# Synthesis report

## Phase 3 – Defining Outputs

Delivered by Sia Partners
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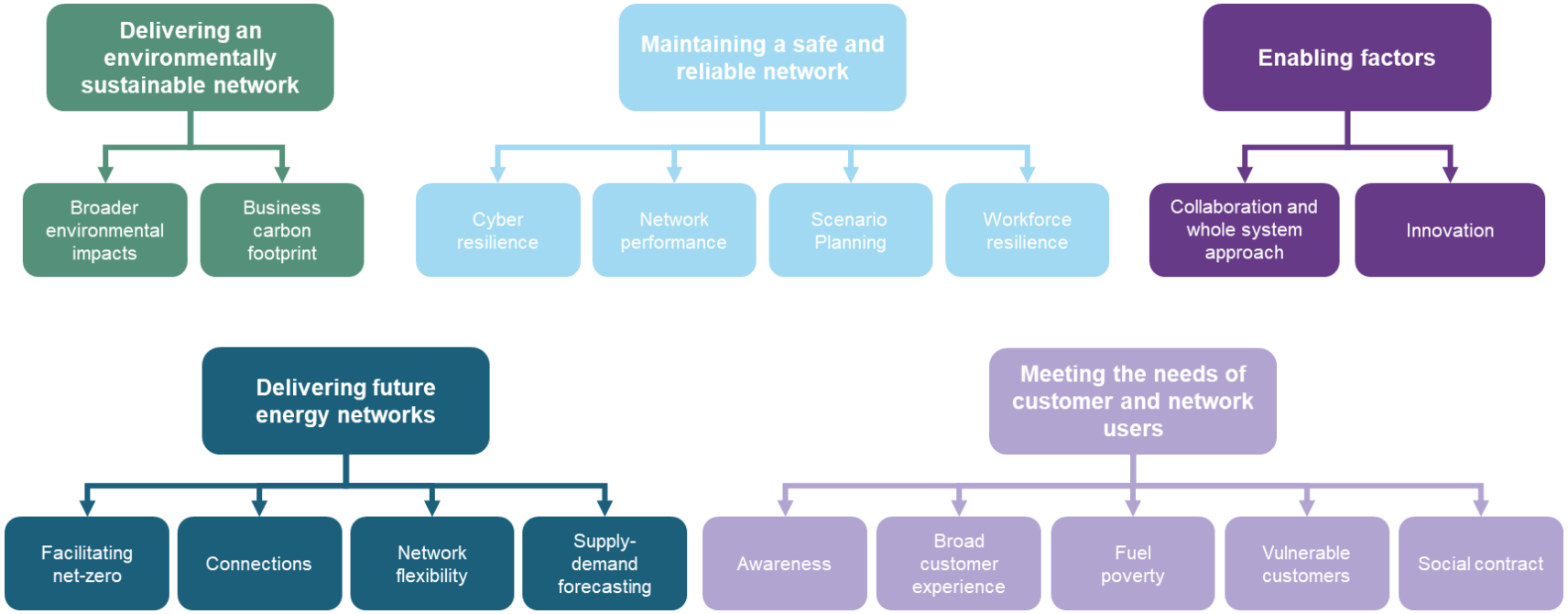
# Navigating this report

During the preliminary engagement in 2019, stakeholders were given a blank canvas to discuss the issues which were most important to them. Sia Partners, an independent body, analysed the feedback, grouping it into high-level topics – starting with Ofgem's three output categories, before adding two more for feedback that lay outside of those. Detailed points were then grouped into sub-topics, based on the volume of discussion in each area.

The diagram below visualises the high-level topics, and the sub-topics identified under each one. This report is organised in this structure, with feedback discussed at the sub-topic level. The sub-topics are broadly aligned with the chapters of WPD's business plan, however, there is a large amount of crossover information. It is therefore important that chapter owners review the content in all relevant sub-topics. Identifying the appropriate structure for feedback early in the process (in 2019), allows WPD to understand how feedback has changed over time; with stakeholder views getting more specific as we approach a final business plan.



# Summary of Phase 3 Engagement

WPD recently completed the third stage of the RIIO-2 engagement programme. This stage builds on the previous “Business Plan Development” work by exploring detailed stakeholder opinions around draft outputs and measures.

This document collates the feedback collected during the third phase of engagement, drawn from thirty-five sources, covering 2,419 stakeholders, resulting in a total of 3,360 pieces of feedback – summarised and detailed in the pages below.

A summary of the feedback collected during the previous phase has also been included for each sub-topic. Thus far over Phases 1, 2 & 3, WPD has engaged 5,567 stakeholders, collecting a total of 7,028 pieces of feedback, across 70 total sources.

## Topics covered

As mentioned above, the synthesis work during the business plan development phase established initial priorities for each sub-topic area previously identified during the preliminary engagement analysis. From the feedback received, outputs and measures were defined for each sub-topic area. These were discussed at the 8 regional workshop events and through the Measures of Success research. Within the first four workshops, stakeholders were asked to provide feedback on the draft outputs, and within the subsequent four, stakeholders were asked to vote for the level of ambition of each draft output and could further suggest any outputs or measures thought missing. Stakeholders expressed their views on these topics during the online meetings and workshops.

Each sub-topic is discussed separately and includes a breakdown of the outputs proposed, as well as the number of pieces of feedback collected. The full detail on each source of feedback can be found in the table in the appendix. The content compiled on each sub-topic has been divided into themes where it is discussed and summarised. These summaries will ultimately form the basis of the triangulation process – informing WPD’s decision-makers of key customer and stakeholder concerns.

## Stakeholders engaged

The figures below provide a picture of the ‘Defining outputs’ stage in terms of the stakeholders engaged, their knowledge levels, and the regions covered. Although all engagements were online, primarily due to the Covid-19 pandemic, a regional breakdown is provided based on the regionality of stakeholders engaged. Where such information was not recorded, it has been indicated that there were no regional data available. Only two methods of engagement were utilised for this engagement phase: online workshops/meetings (83%) and online surveys (17%). Where all local authorities were engaged, the feedback has been broken down by council and presented in a table.

Customers and customer interest groups made up around 66% of the stakeholders engaged during phase 3 of the ED2 engagement, demonstrating WPD’s intent to understand customers’ views on the level of ambition of its outputs. This proportion increased from ~48% during the business plan development stage. Wider industry made up around 35% of the stakeholders, an increased proportion from the ~14% during the business plan development stage, showing the intention of adopting a whole-systems approach to the topics discussed.

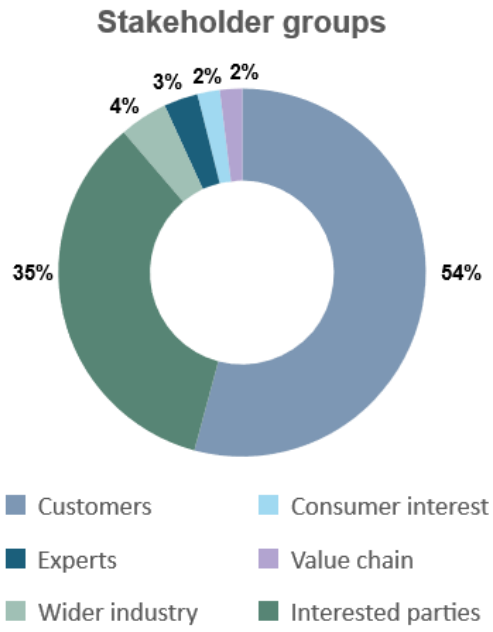



Figure 2: The proportions of stakeholder groups engaged during the output development phase

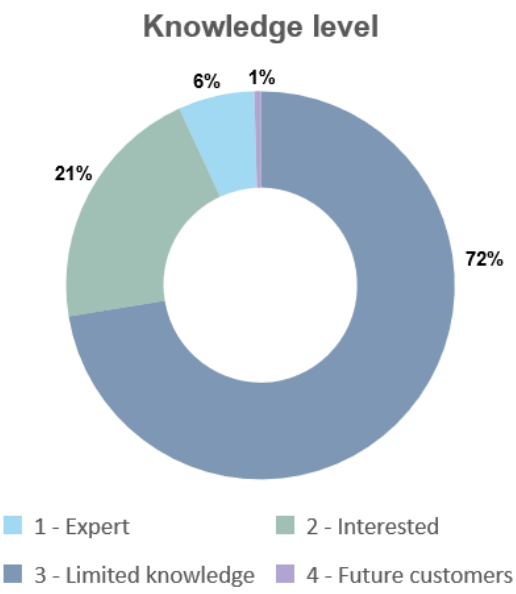



Figure 2: Breakdown of stakeholder knowledge level from the output development phase

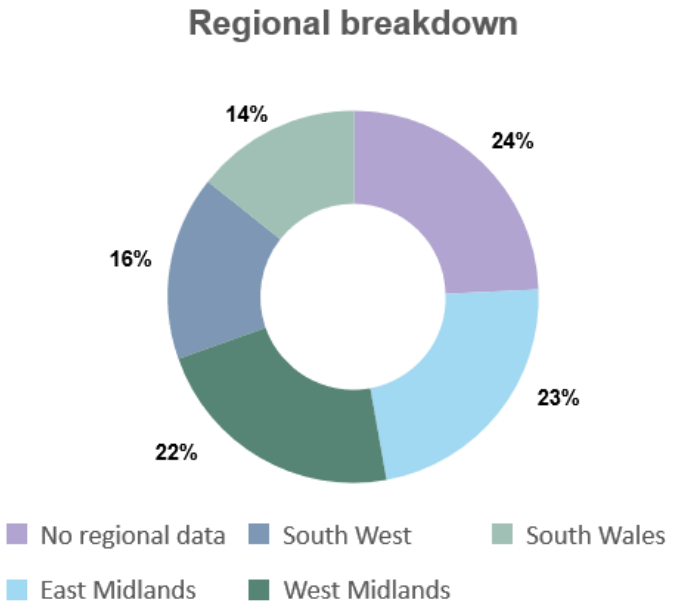



Figure 3: Regional breakdown of the output development stage

The table below details the number of stakeholders that attended phase 3 of ED2 business development engagement events from each segment.

| Stakeholder group | Segment | Number attended |
|---|---|---|
| **Customers** | Major energy users | 3 |
| | Domestic customers | 1061 |
| | Distributed generation customers | 5 |
| | Business customers | 231 |
| | Fuel poor/vulnerable customers | 0 |
| | Major connections customers | 0 |
| | Future customers | 19 |
| **Interested parties** | Local authorities | 344 |
| | Other | 446 |
| | Non-governmental organisations | 25 |
| | Local Enterprise Partnerships | 6 |
| | Emergency services | 0 |
| | Trade associations | 14 |
| | Healthcare | 1 |
| **Consumer interest** | Parish councils | 10 |
| | Charities | 25 |
| | Vulnerable customer representatives | 5 |
| | Consumer interest bodies | 9 |
| **Wider industry** | Utilities | 88 |
| | Community energy groups | 11 |
| **Experts** | Energy Consultant | 29 |
| | Academic institutions | 13 |
| | Government | 23 |
| | Environmental groups | 3 |
| | Electric vehicle manufacturers | 1 |
| **Value chain** | Developers | 13 |
| | Storage/renewables providers and installers | 8 |
| | Electric vehicle charge point manufacturers and installers | 6 |
| | Connections providers | 10 |
| | Flexibility service provider | 2 |
| | IDNO | 7 |
| | Energy aggregators | 1 |
| **Total** | | **2,419** |

Figure 3: The number of stakeholders from each segment that attended the output development events.

