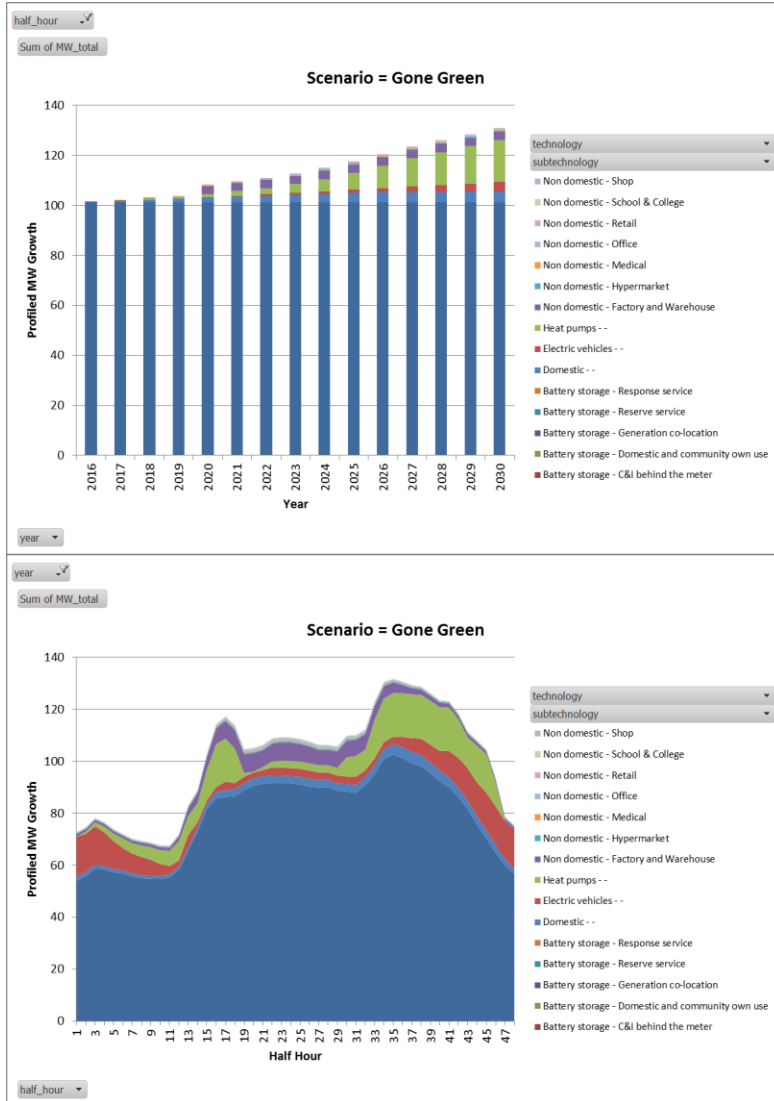
A smarter, more flexible energy system will enable customers to be able to actively participate in new flexibility markets through a variety of pathways.

Flexible power tenders

ANM by 2021

Electric Nation & EV strategy

Regional Development program & TERRE

RoCoF Protection

9.9GW connected

RDP, RoCoF & ENA Open Networks

Signposting & flexible power tenders

Regional Future Energy Scenarios

Cornwall Local Energy Market

Scenario Based Forecasting

Since 2016, WPD has been using scenario based forecasting to build a regional picture of demand, generation and storage uptake

We have built a bottom-up understanding of demand, generation and storage growth out to 2032 across 260 individual zones within our region and share this information.

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What does flexibility look like?

Generation turn up or turn down

Demand turn up or turn down

Shifting consumption forwards and backwards

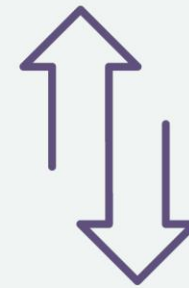**Storing energy for later consumption**

Flexibility First

WPD has always used the flexibility inherent in its networks to provide an economic and secure supply ahead of undertaking conventional reinforcement

- We are now expanding this to include market-provided flexibility and will seek this in the areas triggering load related reinforcement within ED1

126	**Primary substations with flexibility needs**
1.3 GWh	**Energy sought from flexibility in 2018**
18	**Flexibility zones tendered in 2018**

