Stakeholder engagement workshops

January/February 2017

Welcome

Today's format:

- A quick overview of WPD

- Three morning sessions following a similar format:

  WPD presentation ➔ Round-table discussion ➔ Electronic voting

- Choice of 3 afternoon surgeries – on detailed topics

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Clear plan to avoid a talking shop

Agenda:

1. **WPD's Business Plan reporting**

2. **Long-term strategic priorities**

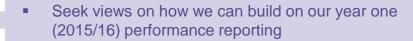**3.** **Spotlight on two WPD strategic priorities**

3A: Future networks

3B: Environment & sustainability

4. **Choice of specific surgeries:**
- *Connections & Distributed Generation*
- *Social obligations* (vulnerability and fuel poverty)
- *Emergency resilience*

Objectives:

- Seek views on how we can build on our year one (2015/16) performance reporting

- Review our nine existing long-term priorities
- Help identify improvement levels you value the highest for accelerated delivery

- Consult on WPD's strategy for future of electricity networks (DSO) and review current key actions
- Seek views on WPD's Data Privacy Plan for smart meters

- Present our 2015/16 delivery and reporting
- Consult on options for new developments/initiatives

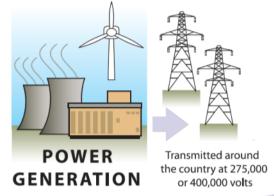- Consult on priorities and current action plans in each area

Housekeeping

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Western Power Distribution

Serving the Midlands, South West and Wales

Introducing WPD

Alex Wilkes
Stakeholder Engagement Manager

Who we are

POWER GENERATION

Transmitted around the country at 275,000 or 400,000 volts

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GSP

Large Sub-Station 132,000 volts

Primary Sub-Station 33,000 volts

Distribution Sub-Station 11,000 volts

Electricity Meter

SUPPLY

The Customer (7,800,000 customers) 230 volts

What we do

- "DNO" = Distribution Network Operator

- Four key tasks:

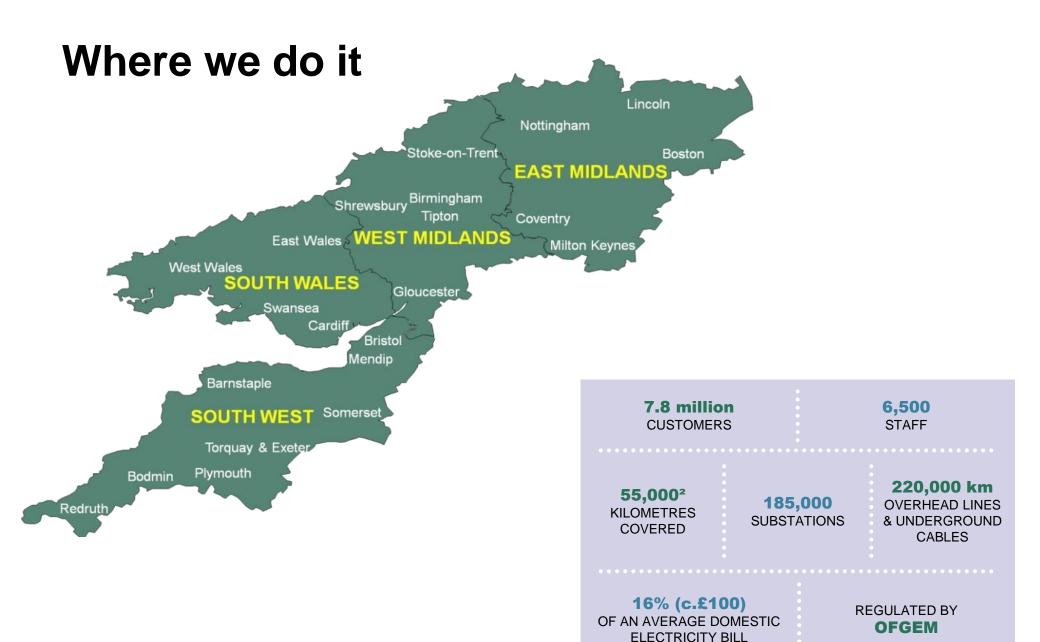| **Keep the lights on**	**Maintain equipment**	**Fix the network**	**Connect customers**
by operating our network assets effectively	so that the network is in a condition to remain reliable	if equipment gets damaged or is faulty	by upgrading existing networks or building new ones

Safety

Where we do it

Map showing regions: EAST MIDLANDS (Lincoln, Nottingham, Stoke-on-Trent, Boston), WEST MIDLANDS (Shrewsbury, Birmingham, Tipton, Coventry, Milton Keynes), SOUTH WALES (East Wales, West Wales, Gloucester, Swansea, Cardiff, Bristol, Mendip), SOUTH WEST (Barnstaple, Somerset, Torquay & Exeter, Plymouth, Bodmin, Redruth)

7.8 million CUSTOMERS	**6,500** STAFF
55,000² KILOMETRES COVERED	**185,000** SUBSTATIONS **220,000 km** OVERHEAD LINES & UNDERGROUND CABLES
16% (c.£100) OF AN AVERAGE DOMESTIC ELECTRICITY BILL	REGULATED BY **OFGEM**

Your feedback matters

- We want your honest feedback
  - Independent facilitators at each table
  - We publish your un-edited feedback (but never identify individuals)

- We will take action as a result of your feedback
  - Each session has a clear objective – we will give you options to discuss and vote on, and seek views to help us develop our plans/strategies in each area
  - We will publish a feedback summary report and a list of actions
  - Last year's workshops led directly to 26 actions

- If your 'hot topic' isn't covered explicitly by one of the sessions then please come and discuss it with one us during the breaks

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ELECTRONIC VOTING
- A QUICK INTRODUCTION

QA: In August 2015, a £10 accumulator bet on Leicester City winning the Premier League, a 'yes' Brexit vote and a Donald Trump Presidential victory would have won how much?