## Feedback collected

Feedback from these stakeholders was initially recorded by the organisation running the events – either WPD or EQ communications - and has now been documented in WPD's central feedback database. Each specific point of view has been recorded as a separate statement and grouped into high-level topics and sub-topics by Sia Partners who are running the process.

The table below sums the feedback, organised by high-level and sub-topics, collected throughout phase 3 of WPD's ED2 engagement events. The remainder of this report will cover the detail, laying out the specific comments in each area.

| High-level topic | Sub-topic | # of feedback |
|---|---|---|
| Meeting the needs of customers and network users **(21%)** | Vulnerable customers | 262 |
| | Broad customer experience | 231 |
| | Fuel poverty | 77 |
| | Awareness | 39 |
| | Social contract | 113 |
| Maintaining a safe and reliable network **(16%)** | Workforce resilience | 44 |
| | Network performance | 301 |
| | Scenario planning | 82 |
| | Cyber resilience | 94 |
| Delivering an environmentally sustainable network **(8%)** | Business carbon footprint | 158 |
| | Broader environmental impacts | 104 |
| Delivering future energy networks **(39%)** | Facilitating net-zero | 729 |
| | Connections | 406 |
| | Supply-demand forecasting | 51 |
| | Network flexibility | 141 |
| Enabling factors **(16%)** | Collaboration and whole systems approach | 276 |
| | Innovation | 252 |
| **Total** | | **3,360** |

Figure 4: The breakdown of feedback volume collected for each high-level and sub-topic.

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# High-level topic: Meeting the needs of customers and network users

# Sub-topic: Awareness

**What we heard in early 2020:**

Stakeholders stressed the need for WPD to improve awareness of their brand and its activities, which will ultimately also help them in their educational programs. It was discussed extensively that WPD has a crucial role to play in educating and communicating vital information to stakeholders and customers on a range of topics, from vulnerability, their business plan priorities and new technologies.

Different methods of communication should be utilised, including online educational platforms, direct messages to customers as well as working with third parties to reach those that are hard-to-reach. Collaboration was also noted as a crucial mechanism to reduce future customer demand. Collaboration with other players in the industry can help to inform customers of how they could reduce demand, increase the incentives available for demand reduction as well as identify the best practices to enable demand reduction.

## Summary of Phase 3 feedback

1.1 Stakeholders highlighted the need for raising awareness and education on various topics, such as WPD's projects and initiatives, new technologies implemented, the DSO transition and the smart future. Even more so, stakeholders stressed the need for education directed to local residents and the general public, who were felt to have the least knowledge and expertise. Education on existing and future projects was thought to be a means of accelerating innovation and allowing opportunity sharing, while it was felt that the most appropriate way to address education is through the outputs suggested. Stakeholders also addressed public safety awareness with a focus on educating contractors and younger people operating machinery on safety issues, as well as educating children on electrical safety from an early age.

1.2 A total of **37** pieces of feedback were collected for Awareness during phase 3 engagement, which adds to the **94** pieces collected during phase 2, and further **36** pieces collected during phase 1.

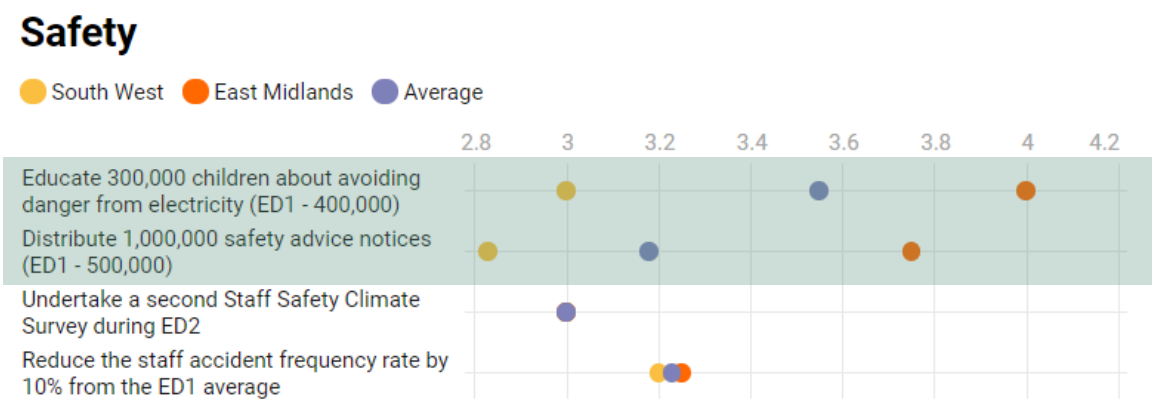


Figure 6: Safety outputs as voted for in the November workshops.

*This poll is only based off 2 events, rather than 4. It also includes broader safety outputs, but the relevant Awareness outputs have been highlighted in green.

For each output, stakeholders were asked whether WPD had got the right level of ambition, answering on a scale of 1 to 5 whether they should ‘do a lot less’ (1) through to ‘do a lot more’ (5). The online polling results are displayed per region and as an average out of 5.

## Detailed feedback

**Feedback for Awareness can be divided into two main themes:**

- Communication and education
- Advice for customers

### Communication and education

1.3 A clear theme under this topic was educating stakeholders and customers about WPD's future plans and innovative projects (E043). Topics that emerged that stakeholders feel they require more education and support on included black start situations (E043) understanding DUoS charges (E065), low carbon technologies and their benefits (E061), smart meters and the smart future (E047, E074), flexibility incentives and the DSO transition (E071, E075, E077), and connections time and processes (E044, E077). There was also a call for WPD to provide an education piece on how community energy schemes, renewable projects and other plans fit together in order to help local residents (E046, E071, E077).

1.4 Stakeholders specifically made suggestions for WPD to address education through its Outputs, with a focus on the general public and developers, to increase public readiness and address technical issues (E045).

1.5 Stakeholders made the case for educating local authorities and community groups on existing projects to foster innovation and enable opportunity sharing (E045). It was felt that WPD could do plenty to support organisations in the green recovery, such as improving communication around funding opportunities and local network plans, engaging with actors in the low carbon economy and local authorities, and educating consumers (E046).

1.6 The Youth Community Measures of Success Research revealed that there is some appetite for stronger brand awareness that could be covered more explicitly in the measures e.g. knowledge of 105 number – this would ensure that WPD were a trusted source for the smart energy transition (E078). Stakeholders also agreed that, although sometimes missing as key areas, WPD use their influence to raise awareness on safety and specifically on the dangers of electricity (E074).

#### Topics of education: Smart and low-carbon technologies

1.7 Stakeholders wanted to see smart meters added to the list of things that WPD should look to educate customers on as well as educating customers on switching suppliers or getting off pre-paid facilities (E047).

1.8 In terms of willingness to pay, 'Communicate the benefits/costs of low carbon technologies to help customers switch' came 21st out of 24 initiatives for both household and non-household customers (E061). By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £0.64, or 0.11% of the total increase to Communicate the benefits/costs of low carbon technologies to help customers switch (E061).

### Topics of education: Three phase connections

1.9 WPD was urged by stakeholders to educate customers on three phase connections. A domestic customer suggested that forward planning and education for architects, planners and homeowners will allow for an easier changeover in the future (E063).

1.10 Stakeholders also thought that the lack of familiarity of domestic installers with working on three phase connections creates a strong need for awareness-raising on the risks and protection against DIY workings and puts a strain on homeowners to understand three phase installations (E063).

## Advice for customers

### Safety

1.11 Stakeholders felt that public safety awareness, particularly educating contractors on safety issues and younger people operating machinery, were missing from the outputs (E072, E074). They also expressed the need to start to educate children on electrical safety from an early age (E072).

1.12 The output to “Educate 300,000 children about avoiding danger from electricity (ED1 - 400,000)” ranked joint second highest on average among the Safety outputs in the South West with 3 / 5 (E072) and scored higher with 4 / 5 in the East Midlands, where 50% of stakeholders wanted WPD to ‘do a lot more’ (E074). Government and LA stakeholders sought to understand the justification for the target of 300,000 (E072).

1.13 The output to “Distribute 1,000,000 safety advice notices” ranked lowest out of all outputs under this priority area in the South West workshop with an average score of 2.83 / 5, indicating that stakeholders want WPD to ‘do a bit less’ (E072), while stakeholders in the East Midlands gave the output an average score of 3.75 / 5, with half wanting WPD to ‘do more’ or ‘do a lot more’, and the other half thinking that WPD had the right level of ambition on this output (E074).

1.14 A government stakeholder noted that they sit on a public safety committee and a lot of work has been done on overhead line issues, particularly with agriculture, but they are open to new ideas and collaboration with WPD (E072).

1.15 Stakeholders felt that apart from raising awareness on public safety, WPD needs to communicate how customers can report faults, as on the website it is not clear how to do that except if it is a power cut (E072).

# Sub-topic: Broad customer experience

**What we heard in early 2020:**

Stakeholders were very interested in improving customer service and communication around power cuts and faults. It was noted that a range of mediums is required to be able to communicate with the range of customers, from interactive online maps, webchats and landline telephone calls. Stakeholders were generally unaware of the many services WPD already offer in this space and thus a promotion campaign was suggested. Furthermore, proactive messaging of customers was preferred.

Stakeholders were very concerned about the worst-served customers and how WPD planned to decrease their numbers. It was suggested that many of these areas tend to be in rural areas and WPD should both prioritise reinforcement in these areas and also work with local councils and community groups to increase the area's resiliency, potentially with the deployment of storage technology. Better communication with customers was also noted, both for planned and unplanned power cuts, and customers wanted to have an estimated length of time the power would be off. Stakeholders realised that some of these improvements could be expensive, however, it was noted that this shouldn't come at a disproportionate increase in cost to customers.

## Summary of Phase 3 feedback

2.1 Stakeholders were of the view that WPD is already providing a high level of customer service, but that the company needs to maintain and improve that in light of both Covid-19 and the continuously increasing demand as a result of electrification initiatives. Covid-19 stressed the importance of communication in planned and unplanned power cuts more than ever, especially to vulnerable customers. Although most customer service and satisfaction improvements were welcome, there was widespread agreement that there needs to be a balance between the level of ambition and the cost.

2.2 Stakeholders discussed that a range of communication processes and systems is needed, such as telephone and social media platforms, although it was noted that any effort to digitalise customer service should not leave the non-digitally native or vulnerable behind. Especially during power cuts, telephone was seen as the preferred means of communication. Moreover, there was support for mapping initiatives, although half of stakeholders asked were not aware of WPD existing digital services, while text messages were seen as the most effective way to push notification to the right people for cases such as planned works.

2.3 A total of **222** pieces of feedback were collected for the broad customer experience during phase 3 engagement, which adds to the **120** pieces collected during phase 2, and further **21** pieces collected during phase 1.