Throughout the rest of ED1 we will assess 90% of our load related reinforcement investment for a more economic delivery by flexiblity services.
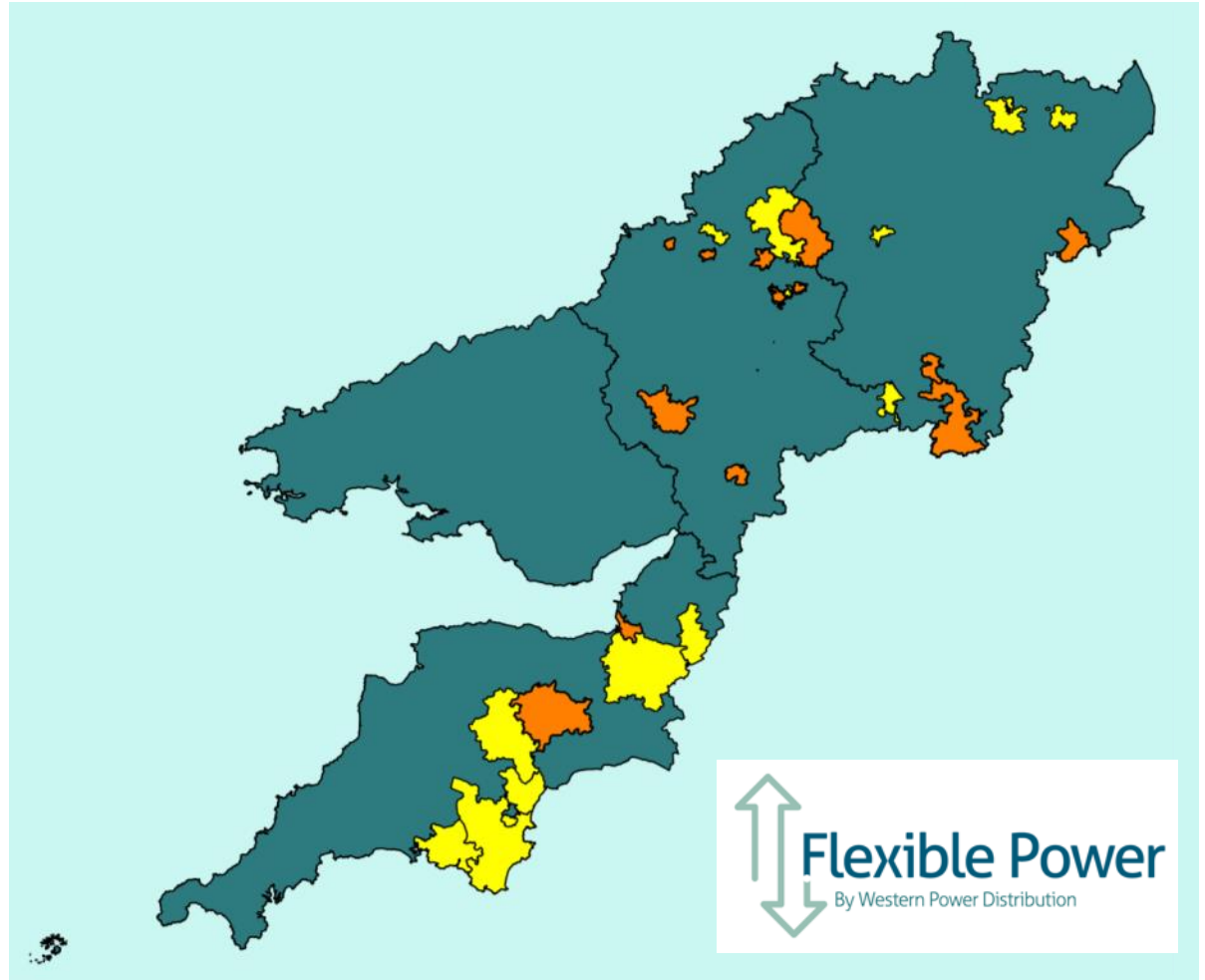
90%

LRR investment asessed against Flexibility

For the remaining 10%, which is predominately at LV, we will continue to develop, test and evaluate other markets.

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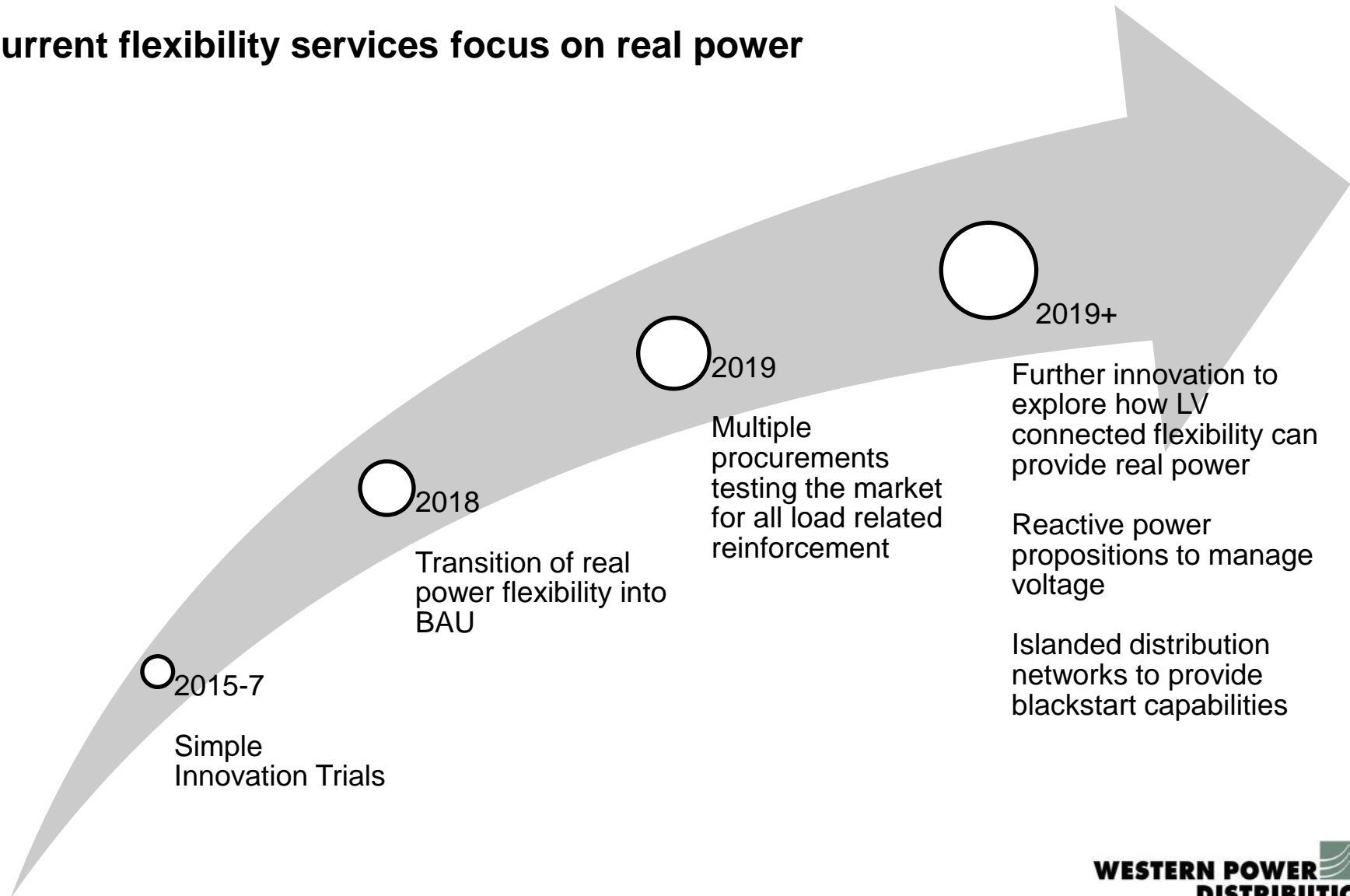
Procurement in 2019