1. £45,000

2. £450,000

3. £4.5 million

4. £45 million

5. £450 million

QB: What type of stakeholder are you?

0. Domestic customer / consumer interest body

1. Business customer (or representative)

2. Local authority officer / elected representative

3. Developer / connections representative

4. Environmental representative

5. Energy / utility company

6. Charity / non-profit organisation

7. Academic / education institute

8. Housing / development

9. Other

Session 1:
WPD's Business Plan Commitments Reporting

Eleanor Sturges
Planning & Regulation Special Projects

Our Business Plan - 2015/16 performance

- Our RIIO-ED1 Business Plan covers eight years: 2015-2023

- We have committed to deliver 76 outputs by 2023 in 6 key areas:

SAFETY	RELIABILITY	ENVIRONMENT	CONNECTIONS	CUSTOMER	SOCIAL OBLIGATIONS

- In the first year we have achieved, or are significantly on track to achieve, our annual target in 73 of the 76 areas

- Key highlights include:
  - Customer Interruptions (power cuts) have decreased by 27%
  - Customer Minutes Lost (the duration of power cuts) have decreased by 49%
  - 99% reduction in the number of customers off supply more than 12 hours
  - Rated number one for customer service, vulnerable customer support and stakeholder engagement

- Some elements of our 'Environment' performance remain a challenge
  - Session Three later today

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Our reporting approach for 2015/16

- We are required to provide an annual update on our progress delivering the 76 outputs we promised

- 2015/16 was the first year of Commitments Reporting

- No specific reporting format was specified by Ofgem

- Citizens Advice and Ofgem's Consumer Panel provided guidance on good practice

- We used extensive stakeholder input to decide on the format of the first report
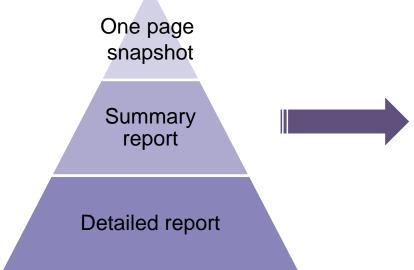

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Stakeholder input

Following feedback from over 300 stakeholders we:

- Adopted a three tier reporting approach:

One page snapshot

Summary report

Detailed report

- Agreed two key topics per output area for our summary report
– Identified at our January 2016 workshops:

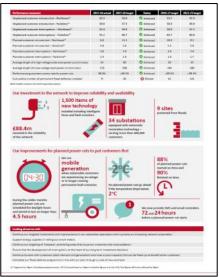| Category	Performance topic
Safety	Accident frequency rates
	Public safety education
Reliability	Power cut frequency & duration
	Percentage of customers restored within 1 hour
Environment	Facilitating increased volumes of Low Carbon Technologies
	Reducing technical network losses
	Reducing the carbon footprint of the business
Connections	Time to provide quotations & completed connections
	Customer satisfaction with the connections process
Customer satisfaction	Customer satisfaction results
	= Complaints
	= Engagement with stakeholders
	= Improved communication (e.g. social media, online etc.)
Social obligations	Improving support for customers during power cuts
	Data analysis to identify vulnerable customers & better target services

- Draft versions of the reports were presented to WPD's Customer Panel in September 2016 and feedback was incorporated into the final versions

Overview of other DNO approaches

- WPD were the only DNO to provide three levels of reporting

- We provided significantly more detail than any others - average length of DNO main reports was 31 pages
  - WPD detailed report = 164 pages
  - WPD summary report = 36 pages

- We provided detail on our performance against all our outputs (76) – as well as the associated secondary deliverables

- The approach of the majority of DNOs was to produce a stylish, customer-friendly report which did not necessarily provide the same level of detail or data in terms of performance

Considering our approach to reporting

- Now that year one data has been published we want to review our approach to reporting to make sure that we continue to meet stakeholder expectations

- As part of this session we want to ask:

1. **WPD's detailed report**

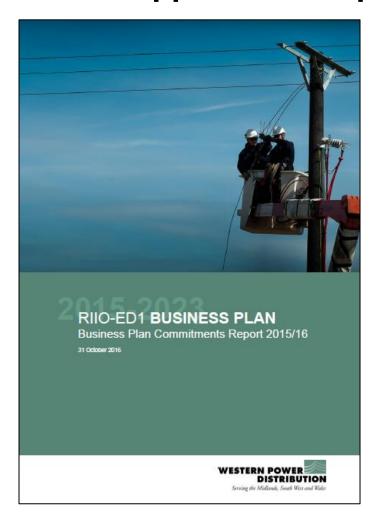   1a. What do you think about our approach to reporting for 2015/16?

   1b. Should we amend the length and complexity of the report in the light of the approach taken by other DNOs?

2. **WPD's summary report**

   2a. What do you think about our approach to reporting for 2015/16?

   2b. What is your preferred style for WPD's report?

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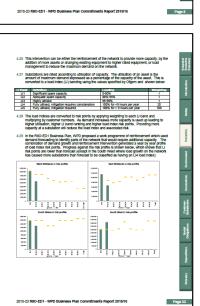*Serving the Midlands, South West and Wales*

WPD's detailed report – Q1a. What do you think about our approach to reporting for 2015/16?

You will have display boards of the following on your tables:

WPD's detailed report – Q1b. Should we amend WPD's report in light of the approach taken by other DNOs?

2015/16 report	Alternative version
Detailed explanation of technical elements	➡ Simple explanation of technical elements
Tables showing detailed performance and targets	➡ Simple charts with target lines. No detailed tables
Performance for each licence area	➡ Performance for WPD as a whole
Formal report style, including numbered paragraphs for ease of reference	➡ Informal layout

You will have hand-outs of the following on your tables:

WPD's summary report – Q2a. What do you think about our approach to reporting for 2015/16?