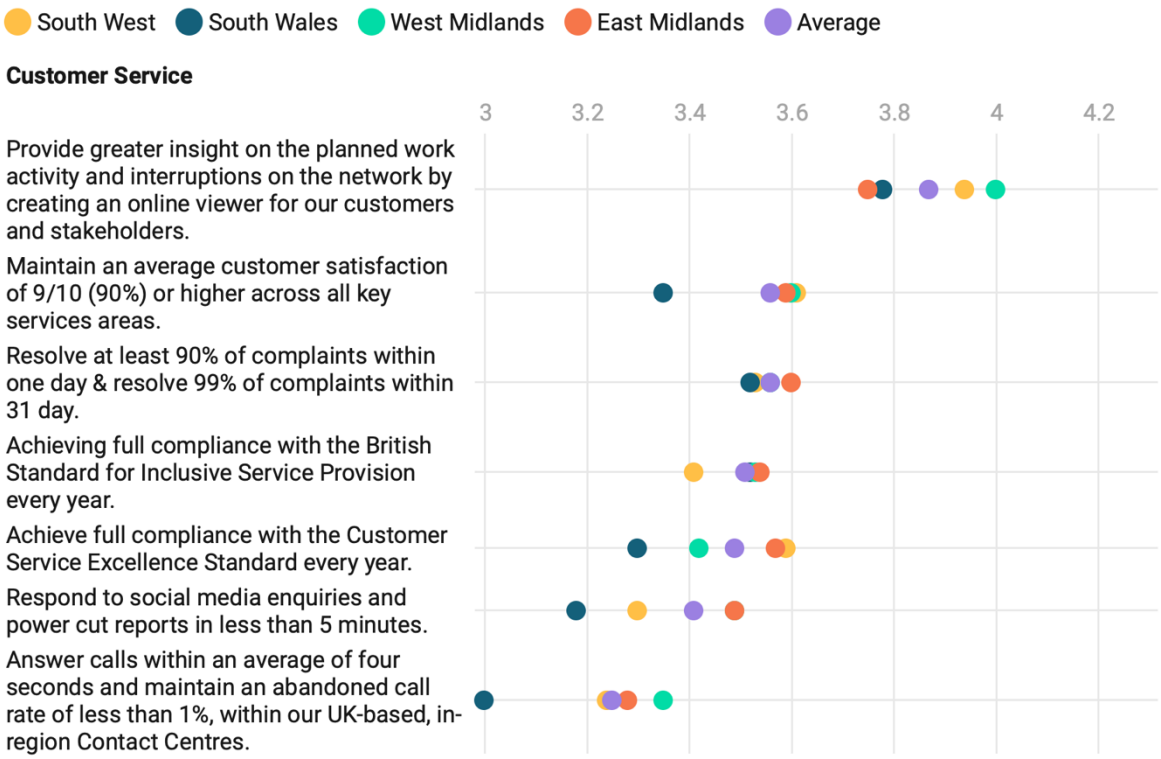


Figure 7: Customer Service outputs as voted for in the November workshops

For each output, stakeholders were asked whether WPD had got the right level of ambition, answering on a scale of 1 to 5 whether they should 'do a lot less' (1) through to 'do a lot more' (5). The online polling results are displayed per region and as an average out of 5.

| Customer Service Measures/ Performance Targets | Result |
|---|---|
| Maintain an average customer satisfaction of 9/10 (90%) or higher across all key services areas | Acceptable |
| Achieve full compliance with the Customer Service Excellence Standard every year, undergoing rigorous external assessment and benchmarking every year to evaluate our performance | Acceptable but could stretch |
| Answer calls within an average of two seconds and maintain an abandoned call rate of less than 1% | Relax |
| Provide a 24/7 online web-chat facility, with an average speed of response of less than 45 seconds | Acceptable |
| Respond to Twitter enquires and power cut reports in less than 5 minutes | Acceptable but extend |
| Provide restoration times and progress updates on every planned and unplanned outage | Acceptable but more specific |
| Provide a wide range of inclusive customer contact channels and accessibility tools<br>Achieving full compliance with the British Standard for Inclusive Service Provision every year | Acceptable but minimum standard |
| Resolve at least 90% of complaints within one day & resolve 99% of complaints within 31 days | Relax (first part), Acceptable (second part) |
| Make automatic payments to customers for any Guaranteed Standards of Performance failures, without the need for customers to apply | Acceptable but minimum standard |

Figure 8: Proposed Customer Service Measures from the Measures of Success workshop, where stakeholders were asked to review the draft Business Plan outputs of the top priority areas they identified and comment on whether the ambition should increase/stay the same/decrease.

## Detailed feedback

**Feedback for the Broad customer experience can be divided into three themes:**

- General customer service
- Power cuts and faults
- Communications process and systems

### General customer service

2.4 There was broad consensus that WPD is leading in the area of customer service and that they should continue to strive for high levels of service. However, stakeholders did caution that this needs to be balanced against how much it costs (E043, E072, E073, E074, E075). Suggestions for improvement included reporting an NPS score or benchmarking WPD against other DNOs (E071, E073).

2.5 Stakeholders felt that WPD should support the green recovery by continuing to provide good customer service as its workload increases (E045), as it was felt that increased electrification may lead to a surge in demand and therefore increase the pressure on achieving these high standards of customer service (E073).

2.6 Stakeholders indicated that they considered WPD's priorities under Customer Service to be unchanged as a result of the Covid-19 pandemic (E072). Some stakeholders commented that during the first Covid-19 lockdown, it was hard to get through to WPD representatives by telephone, although it was noted that this has now been resolved (E072, E073).

2.7 Covid-19 implications for WPD were that due to the increased economic fear/instability the most vulnerable would become even more vulnerable, especially those who are shielding or isolated, meaning that it is more important than ever that the company continues to deliver high standards of customer service, particularly when dealing with incoming calls from people who need support (E071, E075).

2.8 Despite the high levels of approval of WPD's service in this area, a connections provider pointed out that communication on EV charger connections vary significantly and can last up to multiple weeks (E072). A focus on the individual customer at the far end was criticized to be missing by some (E072).

2.9 In terms of customer service, suggested measures or performance targets in the Measures of Success research workshop include: Speed of answering a call 3 rings, Speak to a person vs automated call, Speed of complaint response and resolution 24/48 hours, Number of complaints to Ombudsman, Dedicated telephone number for the most vulnerable, Customer satisfaction surveys to measure experience e.g. staff empathy, staff knowledge, Number of updates during disruptions, Speed of connections, Emergency line for reporting high risk faults e.g. trees/sub stations, Monitoring of twitter/ Facebook, Updates on twitter/ Facebook, as a non-household, Midlands stakeholder noted that they never hear from WPD in the power cut and they would want to see provided updates on Facebook or some other social media, Different channel of contact/communication, and Number of followers on twitter/ Facebook (E071).

## Customer satisfaction

2.10 In terms of the proposed Customer Service measures, “Maintain an average customer satisfaction of 9/10 (90%) or higher across all key services areas” was seen as acceptable (E071). When voting for this output, stakeholders in the South West broadly agreed, although the score (3.61 / 5 – the second highest ranking under Customer Service) demonstrated that on average stakeholders did want WPD to be a bit more ambitious (E072). In South Wales, this output was ranked lower than the average baseline at 3.35 / 5 (E073), as was in the East Midlands, at 3.59 / 5 (E074). Meanwhile, in the West Midlands, it was the second most high scoring output in this area, scoring 3.6 / 5. Over half of stakeholders (53%) voted 3, meaning that they thought this represented for right level of ambition for ED2, with the remainder voting either 4 or 5 / 5 (‘do more’ or ‘do a lot more’) (E075).

2.11 Stakeholders noted that the current satisfaction level is similar to that of the ED2 target, so it was felt WPD could stretch this a bit further. It was suggested that the focus seems to be more on domestic customers, whereas there ought to be a separate means of communication with large/business users about changes as well as for opportunities that are coming up for industrial customers (E072, E073). One stakeholder mentioned that having key account managers would be ideal (E073).

2.12 The point was made, regarding how customer satisfaction is measured, that satisfaction surveys are not necessarily always accurate, depending on participants situation, e.g. if they are disadvantaged (E072). It was also noted that new developments and large projects make local networks more susceptible to power cuts and issue with supply, with a local authority explaining that this might be the reason customer satisfaction might not reach 90% in their area, as they are faced with about 2,000 in the next 10-15 years (E075). The youth audience in the Youth Community Measures of Success Research thought WPD needs to get a third party to measure satisfaction (E078).

2.13 The measure to “Resolve at least 90% of complaints within one day was seen as possible to be relaxed to e.g. 99% within 31 days, and resolve 99% of complaints within 31 days” was seen as acceptable, and that it covers both easy and complex cases (E078). It was thought there is potential to review both parts of this measure and introduce something on overall number of complaints which feels important (E071).

2.14 In the South West, the output to “Resolve at least 90% of complaints within one day and resolve 99% of complaints within 31 days” was ranked 3.53 / 5, meaning stakeholders wanted WPD to do a little bit more, although 50% of stakeholders thought it had the right level of ambition (E072). In South Wales, it scored just under the average baseline with 3.52 / 5, with the majority (65%) feeling WPD had got the right level of ambition (E073). In the East Midlands, it ranked second for the priority area, but just below the baseline average for all outputs at 3.6 / 5. Similarly, in the West Midlands (E075), stakeholders voted the output as the third highest scoring Customer Service output (3.65 / 5), but almost half of stakeholders (47%) voted that this output represented the right level of ambition for ED2 and that WPD should not necessarily go further than the target stated in this area (E075).

2.15 Some felt one day is too ambitious and would cost too much to achieve, while others felt 31 days was too long. One stakeholder did point out that WPD may want to

consider different targets for different types of customers, for example, large connections customers would not expect their complaints to be dealt with so quickly, and the suggestion was made to make the target 28, rather than 31 days for easiness of measurement (E072, E075).

2.16 Another stakeholder urged WPD to improve the compensation process for landowners, by setting out to them their entitlements in a clear way, so they know that they are being compensated for their time or losses (E072, E074).

2.17 The measure to "Make automatic payments to customers for any Guaranteed Standards of performance failures, without the need for customers to apply" was seen as acceptable, but a minimum standard rather than a target (E071). The same measure was perceived positively by the young audience, which said that it recognises that people are busy and might be unaware so automation is a benefit (E078).

2.18 In the South West, 71% of stakeholders felt that the output to "Achieve full compliance with the British Standard for Inclusive Service Provision every year" had the right level of ambition (E072), while it received 3.52, just under the baseline average in South Wales (E073), ranked lower than the baseline average at 3.54 / 5 in East Midlands, with most (54%) feeling it was the right level of ambition, but that it needs to become less vague (E074), and scored much lower than the average baseline with 3.53 / 5 in the West Midlands, as stakeholders commented that it needed more explanation (E075).

2.19 The measure to "Answer calls within an average of two seconds and maintain an abandoned call rate of less than 1%" was seen as possible to be relaxed as is overachieving (E071).

2.20 The output to "Answer calls within an average of four seconds and maintain an abandoned call rate of less than 1%" scored lowest of all outputs under Customer Service and was thought to have the right level of ambition across all regional workshops, with about 13% of each group wanting WPD to do less. In the South West it received 3.24 / 5 –only 27% wanted to see WPD 'do more' or 'do a lot more' (E072), in South Wales, it received 3 / 5 (E073), in the East Midlands 3.28 / 5 (E074), and in the West Midlands 3.35 / 5 (E075).