- 12 constraints across 80 primary substations

- 93.4MW required

- ITTs out for March

- To operate over the summer and winter of 2019

- Affects over £25m of reinforcement

- Second round in July/August

- Additional zones signposted with future requirements over 5 years

Future Flexibility Services

Current flexibility services focus on real power

2015-7
Simple
Innovation Trials

2018
Transition of real
power flexibility into
BAU

2019
Multiple
procurements
testing the market
for all load related
reinforcement

2019+
Further innovation to
explore how LV
connected flexibility can
provide real power

Reactive power
propositions to manage
voltage

Islanded distribution
networks to provide
blackstart capabilities

Flexibility – Learning by doing

After agreeing the principles of approach with Ofgem, we will begin using flexibility to provide quicker and more efficient options for new connections. This approach will be piloted in Lincoln to develop new commercial arrangements.

Flexibility can provide alternatives to reinforcement and benefits to the whole electricity system

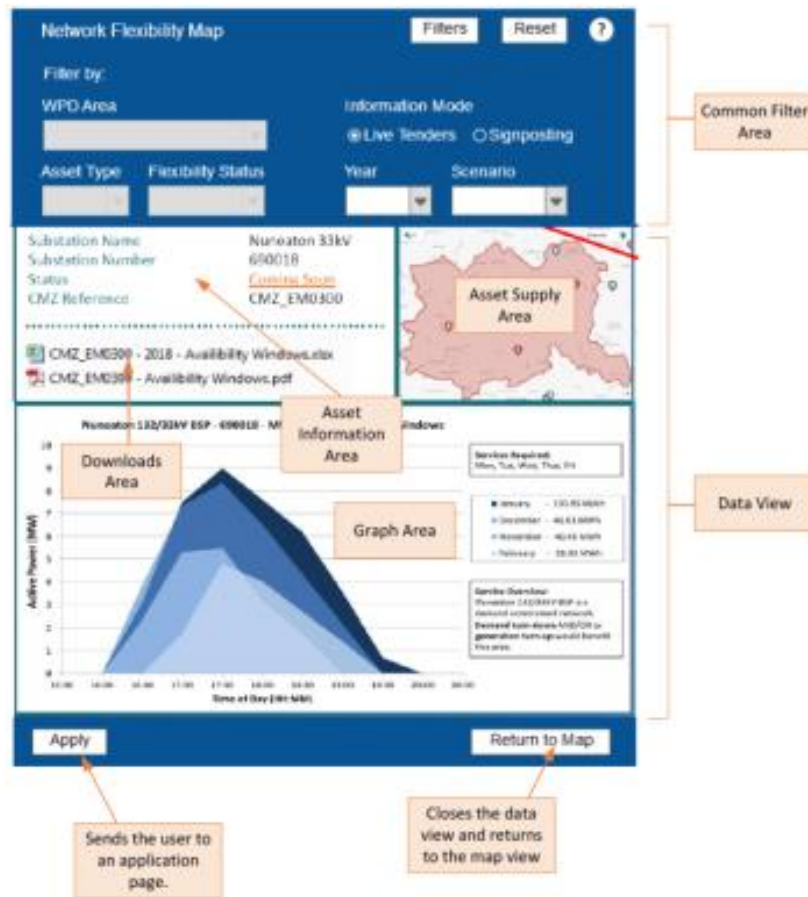| Generators seeking connections	Demand seeking connections	Storage seeking connections	Flexibility providers seeking a revenue

Flexibility can be shared across the transmission boundary to access National Markets

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Signposting

To inform flexibility markets of our requirements both now and into the future, we have committed to publishing "signposting" information which describes the constraints triggering any significant load related reinforcement

Using a similar functionality to our network capacity map, our network flexibility map is publically available on our website:

www.westernpower.co.uk/signposting

This displays information on:

- Geographic supply area
- MW peak and length for availability
- Estimated MWh utilisation
- Months/days/hours applicable
- Raw data downloads
- Four Industry-aligned future energy scenarios
- 5 year window