You have a copy of the summary report on your tables:

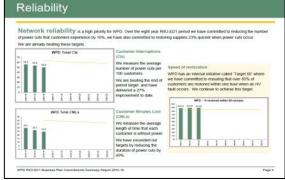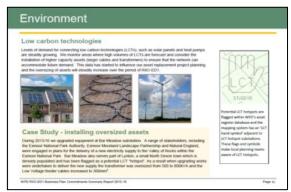# WPD's summary report – Q2a. What is your preferred style?

- On your tables you'll find examples from the other DNOs

Option 1: As now 2015/16 report

Option 2:

Option 3:

Option 4:

SIMPLER, LESS DETAIL

USE OF DESIGN TO CAPTURE ATTENTION

Gathering further feedback

- If you have further feedback on the approach that we have taken please complete the survey on our webpage, this provides a free text comments box

- The survey can be found at:

www.westernpower.co.uk/About-us/Stakeholder-information/Performance-reporting-RIIO-ED1.aspx

Performance reporting survey

Did you find our performance reporting easy to find on the website?: *
○ Yes ○ No

Please tick the boxes below to indicate which of the reports you accessed: *
☐ The single page performance snapshot
☐ The summary report
☐ The comprehensive report

Using a scale of 1 to 10, where 1 is very dissatisfied and 10 is very satisfied, please indicate how satisfied you were with the performance reporting provided by WPD for RIIO-ED1: *
○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

Please provide us with any comments indicating how our reporting could be improved for the future:
*

Please indicate what type of stakeholder you are by selecting one box.: *
○ Domestic Customer
○ Business Customer
○ Consumer interest body
○ Academic/educational institute
○ Energy/utility company
○ Developer/connections representative
○ Local authority officer/elected representative
○ Other

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Table discussion

1. **WPD's detailed report**

   1a. What do you think about our approach to reporting for 2015/16?

   1b. Should we amend the length and complexity of the report in the light of the approach taken by other DNOs?

2. **WPD's summary report**

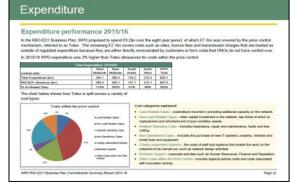   2a. What do you think about our approach to reporting for 2015/16?

   2b. What is your preferred style for WPD's report?

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ELECTRONIC VOTING

Vote 1: What is your preferred approach for WPD's detailed report?

	Option 1	Option 2
A.	Detailed explanation of technical elements	Simple explanation of technical elements
B.	Tables showing detailed performance and targets	Simple charts with target lines. No detailed tables
C.	Performance for each licence area	Performance for WPD as a whole
D.	Formal report style, including numbered paragraphs for ease of reference	Informal layout

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Vote 2: What's you preferred summary report style?

Option 1: As now	Option 2:	Option 3:	Option 4:

1. *Option 1*

2. *Option 2*

3. *Option 3*

4. *Option 4*

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Session 2:

WPD's long-term priorities
- Measuring the value for money of our actions

Alison Sleightholm
Regulatory & Government Affairs Manager

Session 2: Stakeholder priorities

- Delivery of our 2015-2023 Business Plan commitments (76) is crucial

- At the same time we will engage stakeholders about long-term strategic priorities that may change the way we operate in future (and may not be time bound/programmed like a business plan)

- For the last 3 years stakeholders have identified the following consistent list and the importance ratings have not changed dramatically:

Rank	2015	Category	2016
1	(1)	Keeping the lights on	9.20/10
2	(2)	Smart networks	7.46
3	New	Environment & sustainability	6.85
4	(3)	Workforce renewal, skills & training	6.65
5	(5)	Vulnerability	6.64
6	(4)	Government legislation/policy	6.21
7	(6)	Affordability	6.00
8	(7)	Customer information and data	5.90
9	(8)	Customer awareness	4.08

Reviewing these priorities

- We will continue to review these priorities annually to see if areas are shifting

- Today will test the '*value to you*' of possible accelerations in delivery and/or stretches to existing targets, within the next 1-5 years

- This will be for actions within some of the long-term priority areas – but not all (we've picked the ones where obvious action today is possible)

- We cant deliver everything at once, but can't make some trade-offs to prioritise some earlier than others

- This will not change the baseline of delivering our 76 Business Plan outputs by 2023

Delivering these improvements - context

- Next year the average WPD domestic customer will pay £98

- The majority of WPD's expenditure is allocated to network investment & operations

- A proportion of this is for discretionary service improvements, however

- There is therefore opportunity for some trade-offs over the timing/speed and scope of improvements
  - *E.g. more flood protection vs more vulnerable customer support*

- We've picked areas for discussion where action is possible today. Some areas still require a watching brief for now, with actions dependent on the outcomes of other priorities
  - *E.g. Actions to deliver 'future workforce, skills and training', will be influenced by WPD's transition to a Distribution System Operator (discussed in the next session)*

Average annual electricity bill

- Wholesale and supply costs — 41%
- Environmental & social obligations costs — 13%
- Other direct costs — 1%
- Operating costs — 15%
- Distribution — 16%
- Transmission — 9%
- VAT — 5%

Measuring the value to you

- Some of the actions we can take may have benefits that are difficult to quantify in a traditional way:

  E.g: Proactive contact to 500k vulnerable customers a year:
  - *Leads to significant increase in reassurance and customer resilience to power cuts*
  - *An admirable outcome – but do customers sufficiently value it to justify the cost it takes to deliver?*
  - *Would they rather it's 100k or 750k for example?*

- WPD have used Willingness To Pay* (WTP) research when developing our last two Business Plans. This type of research seeks to:

  - Establish customer priorities between a range of service improvements

  - Identify notional monetary values customers place on these

- We are not actually asking customers to pay more - the figures show what you would *hypothetically* be willing to pay extra per year to see the proposed improvements achieved

- This will guide us on the speed and allocation of resources to achieve the preferred action