2.21 Stakeholders felt that the ambition of answering calls in four seconds was considerably less than the 1.91 seconds for customer fault and emergency calls. Particularly in the South West, it was felt that having such an ambitious target was slightly unnecessary, particularly compared to other companies whose response rate is far slower, whereas other stakeholders thought that the answer rate is a good standard to set (E074, E075). There was concern that such an ambitious target would cost too much money (E072).

### Power cuts and faults

2.22 Importance was placed on avoiding power cuts and faults at all costs, given the number of people working from home and the need for the domestic supply to be reliable and high quality in terms of service (E073).

2.23 In relation to the output We will aim to meet all Guaranteed Standards of Performances, a government stakeholder requested that failures be presented as a percentage for interpretation reasons (E073). Several stakeholders commented on the 18 failures to date, with one asking for more context and another feeling that, given the volume of work WPD does in this area, this figure is fairly small – although the target should always be to have none (E074).

2.24 Stakeholders strongly felt that customer service is most critical in the event of a power outage. Priorities suggested included the need for clear and concise communication with one number to call if there is a power cut, and awareness-raising of the 105 number (E071, E078). The youth audience at the Youth Community Measures of Success Research thought that providing progress reports is important especially at point of power cut and especially in current climate when everyone is home (E078).

2.25 Stakeholders agreed that WPD should focus on improving its customer service in terms of planned interruptions (E072, E073), and that that those stakeholders who experience repeat power cuts need to be prioritised, particularly in terms of the time it takes to get through to customer support (E072). A laid-out procedure for reporting faults that takes you through the steps was requested, especially for business customers, that connects to an engineer rather than an operator aimed solely at domestic consumers (E073).

2.26 On the positive side, domestic customers stated that they do not face issues with long power outages and when there is an issue WPD resolves it within the timescales that it has put forward (E043), but that the focus should be on the rural and the areas with more outages (E075).

2.27 In the WTP report, 'Proactively provide affected customers with relevant updates during power cuts' came 14th out of 24 initiatives for household customers, and 16th out of 24 for non-household customers. It was also ranked as 14th overall among households, but ranked 22nd by the 18-29 age group, and 12th by the 30-59 age group. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £0.90, or 0.16% of the total increase to Proactively provide affected customers with relevant updates during power cuts (E061).

2.28 The measure to “Provide restoration times and progress updates on every planned and unplanned outage” was seen as acceptable but sharper targets are needed, such as % of people updated, and in what timescale, and the measure to Respond to Twitter enquires and power cut reports in less than 5 minutes was seen as acceptable but needs to be extended across all platforms (E071).

2.29 The output to “Respond to social media enquiries and power cut reports in less than 5 minutes” received the second lowest average ranking in the South West (3.3 / 5) demonstrating that stakeholders felt it was about the right level. Most stakeholders (64%) agreed it was the right level of ambition (E072). The output ranked second lowest out of those for Customer Service with 3.18 / 5 in South Wales. Views were split, however, with 18% wanting WPD to ‘do less’, 59% saying it was the right level and 23% wanting them to ‘do more’ or ‘do a lot more’ (E073). In the East Midlands, this ranked second lowest (and below the average baseline) at 3.49 / 5 (E074). Lastly, in the West Midlands, 60% of stakeholders were of the view that WPD’s target is

appropriate, while 38% thought that the company should go further against this target (E075).

2.30 Social media was favoured due to the far wider reach of information and therefore a greater impact, than telephone calls (E072, E075). There was some discussion about which platform is most effective, with some feeling Facebook is more effective for reaching customers. The suggestion was made that WPD should use parish councils to post updates on Facebook as it would not be practical for WPD to join every single community Facebook page in their patch (E072). However, the point was also made that during power cuts, social media might not be the chosen method of contact for most, and that it was less important than the response rate for phone calls (E074). The young audience stated that webchats are their preferred means of communication and touched upon the webchat being the first point of contact considering that some people face social anxiety and prefer other means rather than phone calls (E078).

2.31 The output to "Provide greater insight on the planned work activity and interruptions on the network by creating an online viewer for our customers and stakeholders" was one that most stakeholders across regions wanted WPD to do more in. It received the highest vote in the South West, 3.94 / 5, with 64% of stakeholders wanting WPD to 'do more' or 'do a lot more' (E072). It likewise ranked highest in its area, and higher than the baseline average for all outputs with 3.78 / 5 in South Wales. In fact, 60% answered that they wanted WPD to 'do more' or 'do a lot more' in this area (E073). In the East Midlands, it was the only Customer Service output to be ranked higher than the average baseline in the online poll, at 3.75 / 5, (E074). Lastly, in the West Midlands, it scored 4 / 5 and was, in fact, the joint highest scoring of all the outputs voted on in the workshop. Only about a quarter of stakeholders voted 3 / 5 out of 5, meaning that they thought WPD had got the right level of ambition for this output, with almost three quarters (74%) of the view that the company should go further. Notably, no one voted that the company should do less in this area (E075).

2.32 Stakeholder suggestions included the creation of a website where details about notifications are shown, so that customers know if the work that will be happening is planned or unplanned and an estimate of how long it will take, and when there are planned works, it needs to be communicated well in advance. Notably, business customer said they were not aware of the power cut app but when they downloaded it, it gave them all the information needed. (E072, E074).

2.33 Some stakeholders thought that an online portal will be advantageous, although they know that WPD already informs customers of planned network activities, whereas others said that people will not be checking that, so communication needs to be more proactive. But they said that an online viewer is not necessarily good as you will not check it, it needs to be proactive, such as with text notifications and direct contact with large users. More importantly, a distributed generation customer said that during the outage, one would not have the power to actually go online to check the online viewer (E072, E074, E075).

## Communications process and systems

2.34 Stakeholders agreed that a range of communications tools and methods were required, including telephone, social media and online tools. The point was made a number of times that the company should not seek to engage primarily on social media as this is not the preferred method of communication for many, particularly the most vulnerable. It was added that research should be carried out to learn more about customers' preferred communications channels (E072, E073, E074, E075).

2.35 Stakeholders would like to have a clearer route in to speak to the relevant WPD representative, with a published list on who to contact in different departments being suggested (E072).

2.36 The measure to "Achieve full compliance with the Customer Service Excellence Standard every year (Provide a wide range of inclusive customer contact channels and accessibility tools), undergoing rigorous external assessment and benchmarking every year to evaluate our performance" was seen as acceptable but could stretch to 'compliance plus' to show ambition (E071).

2.37 In the regional workshops, Stakeholders were not entirely clear what was included in the Customer Service Excellence Standard. 56% of stakeholders in the South West felt that the output had the right level of ambition (E072). In South Wales, it ranked slightly lower than the baseline average with 3.3 / 5 and the majority (74%) answering that WPD has the right level of ambition (E073). Similarly, in the East Midlands, it ranked lower than the baseline average at 3.57 / 5, with most (55%) feeling it was the right level of ambition (E074). Lastly, 62% of stakeholders in the West Midlands scored it 3 / 5, meaning that it was seen as being the right level of ambition, although it should be noted that only one stakeholder thought that WPD should 'do a little less' in this area (E075).

2.38 Stakeholders required more context and details on the CS Excellence Standard, but they did agree that a range of channels and tools should be adopted. It was noted that both analogue and digital channels will be required depending on different customer needs. It was cautioned that WPD needs to care for the customers who are not digital natives (E072, E073, E074, E075, E078). In contrast, the Youth Community Measures of Success Research revealed that a 24/7 webchat and overall digital communications are expected by the young audience (E078).

2.39 In terms of the proposed Customer Service measures, "Provide a 24/7 online web chat facility, with an average speed of response of less than 45 seconds" was seem as acceptable, although only for emergencies (should not expect to talk to someone about connections at 2.30am) and there needs to be assurance that it is manned by WPD and not an automated chat (E071). A stakeholder in the South West also suggested that, in time, WPD could educate people to communicate with them in the format that best suits the company, but at the moment it would seem WPD prefers telephone calls (E072).

2.40 Regarding data access, most stakeholders in South Wales (86%) and the South West (62%) were aware of WPD's Energy Data Hub. However, only a third of stakeholders in the East Midlands (33%) and around a fifth of stakeholders in the West Midlands

(22%) had heard of it, indicating a marked regional disparity in levels of awareness (E069).

2.41 Feedback from stakeholders that have used the Energy Data Hub included that it is in a good format, but it would be useful to have more information at HV level as well as EHV, it would be preferable if it could be cross compatible with other DNO datasets, possibly through API, for ease of use across a wider area. Alternatively, supplying substation information via spreadsheet would be helpful for analysis purposes. The data for headroom capacity at sub-stations is also very useful and being able to download this as part of the shape files or as separate data would be useful in determining where infrastructure could accommodate additional development needs (E069).

# Sub-topic: Fuel Poverty

**What we heard in early 2020:**

Stakeholders felt strongly that WPD should do everything in their power to help reduce fuel poverty. This starts with the identification of individuals that are fuel poor, before moving on to the collection of their data and accurate mapping. This data should subsequently be shared with WPD's partners to maximise the effectiveness of all services.

The next step discussed was the education of those in fuel poverty of the services and opportunities available to them as well as simple steps of how to access these services. While some stakeholders noted that it was not just WPD's responsibility to reduce fuel poverty (naming the suppliers and the government as having the most responsibility), WPD could do a lot to help in this area. Firstly, improving customer insulation could not only reduce the demand for WPD's assets but also help reduce the costs for fuel poor customers. Secondly, WPD should help customers access cheap electricity through low carbon sources (like community wind and solar projects). Thirdly, stakeholders wanted WPD to plan for future ways that they could help reduce fuel poverty such as the development of peer-to-peer trading and lobbying for better electricity tariffs.

## Summary of Phase 3 feedback

3.1. Covid-19 was felt to have exacerbated fuel poverty, pushing more people to it, and therefore requiring enhanced efforts for identification and support from WPD. As a result, it was also thought that a lot of the targets need to become more ambitious to account for this increase in the number of customers struggling. A minority of stakeholders thought however, that this was more the responsibility of the government or suppliers.

3.2. Stakeholders raised the issue of a stigma around the fuel poor label and made suggestions for rephrasing it. It was also noted that Fuel Poverty is defined differently between England and Wales. Reducing fuel poverty was thought to be a result of strong collaboration and data sharing across organisations and suppliers, especially healthcare providers and emergency services.

3.3. A total of **77** pieces of feedback were collected for fuel poverty during phase 3 engagement, which adds to the **97** pieces collected during phase 2, and further **16** pieces collected during phase 1.