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Whole System Work to date

- Regional Development Programme in S West
- Loss of mains vector shift protection changes in S West
- Roll-out of 'Appendix G'
- RDP in West Midlands
- ESO Reactive power requirements in S Wales
- FREEDOM project
- Distribution system operability framework published
- Open Networks work:
    - to expand ESO NOA process
    - to develop whole system process
    - on 'Future Worlds'

Regional Development Plan
South West Peninsula
Technical Report

27th April 2018

Alan Minton – National Grid
Ben Godfrey – Western Power Distribution

Freedom Project
Final Report

October 2018

DSOF Topic	Assets	Network Operations	Customers
Introduction, background and supplementary information	√		
Network modelling and Analysis	√	√	√
Network Monitoring and Visibility	√	√	
Data and Forecasting	√	√	√
Arc Suppression Coils	√	√	
Low Frequency Demand Disconnection	√		√
Flexibility Services	√	√	√
Power Quality	√	√	√
Loss of Mains Protection		√	√
Changing Load Profiles	√	√	√
Whole System Fault Level **NEW FOR 2019**	√	√	

The Voice of the Networks

ena
energy networks association

Open Networks
Future Worlds

Developing change options to facilitate energy decarbonisation, digitisation and decentralisation

31 July 2018

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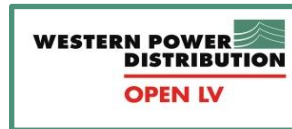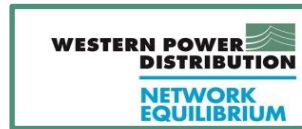
Innovation

Agenda

- Innovation objectives

- Portfolio of projects

- Focus on:
  - Demand side response
  - Electric Vehicles
  - Storage

Innovation Objectives

- The objectives of WPD's innovation programme are to:

  - Develop new smart techniques that will accommodate increased load, storage and generation (Distributed Energy Resources – DER) at lower costs/quicker connections than conventional reinforcement
  - Facilitate regional and local energy markets; including local flexibility services
  - Improve business performance against one or more of our core goals of safety, customer service, reliability, the environment or cost effectiveness.
  - Ensure solutions are compatible with the existing network
  - Deliver solutions so that they become business as usual
  - Provide long term, whole system outcomes and value for money for consumers
  - Assist the UK to reduce carbon emissions and combat climate change

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WESTERN POWER DISTRIBUTION — EFFS

WESTERN POWER DISTRIBUTION — NETWORK EQUILIBRIUM

WESTERN POWER DISTRIBUTION — OPEN LV

WESTERN POWER DISTRIBUTION — SMART ENERGY ISLES

WESTERN POWER DISTRIBUTION — PLUGS AND SOCKETS

Future Networks Programme

Assets

- Management of distribution assets
- Exploitation of asset & network information
- Developing Smart Grid Technology

Customers

- Distributed Generation
- Connecting Electric Vehicles
- Adopting Battery Storage
- Facilitating Flexibility

Operations

- Maintaining Reliability
- Strategic Forecasting
- Transitioning to DSO
- Operational Efficiency

Network and Customer Data

Network Improvements and System Operability

- Improved Statistical Ratings for OHL
- DEDUCE
- Primary Networks Power Quality Analysis
- Stochastic Load Flow
- Visual Data Processing
- Network Islanding
- Common Information Model
- Harmonic Mitigation
- Virtual STATCOM

Transition to a Low Carbon Future

- Heat & Fleet
- Virtual Telemetry
- Solar Storage
- LV Connect & Manage
- FREEDOM
- Electric Nation
- Industrial & Commercial Storage
- Hydrogen Heat & Fleet

New technologies and commercial evolution

- MVDC
- Next Gen Telecoms
- OHL Power Pointer
- Entire
- LV Fault Location
- On-street EV Charging
- Smart Energy Isles
- Visibility Plugs & Socket
- DEDUCE
- MADE

Customer and Stakeholder Focus

- Power Electronic FLM
- Power Electronic FCL
- Self System Design
- New Build Standards
- LCT Response
- Carbon Portal