  - It also enables us to judge whether the cost of the actions to deliver improvements, can be achieved for less than the values customers place on them

* Research with c.1,600 customers (domestic & businesses) to inform future investment decisions by deriving customers' preferred levels of improvement in various areas, and their willingness to pay values to achieve them

Today's exercise

- We will present you with current performance and a number of improvement options to possibly deliver within the next 5 years (earlier than 2023)

- **You will have 10 vote counters in total**

- **Vote as a table** for your preferred level (can't have them all!)
  - Later, vote electronically as an individual

Category	As now	Option 1 1 vote	Option 2 2 votes	Option 3 3 votes
Overall customer satisfaction	Rated 8.90 out of 10	9.1/10	9.3/10	9.5/10
Connections satisfaction	Rated 8.70 out of 10	8.9/10	9.1/10	9.3/10
Smart networks	Active Network Management zones rolled out by 2023	By 2022	By 2021	By 2020
Business carbon footprint	↓5% by 2023	↓5% by 2021	↓7.5% by 2023	↓10% by 2023
Undergrounding schemes	55km by 2023	55km by 2021	75km by 2023	90km by 2023
Emergency resilience	20% communities and businesses supported to improve resilience (e.g. via chambers of commerce)	30%	40%	50%
Customer awareness of WPD	50%	55%	60%	65%
Safety education	60,000 children educated a year	60,000 & expanded scope	70,000 & existing scope	70,000 & expanded scope
Vulnerable customers	125,000 supported a year during power cuts	150k	175k	200k
Fuel poverty	6,500 supported a year	10,000	12,500	15,000

Context to help inform your decisions

Customer satisfaction

	As now	Option 1: **1 vote**	Option 2: **2 votes**	Option 3: **3 votes**
	Rated 8.90 out of 10	9.1/10	9.3/10	9.5/10

Context:

2015/16 DNO satisfaction

Examples of actions we could take:

- Increase proactive contact with customers during emergencies (c.35% at present)

- New online services – e.g. power cut reporting on website and register properties for proactive updates

Connections satisfaction

Rated 8.70 out of 10	8.9/10	9.1/10	9.3/10

Context:

2015/16 DNO connections satisfaction

Examples of actions we could take:

- Greater availability of data online before applications (e.g. live network capacity, heat maps)

- More bespoke support for community energy schemes

- Quicker quotations process with more frequent contact

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Context to help inform your decisions

Smart networks

As now	Option 1: 1 vote	Option 2: 2 votes	Option 3: 3 votes
Active Network Management zones rolled out by 2023	By 2022	By 2021	By 2020

Context:
- Following innovation trials we've launched several ANM zones – enabling a more sophisticated Demand Side Response by controlling demand and Distributed Generation levels in real time
- Enables us to provide alternatives to conventional connections offers (requiring network reinforcement)
- By agreeing to manage their energy more flexibly at times of network constraint, customers can connect quicker and at lower costs

Business Carbon Footprint

↓5% by 2023	↓5% by 2021	↓7.5% by 2023	↓10% by 2023

Context:
- Impact from offices, transport emissions, fuel combustion and release of greenhouse gases (SF6)
- Current BCF is broadly equivalent to 4,500 homes or 5,750 Ford Mondeos
- Committed in our Business Plan to a 5% reduction on 2012/13 levels (89,376 tCO2e) by 2023 (= c.85,000 tCO2e)

Undergrounding schemes

55km by 2023	55km by 2021	75km by 2023	90km by 2023

Context:
- Visual amenity benefit only – targeted to National Parks (NP) and Areas of Outstanding Natural Beauty (AONB)
- Commitment in our Business Plan to 55km undergrounded by 2023
- Schemes selected by stakeholders - Steering groups (with NPs & AONBs) prioritise schemes, funding & timescales

Context to help inform your decisions

Emergency resilience

As now	Option 1: **1 vote**	Option 2: **2 votes**	Option 3: **3 votes**
20% communities and businesses supported to improve resilience (e.g. via chambers of commerce)	30%	40%	50%

Context:
- We participate in every Local Resilience Forum in our region and key gold/silver commands during incidents
- Can provide support with emergency and business continuity planning ahead of power cuts
- We could target this to small businesses and most vulnerable communities – how far do we go?

Customer awareness

50%	55%	60%	65%

Context:
- We write to every customer once a year as part of a 'Power For Life' campaign, which includes TV advertising
- Ease of access to services - Knowing about WPD and how to contact us is key
- Changing relationships/role – Requires trust and a basic awareness of WPD

Safety education

60,000 children educated a year	60,000 & expanded scope	70,000 & existing scope	70,000 & expanded scope

Context:
- >1,000 education sessions for school children a year
- Children's education focusses on safety around electrical equipment – could broaden to include Priority Service Register (e.g. for elderly loved ones) and energy efficiency

Context to help inform your decisions

Vulnerable customers

As now	Option 1: 1 vote	Option 2: 2 votes	Option 3: 3 votes
125k proactively supported during power cuts	150k	175k	200k

Context:
- We have a Priority Service Register of 1.3m customers in vulnerable circumstances
- Targeted support can include: proactive contact in emergencies (in the first 2-3 hours) to provide information and reassurance and offer welfare support such as warm drinks, hot meals, crisis packs, oxygen concentrate etc.