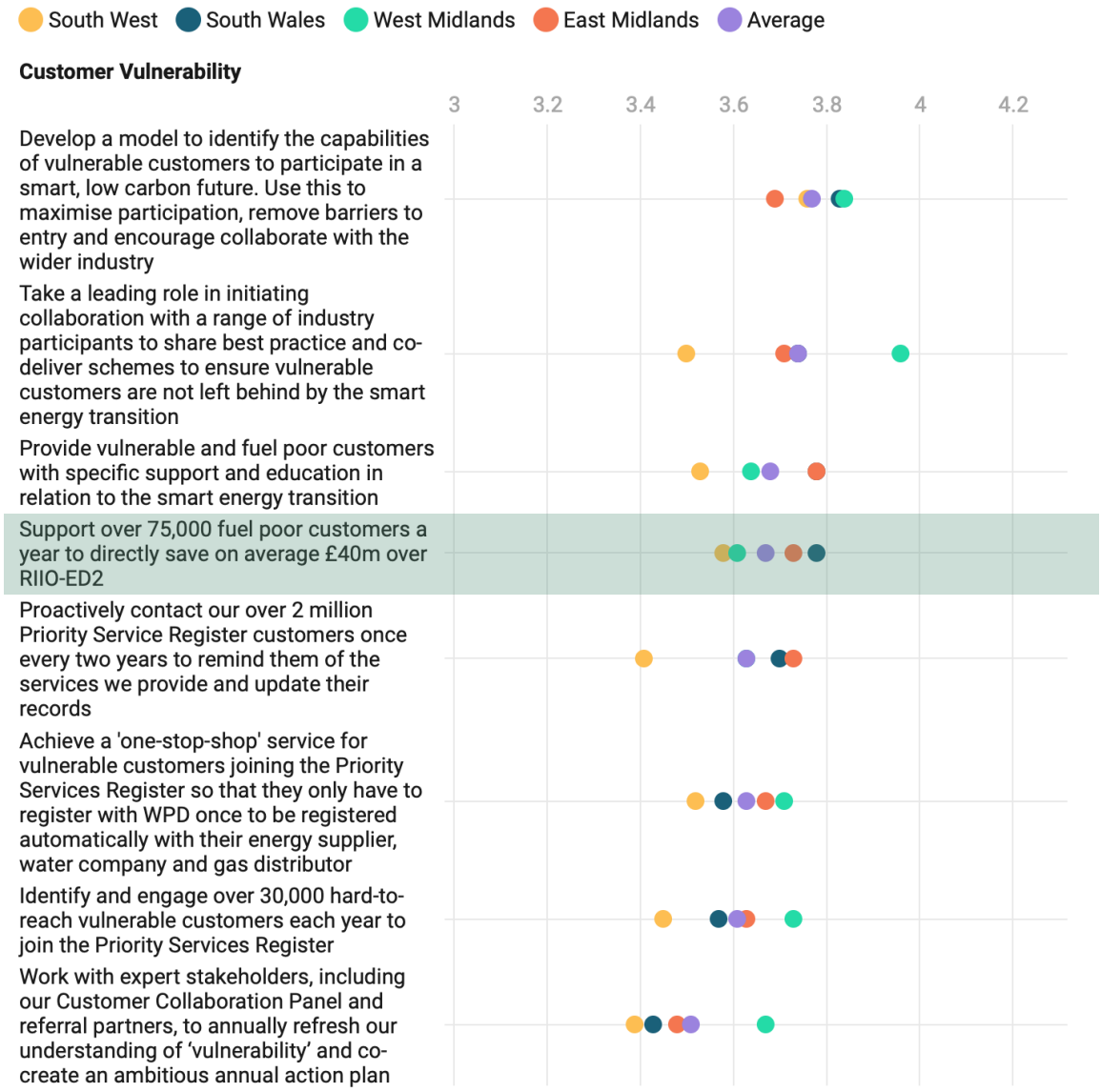


Figure 9: Customer vulnerability outputs as voted for in the November workshops

*Also includes Customer vulnerability outputs, but the relevant Fuel poverty outputs have been highlighted in green.

For each output, stakeholders were asked whether WPD had got the right level of ambition, answering on a scale of 1 to 5 whether they should 'do a lot less' (1) through to 'do a lot more' (5). The online polling results are displayed per region and as an average out of 5.

| Fuel Poverty Measures/ Performance Targets | Result |
|---|---|
| Support over 15,000 fuel poor customers a year to directly save on average £8.25m per year | Increase |

Figure 10: Proposed Fuel Poverty measures from the Measures of Success Research workshop, where stakeholders were asked to review the draft Business Plan outputs of the top priority areas they identified and comment on whether the ambition should increase/stay the same/decrease.

## Detailed feedback

**Feedback for Fuel Poverty can be divided into four themes:**

- General
- Identification
- Fuel poverty reduction
- Funding and community energy groups

### General

3.4 Stakeholders agreed that WPD should address fuel poverty and that the importance of doing so has only increased in response to the Covid-19 pandemic due to the rise of fuel poverty (E072, E073, E074, E075). Charities and NGOs expressed concern that the fuel poor will be even more adversely affected during the winter since they have been given their warm home discount early (E047). Some stakeholders did, however, feel that addressing fuel poverty was more a responsibility of the government or suppliers (E071).

3.5 There was a highly positive response to the 14 partnership schemes tackling fuel poverty, which was considered a tangible initiative (E071).

3.6 Stakeholders agreed that there is a stigma attached to being labelled fuel poor. Suggestions were made to rephrase it to ‘affordability’ or ‘fuel priority’ or in the context of the whole transition to a low-carbon community (E047).

### Identifcation

3.7 Stakeholders noted that the Covid-19 pandemic and lockdowns have resulted in changes to energy use and has thus impacted fuel poverty. This means that further identification needs to be done to identify people that have become fuel poor (E045) and support them (E047). A Parish Council noted that research needs to be done to shape the impacts of the pandemic as people who were already fuel poor will have increased outgoings due to working from home (E047).

3.8 There was praise for the Power Up tool, which was characterised as very useful for identifying vulnerable customers and in fuel poverty. A charity familiar with the scheme also noted that it plays a vital role in pinpointing wider trends and specific personal characteristics among people in fuel poverty (E047, E073).

3.9 Several stakeholders stressed the importance of holistic support to fuel poor customers, by for example cross-referrals from healthcare providers, and more collaboration between WPD and the emergency services, as they see people on the ground as part of their work and they can identify signs of fuel poverty (E047, E075).

3.10 It was also suggested that as well as a Priority Services Register, there should be a fuel poverty register for identification purposes (E047). Also, WPD need to bear in mind that Fuel poverty is defined differently between England and Wales, which does not help (E073).

3.11 Some stakeholders noted that signals can help identify and then treat fuel poverty, for example, people who put 50p in the meter are the people more at risk of fuel poverty (E074).

3.12 In terms of challenges, it was noted that some properties are well below the required standard for energy efficiency, despite the residents not necessarily being in fuel poverty, so they are hard to be identified and reached (E072).

## Fuel poverty reduction

3.13 Stakeholders thought it is very positive fuel poverty is included in the outputs and urged the company to set a target to get a progressive reduction in people living in fuel poverty (E047). Regarding the target to “Support over 15,000 fuel poor customers a year to directly save on average £8.25m per year”, a charity/NGO highlighted that numbers are relevant to how many people are on the PSR (E047), and participants in the Measures of Success research thought that there is potential to increase the target number to capture increasing numbers of fuel poor (E071, E078).

3.14 Stakeholders wanted WPD to collaborate with suppliers to write off dept in order to help more vulnerable customers, as they tend to have pre-paid meters (E047). It was considered crucial to minimise the passing on of increased costs to low-income households wherever possible, taking into account that they are proportionally less likely to be responsible for the increased demand and more at risk of fuel poverty (E063).

3.15 A developer also suggested that, in relation to tackling fuel poverty, a benefit of three phase connections realised through customer bills, is the increased revenues from flexibility and DSR markets can be shared to driven down energy bills (E063).

3.16 In regard to willingness to pay, in the WTP report 'Protect people who can't afford to adequately heat their homes from being disadvantaged in the future' came 1st out of 24 initiatives for household customers, and 3rd out of 24 for non-household customers. Additionally, 'Identify and help people who can’t afford to adequately heat their homes' came 2nd out of 24 initiatives for household customers, and 1st out of 24 for non-household customers. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £2.00, or 0.35% of the total increase for the former and £1.92, or 0.33% of the total increase for the latter (E061).

3.17 The output to “Support over 75,000 fuel poor customers a year to directly save on average £40m over RIIO-ED2” was ranked second highest among the Customer Vulnerability outputs in the South West with 3.58 / 5, and a slim majority (51%) wanted to see WPD do more or a lot more in this area (E072). In South Wales, it ranked joint second highest under Customer Vulnerability with an average of 3.78 / 5. 60% of stakeholders wanted WPD to be more ambitious, and of these, 17% wanted WPD to ‘do a lot more’ (E073). In the East Midlands, the above output ranked joint second with 3.73 / 4. Most (51%) wanted to see WPD ‘do more’ or ‘do a lot more’ (E074), while in the West Midlands, stakeholders broadly thought that it represented the right level of ambition for ED2 with almost half (48%) voting that the company had got this about right. As a result, this was the lowest ranked of all the Customer Vulnerability outputs (E075).

3.18 The target of £40 million was supported and applauded by some, while others criticized it as not very ambitious, especially if the idea of savings also includes benefits and bill savings, and that when divided it gives a very small figure of savings per customer. It was felt important to put the numbers in context in a local area (E072, E073,

E074, E075).

3.19 It was noted that to achieve this target, WPD will need to engage in collaborative work as they do not have a direct link or the same obligations as suppliers. A suggestion was to target local resilience forums with the mapping systems to garner the resources of other organisations and likely help more people, and people on electric heating who cannot access help (E074).

3.20 Stakeholders argued that it is very challenging to put a sensible benchmark down for fuel poor initiatives, as they do not really know the true numbers. Especially this year with Covid-19, people are losing jobs and will be becoming more isolated, spending more time at home using far more fuel, while the economic repercussions will be adding pressure (E073, E074, E075).

3.21 Taking a more holistic approach to support by including grants and other funding was supported, although from a linguistic perspective one stakeholder suggested rewording the "Support over 75,000 fuel poor customers a year to directly save on average £40m over RIIO-ED2" output to talk about 'financial benefit' rather than savings (E072). One stakeholder was keen to see the output expanded to include customer savings for those with energy inefficient homes as well as those in fuel poverty (E072).

3.22 Stakeholders stressed the importance of batteries and microgeneration for improving the energy efficiency of people's homes, although it was noted that it is still very rare to get a grant for microgeneration, and the effect of local supplies of renewable energy on fuel poverty (E045, E072). It was felt that WPD could also fulfil more of an educational role, by explaining the benefits of flexibility to people in ED2 (E075).

3.23 Energy consultants suggested that, although they agree that there is need for a strategic approach, WPD would be better targeting that money at something that is targeting larger numbers, and further asked for details on how WPD would target the 75,000 because it just looks as if it has picked a number which is a little higher than last time but is not actually targeted (E074).

3.24 Further suggestions to reduce fuel poverty, which was arguably more challenging due to GDPR, included a discount on their distribution charge which would be passed on to the supplier (E074) however, it was argued that there needs to be a balanced approach to ensure that efforts are best targeted but do not result in huge bills for everyone else (E075).

## Funding and community energy groups

3.25 A stakeholder would like to access eco-funding and asked about funding available from a fuel poverty perspective (E046), while another one mentioned that opportunities to work with Community Energy Groups doing investment funds, can then lead to retrofitting and fuel poverty households, so the benefits are far reaching (E046).

# Sub-topic: Social contract

**What we heard in early 2020:**

While discussions with stakeholders in phase 1 focused on the location of the social contract and its overarching content, stakeholders in phase 2 focused on specific issues. First, stakeholders wanted WPD to consider the wider societal impact of their choice of pension fund, specifically that they should not be funding any unsustainable companies such as fossil fuel producers. Stakeholders in Swansea also discussed the importance of aligning WPD's social contract and targets to the welsh government's well-being act and noted that several lessons could be learned from this when constructing WPD's social contract.