Safety, Health and Environment

- Simulated Training
- SF6 Alternatives
- Robot Trades
- LV Sensitive Earth Fault Protection
- Wildlife Protection
- Losses Investigation
- Advanced Vegetation Management
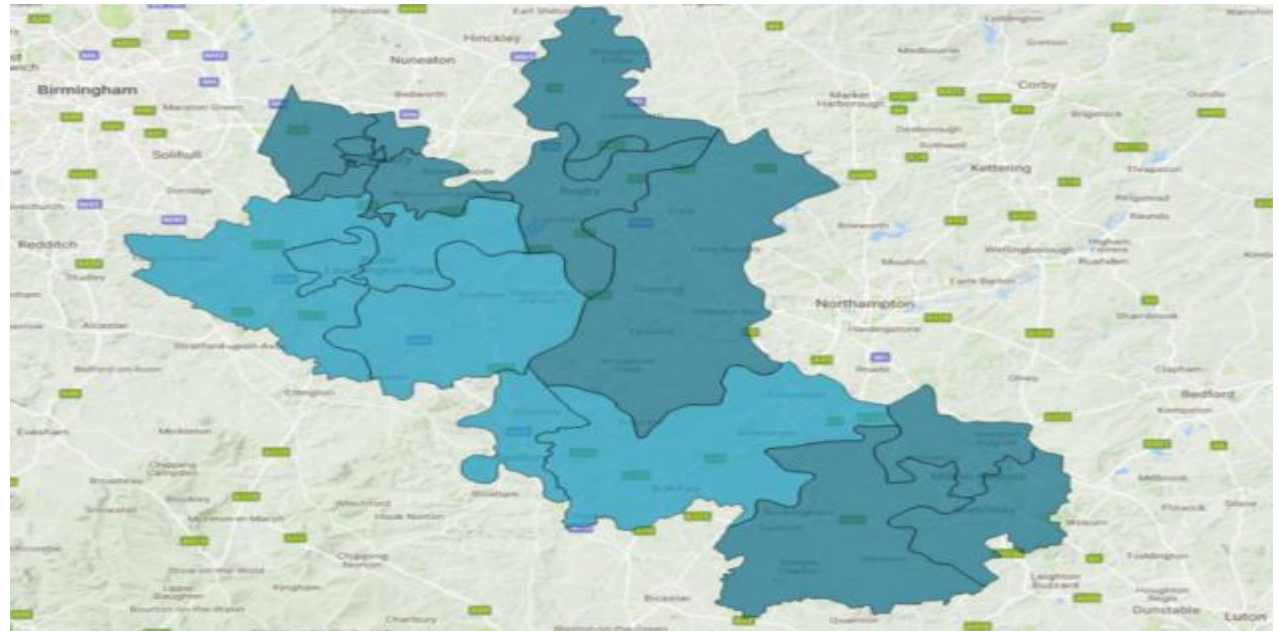
Demand Side Response – Local Energy Markets

WPD continues to be at the forefront of trialling new energy supply and flexibility models:

- Cornwall Local Energy Market with partners Centrica
  - Developing flexibility requirements and procuring through an eBay style platform
- Smart Energy Isles with partners Hitachi
  - Supporting the connection of distributed renewable energy solutions across the Isles of Scilly
- Localised Community Energy demonstrators
  - SoLa BRISTOL
  - Community Energy Action "Less is More"
  - Sunshine Tariff for Wadebridge
- Project ENTIRE – Development of up to 200MW of DSR services in the East Midlands to support economic and housing growth

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Demand Side Response – Project Entire

Flexible Power
By Western Power Distribution

- In WPD's East Midlands licence area
- 14 Constraint Management Zones (CMZ)
- Branded and marketed as "*Flexible Power*"
- Expressions of Interest now closed.
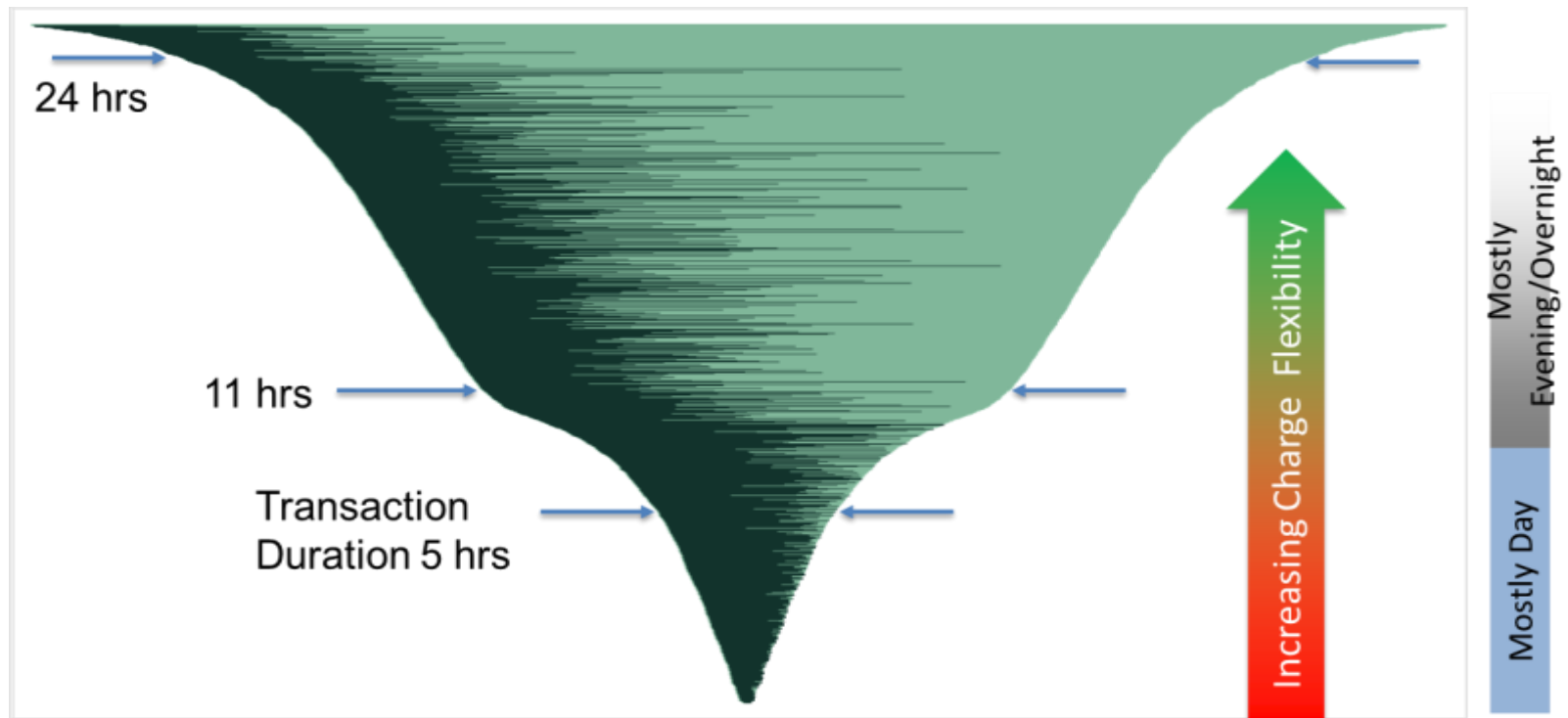- Contract negotiations proceeding in 11 zones