Fuel poverty

6,500 supported a year	10,000	12,500	15,000

Context:
- 8 referral schemes in place across our region to deliver practical support to tackle root causes of fuel poverty
- Support can include: tariff switching, debt management advice, energy efficiency schemes, boiler replacements etc
- 6,500 supported in 2015/16 led to £1.4 million annual savings for customers

Workshop 2 – Discussion questions

1. **Do you consider there to be a key action area missing?**

2. **You are given 10 votes in total – as a table which are your preferred options?**
   (Later you will vote electronically as an individual)

3. **How much would you be willing to pay from your bill to achieve the package your table arrives at?**

Category	As now	Option 1 1 vote	Option 2 2 votes	Option 3 3 votes
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Business carbon footprint	↓5% by 2023	↓5% by 2021	↓7.5% by 2023	↓10% by 2023
Undergrounding schemes	55km by 2023	55km by 2021	75km by 2023	90km by 2023
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Customer awareness of WPD	50%	55%	60%	65%
Safety education	60,000 children educated a year	60,000 & expanded scope	70,000 & existing scope	70,000 & expanded scope
Vulnerable customers	125,000 supported a year during power cuts	150k	175k	200k
Fuel poverty	6,500 supported a year	10,000	12,500	15,000

ELECTRONIC VOTING

Vote 3a: Which is your preferred option?
Customer satisfaction

0.   *As now* Rated 8.90 out of 10

1.   *Option 1:* Improve to 9.10 out of 10

2.   *Option 2:* Improve to 9.30 out of 10

3.   *Option 3:* Improve to 9.50 out of 10

3b: What's the value to you - How much would you be willing to pay from your annual bill to achieve the top supported option?

0.   *0p*

1.   *10p*

2.   *50p*

3.   *£1.00*

4.   *£1.50*

5.   *£2.00*

Vote 4a: Which is your preferred option? Connections satisfaction

0.   *As now* Rated 8.70 out of 10

1.   *Option 1:* Improve to 8.90 out of 10

2.   *Option 2:* Improve to 9.10 out of 10

3.   *Option 3:* Improve to 9.30 out of 10

4b: What's the value to you - How much would you be willing to pay from your annual bill to achieve the top supported option?

0.   0p
1.   10p
2.   50p
3.   £1.00
4.   £1.50
5.   £2.00

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Vote 5a: Which is your preferred option?
Smart networks

0.   *As now:* Active Network Management zones rolled out by 2023

1.   *Option 1:* By 2022

2.   *Option 2:* By 2021

3.   *Option 3:* By 2020

5b: What's the value to you - How much would you be willing to pay from your annual bill to achieve the top supported option?

0.   0p

1.   10p

2.   50p

3.   £1.00

4.   £1.50

5.   £2.00

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Vote 6a: Which is your preferred option?
Business carbon footprint

0.   *As now:* 5% reduction by 2023

1.   *Option 1:* 5% reduction by 2021

2.   *Option 2:* 7.5% reduction by 2023

3.   *Option 3:* 10% reduction by 2023

6b: What's the value to you - How much would you be willing to pay from your annual bill to achieve the top supported option?

0.   0p
1.   10p
2.   50p
3.   £1.00
4.   £1.50
5.   £2.00

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Vote 7a: Which is your preferred option?
Undergrounding schemes

0. *As now:* 55km by 2023

1. *Option 1:* 55km by 2021

2. *Option 2:* 75km by 2023

3. *Option 3:* 90km by 2023

7b: What's the value to you - How much would you be willing to pay from your annual bill to achieve the top supported option?

0. 0p
1. 10p
2. 50p
3. £1.00
4. £1.50
5. £2.00

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Vote 8a: Which is your preferred option?
Emergency resilience

0. *As now:* 20% communities & businesses supported to improve resilience

1. *Option 1:* 30% supported

2. *Option 2:* 40% supported

3. *Option 3:* 50% supported

8b: What's the value to you - How much would you be willing to pay from your annual bill to achieve the top supported option?

0. *0p*

1. *10p*

2. *50p*

3. *£1.00*

4. *£1.50*

5. *£2.00*

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Vote 9a: Which is your preferred option?
Customer awareness of WPD

0.   *As now:* 50%

1.   *Option 1:* 55%

2.   *Option 2:* 60%

3.   *Option 3:* 65%

9b: What's the value to you - How much would you be willing to pay from your annual bill to achieve the top supported option?

0.   0p
1.   10p
2.   50p
3.   £1.00
4.   £1.50
5.   £2.00

Vote 10a: Which is your preferred option?
Safety education

0.   *As now:* 60,000 children educated a year

1.   *Option 1:* 60,000 & expanded scope

2.   *Option 2:* 70,000 & existing scope

3.   *Option 3:* 70,000 & expanded scope

10b: What's the value to you - How much would you be willing to pay from your annual bill to achieve the top supported option?

0.   *0p*

1.   *10p*

2.   *50p*

3.   *£1.00*

4.   *£1.50*

5.   *£2.00*

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Vote 11a: Which is your preferred option?
Vulnerable customers

0.   *As now:* 125,000 supported a year (during power cuts)

1.   *Option 1:* 150,000 supported a year

2.   *Option 2:* 175,000 supported a year

3.   *Option 3:* 200,000 supported a year

11b: What's the value to you - How much would you be willing to pay from your annual bill to achieve the top supported option?

0.   0p

1.   10p

2.   50p

3.   £1.00

4.   £1.50

5.   £2.00

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Vote 12a: Which is your preferred option?
Fuel poverty

0.   *As now:* 6,500 supported a year (during power cuts)

1.   *Option 1:* 10,000 supported a year

2.   *Option 2:* 12,500 supported a year

3.   *Option 3:* 15,000 supported a year

12b: What's the value to you - How much would you be willing to pay from your annual bill to achieve the top supported option?