## Summary of Phase 3 feedback

4.1. In terms of outputs for the Social Contract, stakeholders in the South West in particular focused on those relating to delivering environmental benefits and meeting Net Zero targets. At all workshops, stakeholders suggested commitments relating to customer vulnerability and fuel poverty. It was commonly felt the commitments need to have a local or regional focus, despite the scale of WPD's network area.

4.2. Stakeholders were keen the social contract is articulated well and that it is concise and written in clear language so people can easily understand its purpose.

4.3. A total of **112** pieces of feedback were collected for social contract during phase 3 engagement, which adds to the **5** pieces collected during phase 2, and further **11** pieces collected during phase 1.

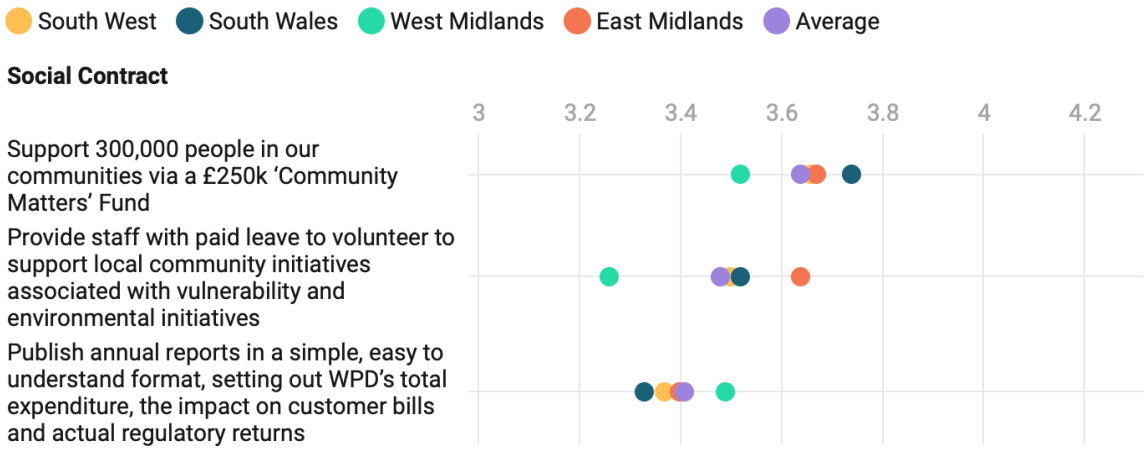


Figure 11: Social Contract outputs as voted for in the November workshops

For each output, stakeholders were asked whether WPD had got the right level of ambition, answering on a scale of 1 to 5 whether they should 'do a lot less' (1) through to 'do a lot more' (5). The online polling results are displayed per region and as an average out of 5.

| Social Contract Measures/ Performance Targets | Result |
|---|---|
| Publish annual reports in a simple, easy to understand format, setting out WPD's total expenditure, the impact on customer bills and actual regulatory returns | Acceptable and expected |

Figure 12: Proposed Social contract measures from the Measures of Success Research workshop, where stakeholders were asked to review the draft Business Plan outputs of the top priority areas they identified and comment on whether the ambition should increase/stay the same/decrease.

## Detailed feedback

**Feedback for social contract can be divided into two themes:**

- The social contract outputs
- The social contract components

## The social contract outputs

### General

4.4 Regarding the commitments for the Social Contract, stakeholders were especially focused on WPD's environmental impact and what the company can do to support the drive towards Net Zero. Other areas that received particular emphasis were delivering positive outcomes for vulnerable customers and supporting community energy (E072).

4.5 Stakeholders did not feel that Covid-19 would change emerging issues or priorities in relation to the priority area of Social Contract. (E072, E073, E074) although one suggested that local authority data on customers that are shielding be cross-referenced with the Priority Services Register (E072, E073).

4.6 Local authorities were particularly interested in the role WPD could play regionally, urging them to get more involved in the development of local energy plans and planning policy, and one stakeholder wanted to know how the Social Contract differs in England compared to Wales (E073).

4.7 A local authority stakeholder would recommend using the UN Sustainable Goals as a framework for building your efforts. Lots of big companies use them for their CSR efforts and they are easy to understand, so they will resonate with people (E074).

4.8 Some stakeholders felt that the draft outputs are more corporate social responsibilities, and that, and required more explanation and detail on why the outputs are being put in place in the Business Plan. A mission statement was said to be required as well as replacing some of the jargon to make the content more accessible (E074). KPIs were also a suggestion to be added although one stakeholder argued that the transition to a DSO should be the focus, causing some of those KPIs to take a hit (E075).

4.9 From an academic point of view, if you split these things into so many elements, the delivery will be very complicated. Stakeholders trust that WPD will do these things well, but the requirements and objectives are too detailed, so they suggested to simplify the whole process to something more like 5 elements rather than 15 (E075).

### Outputs

4.10 Stakeholders in the South West supported the output to "Provide staff with paid leave to volunteer to support local community initiatives associated with vulnerability and environmental initiatives" but were keen for staff to be encouraged to volunteer for initiatives that enable them to share their skills, such as pro bono support to community groups or outreach at universities and colleges. They would also like to make it more

measurable, setting a target to it e.g. number of volunteering hours. In the online poll, most stakeholders (57%) felt the level of ambition was right, although a significant proportion (41%) did want to see WPD 'do more' or 'do a lot more' (E072).

4.11 In South Wales, the above output scored just below the baseline average at 3.52 / 5, with the majority (48%) feeling that WPD had got the right level of ambition, although 9% did want to see WPD 'do less' (E073). In the East Midlands however, it ranked just above the baseline average at 3.64 / 5 (E074).

4.12 Local authority stakeholders said that there needs to more specific information provided about the types of initiatives that the staff would be involved in to get an idea of whether they are appropriate, and that that with voluntary work, it is important that people are going into things of their own will rather than feeling pressured, as volunteering can have a detrimental effect if not handled properly (E074).

4.13 Referring more to WPD's staff, rather than the volunteering aspect, Stakeholder from the West Midlands including a developer, said that for them there is a massive lack of engineers in the population, so WPD could have a big impact going into schools (E075).

4.14 In terms of the measures, "Publish annual reports in a simple, easy to understand format, setting out WPD's total expenditure, the impact on customer bills and actual regulatory returns" was seen as acceptable and expected (E071). Moreover, spontaneous priorities to fulfil WPD role of 'Meeting needs of customers and network users' showed that critical focus is placed on continuous 24/7 supply at an affordable price (E071).

4.15 Regarding the output to "Publish annual reports in a simple, easy to understand format, setting out WPD's total expenditure, the impact on customer bills and actual regulatory returns", most South West stakeholders felt it was the right level of ambition (70%) with an average score of 3.37 / 5, while in South Wales it ranked lowest in this area with 3.33 / 5, which is also lower than the baseline average. Most stakeholders (63%) felt WPD had got the right level of ambition, but 8% of them actually wanted to see WPD 'do less' or 'do a lot less' in this area (E073). It was also the lowest ranked output in this priority area – coming out below the average baseline at 3.4 / 5 in the East Midlands workshop (E074), while in the West Midlands 55% of those polled thought WPD this output was appropriate for ED2, scoring it 3 / 5. 43% were of the view that WPD should go further in this area (E075).

4.16 Comments on this output included a local authority stakeholder suggesting annual updates, in terms of just reporting on time-sensitive elements (E074), that WPD shouldn't necessarily wait a full year to report something that needs to be conveyed across straight away (E074), that this would be more useful for stakeholders rather than the customers on the ground (E074), and that the target audience for this needs to be clarified, whether it is homeowners, business, stakeholders in general or councils (E075).

4.17 Stakeholders expressed support for the output to "Support 300,000 people in our communities via a £250k 'Community Matters' Fund" during the discussions, with one suggesting linking it to crowd funding to leverage additional support. Another wanted the fund extended to community groups looking to roll out low carbon initiatives (E072).

4.18 The above output received the highest ranking in the online poll for this priority area, with the majority in the South West (55%) wanting WPD to 'do more' or 'do a lot more' in this area (E072). Also, in South Wales, it received most support in this area in the online polling, with 3.74 / 5, and 56% wanting to see WPD 'do more' or 'do a lot more' (E073), with a utility stakeholder asking how the fund will be advertised to reach the right people. In the East Midlands, the output ranked highest under this priority area with 3.67 / 5 – above the baseline average. Just over half of stakeholders (51%) wanted to see WPD 'do more' or 'do a lot more' (E074), while in the West Midlands, it was also the most endorsed of the three Social Contract commitments voted on in the online poll with almost half (48%) of those polled voting for WPD to go even further with this output than the stated target (E075).

4.19 Stakeholders felt that local community organisations could be a good channel for raising awareness of the good work of WPD and opportunities for help with fuel poverty (E074).

4.20 Some stakeholders wondered where the figure of 300,000 comes from, while some also raised criticism that the Community Matters Fund is much too small at £250,000, comparing it to a Vulnerable customer representative, who had just won £1.5 million from the lottery for their community of 49,000 people (E074).

4.21 In response to the output We will as a minimum maintain our prime Environmental, Social and Governance (ESG) rating from a recognised agency, stakeholders felt this should be expected rather than be an additional thing on the contract (E075).

## Social contract components

### Transparent reporting

4.22 In terms of the components of the social contract, stakeholders supported the transparent reporting component, with a parish / community council stakeholder suggesting a commitment to regular progress reports on network capacity and carbon emissions (E072). Stakeholders urged WPD to ensure whatever is published is done so in simple language and whatever they decide to do is checked with the customer to ensure it meets their understanding of transparency. One utility stakeholder wanted to see connections customers notified about changing charges (E073), and a local authority stakeholder raised the importance of having an advisory board within WPD to ensure accountability against performance metrics (E075).

### Demonstrating WPD is a diverse, responsible employer

4.23 Referring to the Demonstrating WPD is a diverse, responsible employer component of the Social Contract, a WPD was urged to report its gender pay gap, as a positive and quantifiable KPI and go further in terms of reporting than the gender equality figures that already have to be reported (E072, E074). Stakeholders also wanted to see WPD commit to taking on graduates as part of activities to develop staff, such as mentoring schemes (E073).

## Positive outcomes for customers in vulnerable situations

4.24 Referring to Positive outcomes for customers in vulnerable situations component of the Social Contract, stakeholders felt WPD should consider how to cross-reference local authority data on people who are shielding with the data on the PSR and vice versa, likewise with NHS data. Communication with vulnerable people was felt to be important here, particularly via third party organisations (E072). However, one stakeholder said that a slightly different approach might be useful for the social contract where WPD are actively going out to identify key organisations, for example reaching out to Disability Cornwall and other organisations and having a dialogue with them (E072).

4.25 One stakeholder noted that the Social Contract should seek to support those customers who are vulnerable but may not be eligible for support, for example for replacing gas boilers (E073), and that 1% of customers that are not on anyone's radar (E074). And another stated that in order to improve the grid to allow vehicle-to-grid and electric heating, WPD will also have to get involved in insulation retrofits (E074).

4.26 Some stakeholders thought that this target should be more tangible, with actual numbers of customers engaged and level of engagement (E074, E075).

## Transparent mechanisms so stakeholders can influence decisions

4.27 In relation to the Transparent mechanisms so stakeholders can influence decisions component of the Social Contract, stakeholders placed a lot of importance on WPD being more transparent about the cost of connections, working with other DNOs to create a national dataset laying out potential connection charges (E072).