INTRODUCING: ELECTRIC NATION

- World's largest Plug-in Vehicle trial consisting of 500-700 vehicles
- Participants receive free smart charger
- The networked smart charger enables WPD to adjust the energy flow to each vehicle, allowing us to examine the impact of a range of different charge rates upon the network
- This will allow us to assess solutions which could avoid network reinforcement
- We are also assessing the viability of vehicle-to-grid technology
- The project also investigates how customers respond to delays in vehicle charging or changing the charging rate

Electric Nation: Early results –
Real world charging behaviour

Development of connection options for Energy Storage

Through Innovation projects we have tested grid scale and DNO owned storage – concluding:

– our Scenario Investment Model has never selected storage as a grid scale solution due to cost

– Often much lower reliability than traditional grid assets or other smart solutions

… but behind the meter will makes sense for some customers.

- Solar Storage
    - Connections and Services from Grid Scale Battery Storage
- I&C Storage Project
    - Connections options and Flexibility for I&C customers with behind the meter storage
- Connect and Manage Project
    - Connection options and management of domestic low carbon technologies
- Electric Nation – Project
    - Including Vehicle to Grid

Electric Vehicles

Agenda

- Forecasts and the changing horizon

- WPD's Electric Vehicle Strategy document

- Engagement on Electric Vehicles with Local Authorities

- Innovation Projects

- Planned changes to design standards
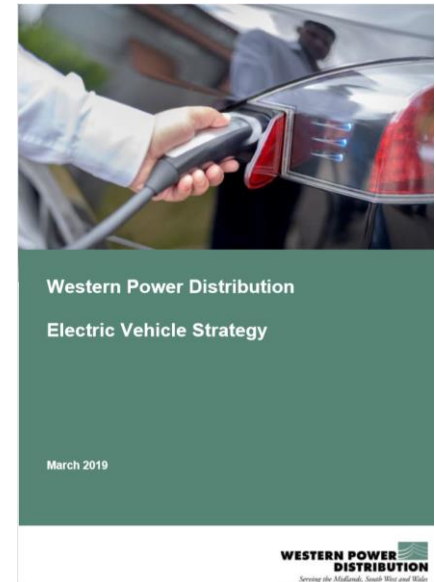
Forecasts and the changing horizon

	SOUTH WEST	SOUTH WALES	WEST MIDLANDS	EAST MIDLANDS
Now	7,000	2,500	12,000	7,000
2030	815,000	255,000	995,000	785,000

- In simple terms, each Electric Vehicle uses the same kWhs of energy per year as a standard domestic home.

- The What Car "Car of the Year" for 2019 being the Kia e-Niro and it being described as "sensibly priced" and will "fit into most people's lives".

- We also predict price parity in 2021 or 2022 and a step change in car ownership.

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Electric Vehicle Strategy Document

- Our first Electric Vehicle strategy document has been published. It includes:

  – Our forecasts and assumptions

  – Technical considerations

  – Stakeholder Engagement

  – Our plans to support connections

  – Innovation Projects

  – Transitioning to Business as Usual

Western Power Distribution
Electric Vehicle Strategy

March 2019

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- We are planning to create shorter customer-specific documents for the different stakeholders involved with Electric Vehicles and have a targeted social media campaign to enhance visibility.

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Engagement with Local Authorities

- During 2018 we saw an increase in interest from Local Authorities who were planning to support Electric Vehicle deployment. Government grants have become available to help them with infrastructure.

- We held two Local Authority stakeholder Electric Vehicle events (Bristol & Birmingham) in November with 130 participants.

- Since the Electric Vehicle event we have revised our guidance to LAs based on their feedback and comments.

- We are planning innovation projects which will help LAs deliver charge points in an efficient way

Future Innovation Projects

- We are planning projects to cover a wide range of Electric Vehicle charge installations and use models

    – Electric Vehicle filling stations

    – On street charging

    – Smart Homes – Electric Vehicle and storage

    – Connect and Manage

    – Self Assessment

    – Hub Charging

Planned changes to Design Standards

- Coming out of the innovation projects we expect to see a range of changes to our design standards.