0.   0p

1.   10p

2.   50p

3.   £1.00

4.   £1.50

5.   £2.00

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COFFEE BREAK

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Session 3:
Spotlight on two long-term priorities
3a: Future Networks

Nigel Turvey
Network Strategy & Innovation Manager

Agenda

- Towards a smart, flexible energy system

- Transition from DNO to DSO

- Our DSO priorities

- Capabilities we need to develop and our current projects

- Use of smart meter data

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Context

- The way we generate electricity is changing:

- Demand for electricity could double by 2050 and the way we use it could change e.g. more storage or electric vehicles

- This creates challenges for the National Grid and DNOs

Towards a smart, flexible energy system

- Recent Ofgem/Government call for evidence on the above highlighted the need to change including:

    – **Smart energy technology** and processes have the potential to deliver lower bills

    – **Greater flexibility** will help deliver security of supply

    – **Simpler integration of low carbon technologies**

    – **Electrification of transport and heat** will significantly impact the patterns and levels of power demand locally and nationally

    – **We should act sooner rather than later** so consumers can benefit now

Department for Business, Energy & Industrial Strategy

ofgem
Making a positive difference for energy consumers

A SMART, FLEXIBLE ENERGY SYSTEM

A call for evidence

November 2016

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Transition from DNO to DSO

- **Role of a Distribution System Operator (DSO) is to**:
  - Balance various sources of supply and demand in real time

- Alongside traditional reinforcement options, we need to:
  - **Make active use of new technologies**, providers and solutions to help manage the distribution network

  - **Have an increased role in delivering 'whole system' solutions** that are economic, efficient and coordinated

  - **Significantly increase engagement with National Grid** (the GB System Operator) to deliver the best whole system outcome for customers

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Our DSO priorities

- Our DSO enabling priorities are to:

1. **Expand the roll out and application of Active Network Management (ANM)**
   - Targeted to the higher voltage networks, prioritising areas that are the most likely to benefit

2. **Protect the integrity and safety of lower voltage networks**
   - We will be looking to maximise the use of smart meter data, apply additional network sensing as required and implement simple control schemes

3. **Coordinate with the System Operator SO**
   - Help to establish visibility platforms for suppliers, aggregators and customers to allow the development of flexibility services shared between DSO and SO

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A substantial change - capabilities we need to develop

Our strategy – 5 key areas:

1 — Understand historic and real time energy flows

2 — Forecast future energy volumes across the network

3 — Actively reconfiguring the system dependent on need

4 — Commercial arrangements to contract services e.g. DG, active demand, storage

5 — Coordinate DSO operations with National Grid (SO) and potentially provide services

Projects developing these capabilities:

- *"Local Energy Market":* Development of a 'visibility' platform

- **Long term strategic studies**

- **Active Network Management:** developed from our Low Carbon Hub project

- **Demand response projects:** including *"FALCON", "SYNC"* and *"ENTIRE"*

- *"CarConnect":* understand customer behaviour using static and dynamic time of use tariffs

- *"Transmission":* interface project via our trade association ENA

- **Regional development program** being developed jointly with National Grid

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Use of Smart Meters - Context

- Smart meters are being rolled out by suppliers – not WPD

- Government target is for every domestic customer to have one installed by 2020

- WPD will be able to communicate with the latest type of smart meter rolled out later this year

What is a smart meter?

- Measures energy and communicates readings in real time

- Give customer up-to-date information about usage (in-home display) and costs

- Can receive information remotely – e.g. update tariff information and switch between credit and prepayment modes

- WPD will communicate with meters via a new secure national communications network

Benefits to consumers

- Visibility can enable you to use energy more efficiently and save money

- End estimated billing & manual reads

- Improve switching between suppliers

- Government estimates av. annual dual fuel saving of £23, but for some much more

- Enable smart products – e.g. designed to switch on when prices are lower

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Smart Meters – Potential benefits for networks

- Currently we have limited visibility of real-time load – mostly based on past experience (e.g. seasonal)

- Smart meters allow us to get half hourly (HH) consumptions from all our customers – enabling a very accurate picture of what is happening on the network

- We are seeking to use data from smart meters to:

  - **Automatically understand when outages occur** to be able to respond earlier to faults

  - **Detect issues with the voltage** delivered rather than rely on the customer telling us

  - **Understand the load on our low voltage network** to be able to detect potential overloads earlier and assess new connection applications

Smart Meters – How we access this data

- However HH readings are personal data, so we need to be very careful how we use them

- Currently we can access HH data in 3 circumstances:
    - We have gained explicit customer consent
    - Customer is part of a WPD new technology trial
    - Customer is believed to be tampering with our equipment or the meter

- To do anything over and above these three examples we must have a Data Privacy Plan approved by Ofgem

- In order to access meter data WPD systems have to successfully pass rigorous government approved testing and security requirements

Smart Meter Data Privacy Plan

1. As soon as the customers HH consumptions are received, link this to the feeder (final cable in street) and remove any data that identifies the specific property

2. Add the consumptions of all the properties to get a HH picture of load per feeder

3. Generate monthly totals and feeder profiles – all individual consumptions deleted immediately

4. Monthly totals and feeder profiles would be deleted after a defined period

5. Only staff with genuine business need allowed to access the data

6. Appropriate controls to ensure data privacy & secure storage – externally audited

7. Use the information for the sole purpose of monitoring the network

- We will review the privacy plan annually

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Summary

- Our DSO priorities are to:
  - Expand active management of higher voltage networks
  - Protect the integrity and safety of lower voltage networks
  - Coordinate with the SO to share flexibility services

- Use of flexibility from customers, generators and the network has the potential to reduce bills and help deliver security of supply

- We are developing capabilities via trials and projects

- Smart meters are an important source of data to help manage and develop the network

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Workshop 3a – Discussion questions

1. **Do you agree with WPD's DSO priorities?**

   1a. Are we missing any areas that we need to develop?

2. **Do you agree that it will be beneficial for networks to access smart meter data? Have we sufficiently explained the benefits?**

3. **How comfortable are you with networks having access to, and using, smart meter HH data in general?**

4. **What do you think of WPD's 7-point approach to data privacy**

   4a. Are there any safeguards or areas of concern that are not addressed?

   4b. Are there areas you would require extra detail/assurances?

5. **How comfortable are you with WPD having access to smart meter data in these terms?**

ELECTRONIC VOTING

Vote 13: Having reviewed the objectives of WPD's data privacy plan, how comfortable are you with WPD having access to smart meter data in these terms?