4.28 Local authority stakeholders and business customers also required a greater link between WPD's plans and local authority plans, with engagement right from planning and infrastructure. The need for a blend of different ways to get involved. Such as, more senior people respond to questionnaires to engage more easily, was highlighted (E074, E075).

## Community and environmental investment / benefits

4.29 Referring to the Community and environmental investment / benefits component of the Social contract, there was a lot of support for WPD enhancing its role in supporting the connection of community energy projects, both in terms of facilitating and providing information but also potentially prioritising their connections. A consumer body stated that across the country there are over 250 community energy groups, with a lot being voluntary, but with some professional organisations capable of delivering high numbers of megawatts. Stakeholders urged the company to lobby Ofgem to enable you to prioritise (E072).

4.30 A local authority stakeholder in South Wales commented that WPD should work with stakeholders to see whether there can be an alignment to drive community benefits (E073).

### Methods for measuring the social impact of activities

4.31 Referring to the Methods for measuring the social impact of activities component of the Social Contract, a local authority stakeholder said that approaching the New Economics Foundation would be a good path forward here. They are good at assessing impacts and wider development, so they could be of assistance (E074).

### Playing an active role regionally

4.32 Referring to Playing an active role regionally component of the Social Contract, stakeholders wanted to see WPD commit to more regular communications with local authorities to support them to understand network constraints, develop local energy plans and achieve their Net Zero ambitions (E072, E073, E074, E075).

### A framework for engaging local communities

4.33 It was noted that WPD could put its local expertise to use within communities, for example by providing simplified information to parish councils or domestic customers. Similarly, it was felt that WPD could adopt the role of a 'good neighbour' within communities (E075).

### Excellent environmental performance

4.34 On the Excellent environmental performance component of the Social Contract, stakeholders felt strongly that WPD's Social Contract needs to include commitments that prioritise decarbonisation and lead the way in achieving Net Zero – earlier than 2050. WPD's role as part of a whole energy system was reiterated here (E072, E074).

### Innovation to meet societal challenges

4.35 Referring to the Innovation to meet societal challenges component of the Social Contract, a local authority stakeholder suggested that a specific fund for innovation would be good (E072).

### Industry leading performance

4.36 Referring to the Industry leading performance component of the Social Contract, a local authority suggested it should compare with other DNOs, in terms of service levels and quality (E074).

### Clarity on tax affairs and dividends

4.37 On the Clarity on tax affairs and dividends component of the social contract, a local authority stakeholder questioned whether WPD had looked into securing a fair tax certification, as another DNO had done (E075).

# Sub-topic: Vulnerable Customers

**What we heard in early 2020:**

Vulnerable customers were once again extensively discussed during phase 2 engagement events. The discussions covered a variety of topics, from the role WPD plays in establishing customer resilience, the identification of vulnerable customers, WPD's partnerships with organisations working in this sector as well as the services WPD provide. Stakeholders feel strongly that WPD should be more involved in this space and that its current efforts should be continued and built upon. Two key takeaways that were discussed extensively were the collaboration between WPD and other partner organisations, charities, and utilities on reducing vulnerability, and how WPD would protect vulnerable customers in the smart network transition.

The collaboration that WPD was currently involved in was praised, but there were multiple calls for WPD to expand its network and work closely with its partners to ensure the customers would receive the best possible service. The transition to a smart network does provide several opportunities, as well as potential challenges as vulnerable customers may have access to new technology and revenue streams (such as peer-to-peer trading or battery storage), but will also have to get to grips with the complex technology deployed in their homes, which could be challenging without substantial support from WPD.

## Summary of Phase 3 feedback

5.1 Vulnerable customers were once again extensively discussed, with the Covid-19 pandemic having a significant effect on the number of people becoming vulnerable as well as on more and different vulnerabilities surfacing, around digital services, loneliness, isolation, and mental health. This had a direct effect on communication and support initiatives as volunteers revealed facing more difficulty to get in contact with people as well as some cases of abuse.

5.2 Stakeholders agree that a robust identification process is essential, one that leverages data sharing, and a referral network across organisations and bodies. The 'one-stop-shop' service was extensively supported, although data and customer privacy issues were raised. It was noted that awareness of the PSR has become digital, through social media rather than word of mouth or personal interaction, which adds an additional challenge to identify and support the digitally non-native. WPD was urged to widen the scope of customer contact to include the provision of wider support at the same time.

5.3 The need for network reliability especially for vulnerable customers was stressed, as well as the importance of ensuring that they are not disadvantaged or left behind as a result of the transition to a smarter and more digital network. Education on new technologies and flexibility initiatives were thought to be central to avoid this.

5.4 A total of **257** pieces of feedback were collected for vulnerable customers during phase 3 engagement, which adds to the **382** pieces collected during phase 2, and further **26** pieces collected during phase 1.


Figure 13: Customer vulnerability outputs as voted for in the November workshops

*Also includes fuel poverty commitments, but the relevant outputs for Vulnerable Customers have been highlighted in green.

For each output, stakeholders were asked whether WPD had got the right level of ambition, answering on a scale of 1 to 5 whether they should 'do a lot less' (1) through to 'do a lot more' (5). The online polling results are displayed per region and as an average out of 5.

| Customer Vulnerability Measures/ Performance Targets | Result |
|---|---|
| Proactively contact 1 million Priority Service Register customers each year to provide advice and update their records | Relax and work with partners |
| Achieve a 'one-stop-shop' service for vulnerable customers joining the PSR so that they only have to register with WPD once and give their consent to then be registered automatically with their energy supplier, water company and gas distributor | Acceptable |
| Identify and engage over 30,000 hard-to-reach vulnerable customers each year to join the Priority Services Register | Increase -is 30k good enough |
| Work with expert stakeholders, to annually refresh our definitions and understanding of 'vulnerability'<br>Co-create ambitious annual action plans and deliver training to all frontline staff | Acceptable but question whether this is an annual commitment |
| Develop a model to identify the capabilities of vulnerable customers to participate in a smart, low carbon future | Acceptable |
| Develop innovation trials to improve the way that customers in vulnerable situations can cope in a power cut - utilising the positive impacts of new technologies such as smart networks and low carbon technologies | Acceptable but more clarity needed |
| Provide vulnerable and fuel poor customers with specific support and education in relation to the smart energy transition | Acceptable but need specific measures |

Figure 14: Proposed Customer Vulnerability Measures from the Measures of Success workshop, where stakeholders were asked to review the draft Business Plan outputs of the top priority areas they identified and comment on whether the ambition should increase/stay the same/decrease.

## Detailed feedback

**Feedback for vulnerable customers can be divided into five themes:**

- General
- Identification
- Communication and support
- Affordability and the smart future
- Other

### General

5.5 Overall, stakeholders felt WPD's customer vulnerability work was already industry leading, so it was more a case of maintaining the level of ambition in this area (E047, E071, E072, E073, E074, E075). It was noted that the full impact of the pandemic, is yet to be seen (E073, E075), although stakeholders reported that it had increased the levels of vulnerability – and created new forms of vulnerability. Concern was also expressed that existing agencies would be less able to support these customers during the pandemic, particularly for those that were self-isolating (E073).

5.6 The point was made that the effect of Covid-19 on costumer vulnerability presented an immediate opportunity for WPD to tap into local Covid-19 support groups who had built up a strong on-the-ground understanding of vulnerable people in their areas (E047, E072, E074).

5.7 New priorities were proposed: Adding digital exclusion as a potential consumer vulnerability – at a time when many interactions have to take place online – and participating in the community hubs that are being run by councils and community groups to respond to the Covid-19 pandemic (E047). It was also suggested to begin to think about measurement e.g. surveys to those on PSR to measure experience, targets for referrals e.g. NHS, government shielding lists (E071).

5.8 Further suggestions in terms of what was missing from the outputs included: increasing the speed with which vulnerable customers are contacted in a power cut; greater collaboration and data sharing with parish councils; including worst-served customers in rural areas under the definition of vulnerability; increasing the on-the-ground communications channels in rural areas; and addressing the impact of moving phone lines from copper to fibre (E072).

### Identifcation

**The referral network and data sharing**

5.9 Stakeholders voiced that their collaboration on identifying and referring vulnerable customers has been progressing efficiently. On WPD's customer vulnerability programme, stakeholders said that referral schemes and partnerships are working well, while some stakeholders who have ongoing relationships with vulnerable customers

were very keen to establish a working relationship with WPD (E047).

5.10 It was observed that many customers do not want to label themselves as vulnerable or did not like being asked about something private and as a result, stakeholders wanted to see WPD set up a referral process with partner organisations (E047). Stakeholders agreed that collaboration is essential to refer and identify vulnerable people, including engagement with charity and social services, bodies such as the Association of Carers and Age UK parish council forums, community groups, housing associations, primary schools, the association of local councils, councils and district councillors, and hospitals. These can be used as information points to expand the PSR and as communication channels to vulnerable people (E047, E073, E074, E075).

5.11 In response to which vulnerability and fuel poverty priorities are considered most important, the Measures of Success research workshop revealed the following: Identification of most vulnerable is key starting point and it is important to work with third parties, local authorities, suppliers, etc (E071).

5.12 In terms of customers' willingness to pay, 'Improve the identification of customers potentially vulnerable during a power cut' came 5th out of 24 initiatives for household customers, and 8th out of 24 for non-household customers. In particular, although it was ranked as 5th overall among households, it ranked 12th by the 18-29 age group, 3rd by the 30-59 age group, and 4th by the 60+ age group, and similarly, although ranked as 5th overall among households, it ranked 12th by SEG AB (Higher & intermediate managerial, administrative, professional occupations), 6th by SEG C1C2 (Supervisory, clerical & junior managerial, administrative, professional occupations and skilled manual occupations), and 3rd by SEG DE (Semi-skilled & unskilled manual occupations, Unemployed and lowest grade occupations). By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £1.38, or 0.24% of the total increase to Improve the identification of customers potentially vulnerable during a power cut (E061).

## PSR

5.13 Stakeholders working with WPD on contacting priority service customers said that the process runs smoothly (E047). However, it was noted that the most vulnerable customers may not have the competence to contact WPD, so proactive engagement continues to be essential, and that due to Covid-19, raising awareness on the PSR has changed from being word of mouth to social media interaction (E072, E074, E075).

5.14 It was also criticized that there was no mention of the challenges of the collection and expansion of PSR data, and there was concern about the proportion of the PSR that falls into the temporary vulnerability category. The suggestion was made for WPD to widen the scope of customer contact to include the provision of wider support at the same time (E047). However, some stakeholders worry that WPD are too understaffed to deal with increased PSR callouts and wanted to hear what the contingency plan was in case the pandemic got worse over winter (E045).

5.15 A general observation was that most participants of the Measures of Success research workshop had not heard of the PSR and felt that it was an important initiative to prioritise those most in need at the point of a power outage, while the priority considered

most important was Maintaining an up-to-date PSR (E071).