- During 2019 we expect to;
  – Change the design minimum for service cables
  – Change our design capacity assumptions for housing

- During 2020 we expect to;
  – Develop a Hub solution to support multiple public charging points
  – Deliver Connect and Manage equipment for hotspots

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RIIO-ED2 plan development:

Paul Branston

Regulatory and Government Affairs Manager, WPD

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Delivering a social contract:

Sharon Darcy

Sustainability First

Consumer engagement:

Caroline Farquhar

Citizens Advice

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Consumer engagement in network companies
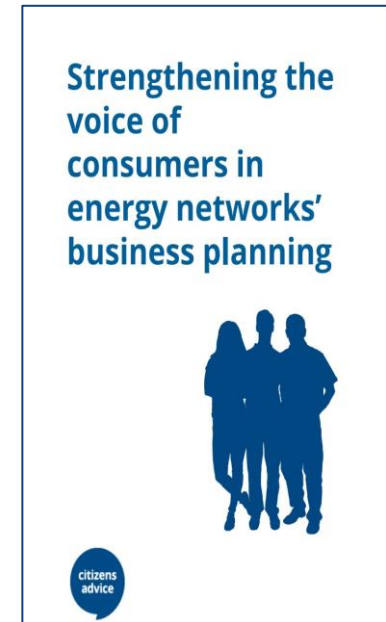
citizens advice

Strengthening the voice of consumers

2018 Citizens Advice research

- Specific research commissioned with upcoming RIIO-2 price control process in mind. Published May 2018 - available on CA website

- Looked at how domestic and small business consumer voice could best be strengthened in business planning

Strengthening the voice of consumers in energy networks' business planning

citizens advice

Findings on network companies' engagement for RIIO-1

- Understood topics relevant to consumers
- Mapped stakeholders and customer segments
- Engaged on reliability, service standards, prices, low carbon technologies
- Established stakeholder panels

Led to:

- Improved Business Plans
- Improved support during supply interruption
- Better communication during infrastructure work
- Better support for consumers with vulnerabilities

But… more needed to be done

- Bulk of current engagement practice was 'inform' and 'consult' levels
- Very few companies used higher levels of engagement such as 'involving' and 'collaborating'
- Amount of engagement had increased but not deep enough for complex problems

Recommendations:

- Use full spectrum of levels
- Make space - via direct engagement, stakeholder panels, challenge groups
- Demonstrate how engagement leads to better consumer outcomes

Levels of engagement - 1 to 3

Inform - website, direct mail, media campaigns
"We will keep you informed"

Consult - surveys, consultations, focus groups
"We will inform, work with you to acknowledge concerns, be open to your influence, & should feed back how input has influenced outcome"

Involve - focus groups, deliberative workshops, Citizens Assemblies
"We will inform, ensure that your concerns are directly reflected in alternatives developed, & will provide feedback on how input has influenced outcome"

Levels of engagement - 4 to 5

Collaborate - stakeholder groups, Citizens Juries
"We will look to you for advice and innovation in formulating solutions. We will incorporate your advice into the decision-making process to the maximum extent possible."

Empower - negotiated settlements, participatory budgeting
"We will implement what you decide".

When to use which level

Deliberative methods - Involve (level 3) and Collaborate (level 4)

- For complex, long term, or contentious issues - societal debates
- Gives participants longer to understand issues, discuss in-depth, come to a considered view, look at trade-offs
- Discussion, clear task, purposed group. Done early in process.

Oxford City Council Citizens Assembly to discuss climate change (Apr 2019)

- Randomly selected
- To discuss carbon targets - looking to develop policies on housing and transport

Questions for the CEG

- Is WPD engaging with the right people and organisations?
  - Who are the customers? Bill-payers, households, businesses, developers? Hard to reach customers?
  - Who are the other relevant stakeholders? Environmental impact, social/economic aspects, devolved Government, councils, community groups, employees? Just local? National?
  - How are future consumers considered?
- Is WPD engaging at the right level?
  - Is WPD using the appropriate level for the type of issue, especially for long term, uncertain topics, or where conflicts arise?
  - Is WPD using engagement to help with trade-offs?
- How is the various engagement triangulated and verified?

Thank you

Caroline Farquhar, Senior Policy Researcher

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Role of the CEG and practical considerations

Duncan McCombie

CEG Chair

Challenge definition

April 2019

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Preface: Customer Engagement Group strategy

Mission	**Be the best CEG**
Supporting objectives	**Relentless focus on customer impact** — **Target only high-priority challenges** — **Learn from, then redefine, best practice**
Actions	Define a methodology to evaluate the impact of the CEG — Agree clear definition of what is and isn't a challenge — Undertake an independent benchmark of other industries