1

Not comfortable at all

10

Fully comfortable

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Vote 14: Which of the following factors for consideration are most important to you?

1. Data is aggregated so individual properties cannot be identified

2. Data is only used to create monthly totals and operating profiles for our equipment (therefore historic, not real-time)

3. Ensuring the security of our systems to store this data

4. Ensuring data is only used for network operating purposes and is never sold or shared with other parties

5. Safeguards are in place to ensure only select staff can access it within WPD

6. All of the above – I don't want anyone accessing this data

7. None of the above – I'm comfortable as long as these factors are addressed

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Session 3:
Spotlight on two long-term priorities
3b: Environment & Sustainability

Paul Jewell
Policy Manager

Environment and Sustainability

- 'Environment and Sustainability' is one of the key areas of our Business Plan

- We have committed to deliver **15 outputs** in this area

- The targets were developed as a part of previous stakeholder engagement sessions for Environment and Sustainability and include;

  - Reduce waste to landfill by 20% (first 2 years) then 5% per year
  - Reduce electricity usage by 5%
  - Reduce SF_6 leakage by 17%

- We report on all these areas in our Environment and Innovation Annual Report

Environment and Innovation
Ofgem Report 2015-2016
Contents

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https://www.westernpower.co.uk/docs/About-us/WPD-Innovation-and-Environment-Report_2015-16.aspx

2015/16 performance – key highlights

	2015/16
1. LCT response time	–
2. Identifying LCT hotspots	✓
3. Uprating assets - LCT hotspots	✓
4. Developing smart solutions	✓
5. Using smart solutions	✓
6. Oversizing transformers for losses	✓
7. Uprating cables for losses	✓
8. Lowering vehicle emissions	✓
9. Energy efficiency - buildings	✓
10. Reducing waste to landfill	✓
11. Reducing Business Carbon Footprint	✘
12. Reducing oil leaks from cables	✓
13. Reducing SF6 leaks	✘
14. Installing bunds	✓
15. Undergrounding lines in AONBs	✓

- Reduced the carbon footprint of our buildings and operational transport

- Reduced fluid-filled cable losses

- Extended our ISO14001(2004) environment certificate to include all operations throughout the WPD business

- Significant 12% reduction in percentage waste to landfill from 2012/13 levels (847 tonnes) and this continues to fall
  - 1,625 tonnes of waste diverted from landfill disposal in 2015/16

Key: ✓ = Achieved an annual output; ✓ = Output on track, some elements requiring further input; – = Output under review; ✘ = Not met an annual output

2015/16 performance – challenges

	2015/16	
11.	Reducing Business Carbon Footprint	✗

- Continued effort to work towards achieving our RIIO-ED1 output of reducing our CO_2 emissions, whilst maintaining security of supply and reducing costs

- Today we will discuss areas of only limited change
  - Building Energy Use
  - Vehicle Emissions
  - SF_6

- We are now considering further actions to help drive changes

WPD Carbon Footprint Report (tCO2e)

Aspect		2012/13	2013/14	2014/15	2015/16
Buildings energy use	Buildings - Electricity	12,098.2	9,979.9	12,454.4	10,933.0
	Buildings – Other fuels	191.6	260.1	207.6	193.1
	Substation Electricity	28,836.7	24,856.9	27,578.7	25,789.3
Operational Transport	Road	33,335.9	35,400.6	40,018.8	38,246.8
	Other (e.g. rail, air etc)	1,253.01	1,624.5	1,430.5	1,833.4
Business Transport	Road	3,903.7	3,792.9	3,304.0	5,253.6
	Other	41	74.8	128	62.1
SF6 Emissions		6,063.4	7,384.9	8,282.1	9,045.9
Fuel Combustion	Diesel / Gas / Oil	3,653.2	11,836.7	8,574.1	7,515.0
Total Carbon (tCO2e)		89,376.7	95,211.1	101,978.1	98,872.2

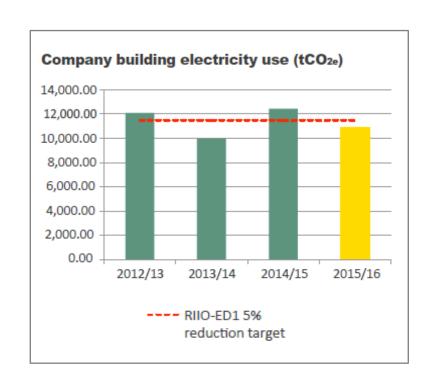# Buildings Energy Usage – Current actions

- All new buildings are BREEAM* "excellent"

- All refurbishments of existing buildings are BREEAM "good" (highest refurb rating)

- Local Managers now receive quarterly KPI information of total electricity used in their buildings

- We completed a "switch off" week during 2016 which showed we could reduce our electricity usage by around 4% in the daytime and 5% at nights

BREEAM (Building Research Establishment Environmental Assessment Method, first established in 1990, is the world's longest established method of assessing, rating and certifying the sustainability of buildings

Buildings Energy Usage – Actions to consider today

- Using the bespoke KPI reporting now in place per site, analyse usage and develop tailored actions plans at each location

- Application of solutions such as:
  - Lighting timers/sensors
  - Better air-con timers
  - Automatic curtains for sites with open equipment stores

- Install low energy lighting, where possible, in all buildings which have not yet been updated

- **Is there anything else that you think we should be considering?**

Company building electricity use (tCO$_2$e)

14,000.00	
12,000.00	
10,000.00	
8,000.00	
6,000.00	
4,000.00	
2,000.00	
0.00	2012/13 2013/14 2014/15 2015/16

- - - - RIIO-ED1 5% reduction target
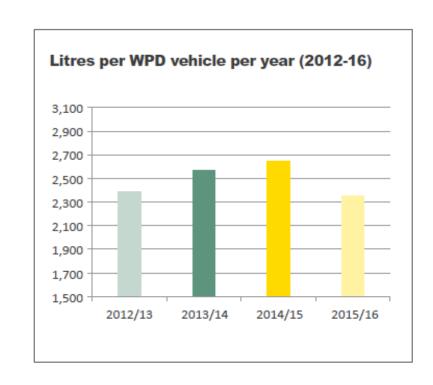
Vehicle Emissions – Current actions

- All of our replacement vehicles have lower emissions than the ones that they replace

- Local Managers receive quarterly KPI information of total fuel used and fuel used per vehicle

- Office to office vehicle use is reduced by the use of videoconferencing

- We are trialling electric and hydrogen vehicles on our fleet

Vehicle Emissions – Actions to consider today

- Extend videoconferencing to tablets and mobile phones

- Introduce a programme of Driver Training to increase awareness of driving style on emissions

- Investigate alternative fuel and engine lubricant technology to reduce emissions

- **Is there anything else that you think we should be considering?**

Litres per WPD vehicle per year (2012-16)

Sulphur Hexafluoride (SF$_6$)

- A quick reminder of the properties and use of SF$_6$:

    - It is a Fluorinated Greenhouse Gas (Fgas Regulations)
    - It is a very efficient insulating gas for high voltage switchgear
    - It is a potent greenhouse gas (22,800 times that of CO$_2$)

- Our "bank" of SF$_6$ is increasing as we change old switchgear

- There is no suitable alternative to this gas in certain switchgear

- We recover SF$_6$ from end of life switchgear

- A small quantity is lost to the atmosphere through leaks and switch failures, approximately 1% of the volume of the "bank"

Sulphur Hexafluoride (SF$_6$) – Current actions

- Local Managers receive quarterly KPI information of SF$_6$ leaked in their areas

- Our replacement policy for smaller items of switchgear is to replace when a leak occurs

- Our replacement policy for larger and expensive items of switchgear is to investigate and repair
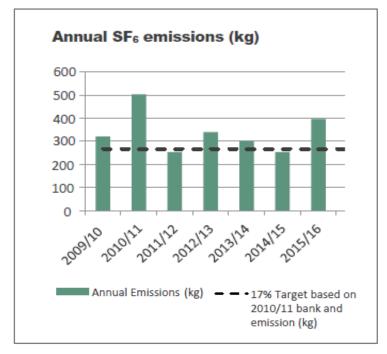 - We have introduced a "three leaks and replace" methodology as standard

Sulphur Hexafluoride (SF$_6$) – Actions to consider today

- Provide SF$_6$ detection cameras for each of our four areas
    - Aid our Inspections and Maintenance programme
    - Visualises SF$_6$ from a safe distance without the need to interrupt the plant's operation
    - Ensure quicker leak detection

- Continue support of industry research to investigate alternatives

- **Is there anything else that you think we should be considering?**

Annual SF$_6$ emissions (kg)

Legend: Annual Emissions (kg); 17% Target based on 2010/11 bank and emission (kg)

Workshop 3b – Discussion questions

1. **With regards to 'buildings energy use', 'vehicles emissions' and 'SF$_6$', do you agree with the listed priorities and actions?**

   A. **Buildings:** Analyse usage and develop tailored actions plans at each location

   B. **Buildings:** Install low energy lighting in all buildings which have not yet been updated

   C. **Vehicles:** Extend videoconferencing to tablets and mobile phones

   D. **Vehicles:** Driver Training (impact of driving style on emissions)

   E. **Vehicles:** Investigate alternative fuel and engine lubricant technology

   F. **SF$_6$:** Provide SF6 detection cameras for each of our four areas

   G. **SF$_6$:** Continue support of industry research to investigate alternatives

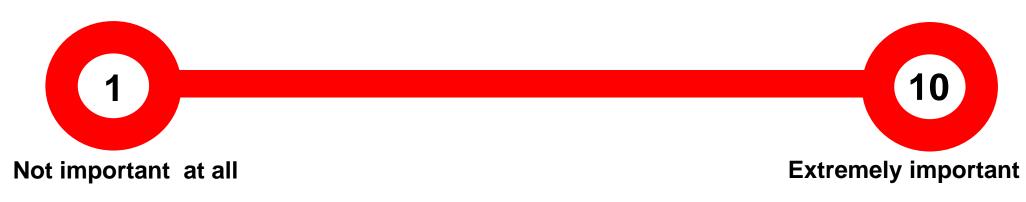2. **Should we be doing more? What's missing?**

ELECTRONIC VOTING

Vote 15: **Of the areas for focus within WPD's Business Carbon Footprint discussed today, which area is most important to you for immediate action?**

1. Building Energy Usage

2. Vehicle Emissions

3. Sulphur Hexafluoride

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Vote 16: Taking them one at a time, on a scale of 1-10, how important to you are the actions proposed?

1 ———————————————— **10**

Not important at all   **Extremely important**

A. **Buildings:** Analyse usage and develop tailored actions plans at each location

B. **Buildings:** Install low energy lighting in all buildings which have not yet been updated

C. **Vehicles:** Extend videoconferencing to tablets and mobile phones

D. **Vehicles:** Driver Training (impact of driving style on emissions)

E. **Vehicles:** Investigate alternative fuel and engine lubricant technology

F. **SF6:** Provide SF6 detection cameras for each of our four areas

G. **SF6:** Continue support of industry research to investigate alternatives

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LUNCH

Session 4 – this afternoon

A choice of three sessions:

Table 1: Connections & Distributed Generation

Table 2: Social obligations (incl. vulnerability & fuel poverty)

Table 3: Emergency resilience

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INFORMATION FOR STAKEHOLDERS

Thank you for attending

- Slides and feedback will be posted on the website www.westernpower.co.uk

- We would appreciate feedback on any of the areas discussed today. Please contact:

    Alex Wilkes, Stakeholder Engagement Manager
       ✉ email: awilkes@westernpower.co.uk
       ☎ phone: 01332 827647

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