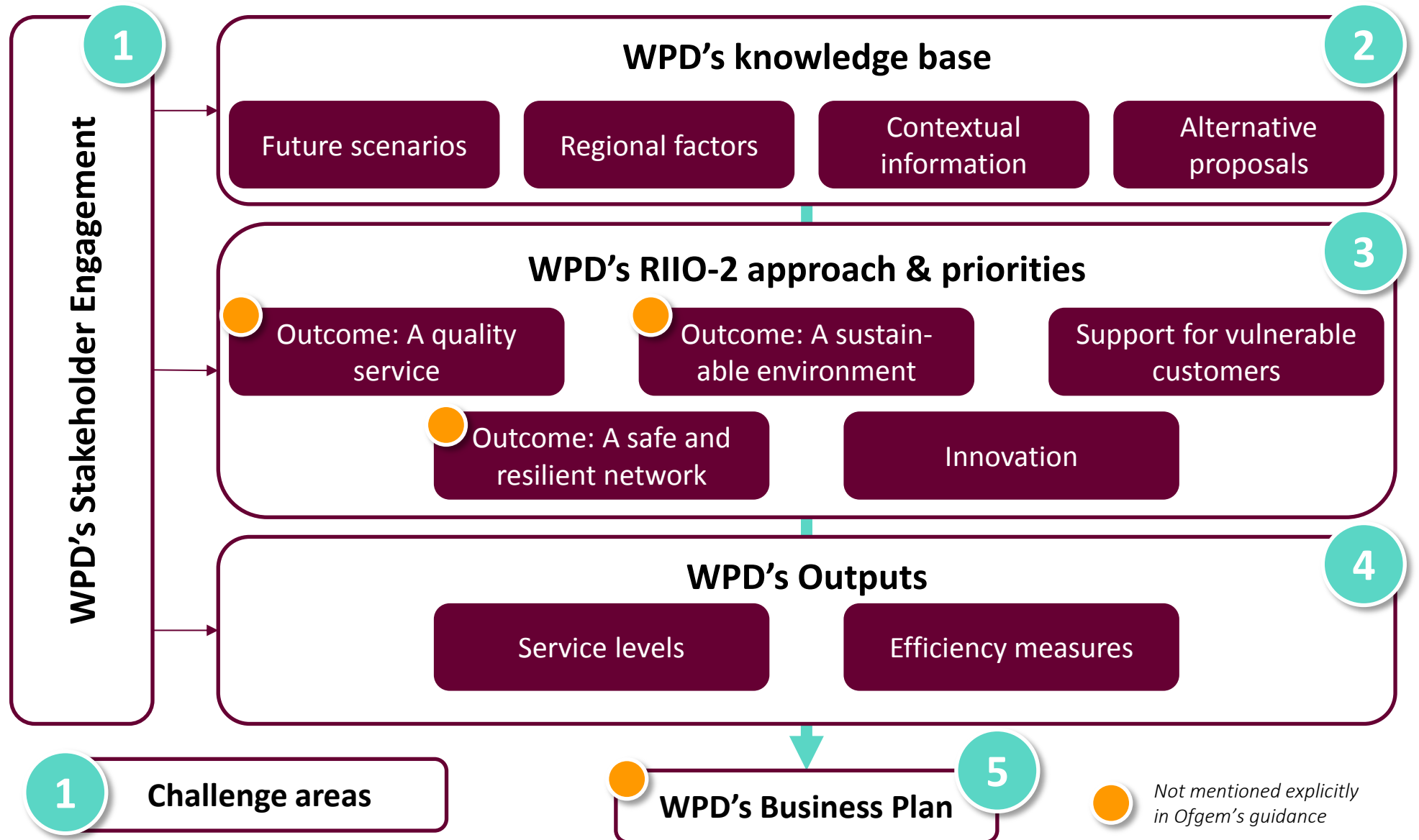# The definition of a Challenge – why is this important

The need to clearly define the concept of a challenge came from our early engagement with Water CCGs and Gas CEGs. Our findings included:

- Groups from both industries struggled with maintaining a focus on topics that directly impacted the customer.
- Likely as a result of the above, and the wide range of topics covered, groups inflicted significant pressure on their respective companies, leading to large amounts of internal work.

In summary, the goals behind delivering a standard definition are:

- Maximise the time spent on key topics, focusing the CEG's attention on where it can benefit the customer the most.

- Minimise (or eliminate) WPD time spent on responding to lower priority challenges, increasing the quality of their response in other areas.

- Maximising the positive impact the CEG has on the process as a whole.

What topics should be challenged?

WPD's Stakeholder Engagement

1 **WPD's knowledge base**
- Future scenarios
- Regional factors
- Contextual information
- Alternative proposals

2

3 **WPD's RIIO-2 approach & priorities**
- Outcome: A quality service
- Outcome: A sustainable environment
- Support for vulnerable customers
- Outcome: A safe and resilient network
- Innovation

4 **WPD's Outputs**
- Service levels
- Efficiency measures

1 Challenge areas

5 **WPD's Business Plan**

● Not mentioned explicitly in Ofgem's guidance

How should these topics be challenged? Four key questions.

To focus the CEG's attention on the critical elements of each topic, and stay true to the specific remit of the CEG, we have identified four key questions that will deliver effective challenges.

What sources have you based your proposal on?

- Research? Benchmarking? Engagement?

Why are these the right sources?

- Credibility? Coverage? Level of detail?

How did you reach a conclusion?

- Synthesis of feedback? Differing opinions? Weightings?

How have you tested your conclusion?

- Validation process?

The CEG is not here to challenge the specific content of WPD's business plan, rather the method of arriving at the answer. Challenges should therefore focus on these areas. If WPD presents a proposal, and all four of these questions can be answered satisfactorily, there *should be no cause for challenge*.

How should these challenges be structured?

A challenge should point to **a specific need**. It should not provide the solution, however it should provide the **opportunity for WPD to define and deliver the solution**. The CEG is a challenge group, not an advisory group, and challenges must be structured so as to make this distinction clear.

Three examples:

#	Challenge	Good / Bad?	Why?
1	You haven't engaged with customers from region X	✘	A problem, not a need
2	Engage with customers from region X	✘	No opportunity for WPD to define the solution – advisory
3	I challenge WPD to increase the coverage of regional interests that have been represented through engagement	✔	A clear need, with a clear ask for WPD to provide a solution

Overview

(1) **Does the challenge relate to one of the (5) target areas?**

(2) **Does the challenge stem from one of the four key questions?**

(3) **Does the challenge highlight a clear need, and provide WPD the opportunity to deliver a solution?**

If the answer is yes to all three questions, this should be considered a valid challenge and be recorded in the challenge log as per the CEG decision tree.

Wrap up and reflections on the day

Duncan McCombie

CEG Chair

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