5.16 Stakeholders broadly agreed with the output to “Identify and engage over 30,000 hard-to-reach vulnerable customers each year to join the PSR, particularly for ensuring personal engagement with customers who find themselves vulnerable”. The output received the third lowest score of those under Customer Vulnerability in the South West (3.45 / 5) indicating that broadly stakeholders felt it was about the right level of ambition (E072). In South Wales, it was ranked second lowest for Customer Vulnerability with an average score of 3.57 – just above the baseline. Most (57%) felt the level of ambition was right (E073). In the East Midlands, this output ranked 0.01% above the baseline average at 3.63 / 5. It was second lowest in this priority area, with most (53%) feeling the level of ambition was right (E074). Lastly, the average score from stakeholders in the West Midlands on the output was 3.73 / 4, with 62% voting that WPD should endeavour to go further in this area (E075).

5.17 Stakeholders recognised the challenging nature of this target, particularly if vulnerable customers have issues such as anxiety, ill mental health, do not speak the English language or are not digitally literate (E045, E047). Interest was expressed in the people who are not necessarily hard-to-reach but just do not know about WPD and the PSR, while a government stakeholder voiced that often people do not realise they are vulnerable, so they would like more automation to be involved for greater chance of capturing even more people e.g. as a result of catching Covid-19 (E072, E073).

5.18 Stakeholders required a justification for the target of 30,000 and more context to deem if it is appropriate or not, but some would still like to see the target stretched, especially if the number refers to only attempted contacts and not active engagement (E047, E072, E074, E075).

5.19 Stakeholders expressed support for the measure to “Proactively contact 1 million Priority Service Register customers each year to provide advice and update their records”. Most were generally comfortable with the ambition of 1 million, although the suggestion was made to compare that target with what other DNOs are doing (E047), although others felt it has some potential to be relaxed or rethought by working in collaboration with others (E071).

5.20 The output to “Proactively contact our over 2 million Priority Service Register customers once every two years to remind them of the services we provide and update their records” received the second lowest score of those under Customer Vulnerability in the South West, with the largest proportion (62%) feeling that WPD’s level of ambition here was right (E072). In South Wales, just under half (48%) felt WPD had got the right level of ambition, although just over half (52%) wanted WPD to ‘do more’ or ‘do a lot more’ (E073). In the East Midlands, this output ranked second highest with 3.73 / 5 and a majority (53%) wanting to see WPD ‘do more’ or ‘do a lot more’ (E074), while around half of stakeholders polled in the West Midlands (48%) were of the view that the output represented the right level of ambition, with the other 50% wanting WPD to go even further (E075).

5.21 There was agreement among stakeholders that the percentage should be adapted to the different needs of rural and urban areas (E072, E074, E078), and that more granularity is needed to ensure WPD is prioritising contacting the most vulnerable as part of the data cleanse (E073). A Parish / community council also asked whether the target

is the limit or the bare minimum (E075). The youth audience in the Youth Community Measures of Success Research thought that many people are unaware of things available to them and the benefits (E078).

5.22 There was some debate over how long people want to be contacted, urging WPD to provide a tailored service, accounting for more sensitivity to types of vulnerabilities, e.g. avoid calling a vulnerable customer with a lifelong degenerative condition and asking whether things have improved for them, and consider how home visits have now become digital, threatening to leave the least digitally enabled at risk (E072, E075).

## Cross-industry collaboration

5.23 There was support for "Achieving a 'one-stop-shop' service for vulnerable customers joining the PSR so that they only have to register with WPD once and give their consent to be registered automatically with their energy supplier, water company and gas distributor", as stakeholders felt that cross-industry collaboration and sharing best practice is important (E047, E071, E078). Feedback from the PSR Data share with Water event showed that DNOs are keen to re-establish the project to allow for data sharing with the water industry (E051), and discussions for two-way data share with a Water company, showed that stakeholders from both sides were keen to facilitate that (E056).

5.24 The largest proportion (61%) of stakeholders in the South West felt that the ambition for the 'one-stop-shop' output was at the right level, with the remaining 39% wanting to see WPD 'do more' or 'do a lot more' (E072). Likewise, in the South Wales, the largest proportion (58%) felt WPD had got the level of ambition right (E073). In the East Midlands, the ranked third lowest in this area with a score of 3.67 / 5 which is just above the average baseline. 47% felt it demonstrated the right level of ambition, yet a slightly higher proportion (49%) wanted to see WPD 'do more' or 'do a lot more' (E074). Similarly, over half (53%) of stakeholders in the West Midlands were of the view that WPD should go further against this output, with 20% voting 5 / 5 (E075).

5.25 Stakeholders were interested in ensuring that organisations such as their own could have access to this 'one-stop-shop' database, as well as in ascertaining what data would be available – for example, whether the database would list which customers have been approached and by whom (E047), with a stakeholder arguing that even though streamlining data sharing is good, people should not be getting four phone calls from separate utilities in an emergency (E073).

5.26 Some local authority stakeholders suggested that maybe the register needs to be independent from WPD just to make sure it's manageable, and that local resilience forums (LRFs) have a list of all the local vulnerable people and every organisation seems to want to have their own version of that so they would like to see a national database checked and ratified by medical professionals (E074).

5.27 There was concern that the PSR and how it is ran need to be improved fundamentally, while a business customer argued that this is an industry-wide problem and one that should be led by government, and further standardized by Ofgem (E075).

5.28 There was support for making this collaborative and involving the whole of the industry, as well as ensuring it is a nationwide database, although there was concern

that this might be slightly out of WPD's remit. It was also noted that data sharing poses confidentiality and privacy issues, and when done manually, it is time-consuming and can be prone to errors (E047, E056, E072, E073).

5.29 In regard to customers' willingness to pay, "Ensure vulnerable customers only have to register once for all utility companies" came 9th out of 24 initiatives for household customers, and 13th out of 24 for non-household customers on the WTP report. In more detail, although ranked as 9th overall among households, it ranked 18th by SEG AB (Higher & intermediate managerial, administrative, professional occupations), 9th by SEG C1C2 (Supervisory, clerical & junior managerial, administrative, professional occupations and skilled manual occupations), and 5th by SEG DE (Semi-skilled & unskilled manual occupations, Unemployed and lowest grade occupations), and similarly, although 13th overall among non-households, it ranked 19th by Employees 1-49, 17th by Employees 50-249, and 3rd by Employees 250+. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £1.15, or 0.20% of the total increase to 'Ensure vulnerable customers only have to register once for all utility companies' (E061).

### Recognising vulnerability

5.30 Stakeholders agree that in light of Covid-19, more and different vulnerabilities have surfaced, especially around digital services, loneliness, isolation, and mental health (E047) In relation to that, "Work with expert stakeholders, to annually refresh our definitions and understanding of 'vulnerability", and "Co-create ambitious annual action plans and deliver training to all frontline staff" were seen as an acceptable measure but there was question whether this is an annual commitment (E071).

5.31 The output to "Work with expert stakeholders, including our Customer Collaboration Panel and referral partners, to annually refresh our understanding of 'vulnerability' and co-create an ambitious annual action plan" ranked the lowest with 3.39 / 5 in the South West, with 70% of stakeholders responding that it was the right level of ambition (E072). This output also ranked lowest for this priority area also in South Wales (E073) and the East Midlands (E074), just below the average baseline with 3.43 / 5 and 65% of stakeholders confirming WPD had got the level of ambition right, and with 3.48 / 5, respectively. In the West Midlands however, 44% of stakeholders voted in the online poll that the output was appropriate, scoring it 3 / 5, although 56% voted that the company should 'do more' or 'do a lot more' in ED2 (E075).

5.32 It was indeed reiterated that this was particularly important considering the Covid-19 pandemic, which had highlighted the presence of a range of new vulnerabilities. A Storage and renewables provider / installer asked if this work covers improving the numbers of vulnerable people targeted or it relates to better defining what vulnerability is and who is affected? (E072).

## Communication and support

### Communication

5.33 Charities/NGOs further noted that they are experiencing difficulties in working with vulnerable customers, due to the decline in mental health, as they are also getting more desperate customers who are facing multiple vulnerabilities. Moreover, volunteering groups are finding that a lot of people are very private and do not reach out. As a result, they urged WPD to get up to speed with technologies and smart, such as Zoom, and identify communications channels on the ground in rural areas, such as parish councils and next-door groups (E047, E072).

5.34 A local authority referred to how, in light of the pandemic, communicating and dealing with the vulnerable has become even more challenging, giving an example that they have experienced a great deal more abuse, and had to wear a bodycam, so WPD's staff need to brace themselves and prepare for that (E074).

### Power cuts

5.35 In terms of vulnerability and fuel poverty, the general observations were that looking after vulnerable people at point of power outage is critical (E071, E072) and it was thought that "Providing advice and support on power cut preparation" was missing from previous measures. Another measure that was thought to be missing was to "Allow vulnerable customers to choose their contact strategy" (E071).

5.36 It was argued that Covid-19 has worsen the situation of power cuts especially for the vulnerable, as a lot of people often have no alternative fuel (E074). One local authority in the South West commented that they are really stretching targets for electric vehicle charging without sufficient smart grids. This will lead to black outs and brown outs, enlarging the pool of vulnerable customers (E072). And a business customer criticized that with BT moving away from copper cables into fibre, when the power goes, vulnerable customers will no longer have reliable phone lines. Ofgem have suggested that they have battery backup for their phones for an hour but this first hour is not necessarily when they need the phone (E072).

5.37 In terms of customers' willingness to pay, 'Provide proactive support and information to vulnerable customers during power cuts' came 4th out of 24 initiatives for both household and non-household customers, but ranked 3rd by women, and 11th by men, and ranked 10th by SEG AB (Higher & intermediate managerial, administrative, professional occupations), and 3rd by SEG C1C2 (Supervisory, clerical & junior managerial, administrative, professional occupations and skilled manual occupations). By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £1.41, or 0.25% of the total increase to Provide proactive support and information to vulnerable customers during power cuts. In addition, 'Provide support and information to vulnerable customers to help them be more resilient to potential power cuts' came 6th out of 24 initiatives for household customers, and 7th out of 24 for non-household customers. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £1.38, or 0.24% of the total increase to Provide support and information to vulnerable customers to help them be more resilient to potential power cuts (E061).

### Other

5.38 A business stakeholder asked how convoluted it would be if there was need to request additional funds from Ofgem (E060).

## Affordability and the smart future

### Affordability

5.39 A measure in relation to vulnerability and fuel poverty that was identified to be missing was “Providing advice and support on affordability” (E071).

5.40 The WTP report revealed that when it comes to affordability and paying their energy bill, 61% does so without any difficulties, 24% does so with struggle from time to time, for 7% it is a constant struggle, while 1% sometimes fall behind and 1% is having real financial problems and often fall behind. 6% answered do not know (E061).

5.41 At the time of the WTP report interview the Covid-19 pandemic had limited impact in terms of households’ ability to pay their bills, with 89% answering No, they have not fallen behind on any household bills as a result of Covid-19 and only 8% saying yes, while 1% preferred not to say (E061).

5.42 In terms of affordability, a third of household customers had seen their income decrease as a result of the pandemic, with 10% stated their household income has significantly decreased, for 26% it has slightly decreased, for 56% has not changed and for 5% it has slightly increased. 3% answered they do not know (E061).

5.43 With regard to challenge three on Net-zero, the suggestion was made that WPD should look at projects that consider alternative pricing systems for customers in vulnerable situations. It was also suggested local authorities should have a role in this and should be included in addition to community groups (E047). Moreover, a charity/ NGO has identified that there is an increased risk around financial distress and financial premiums in the energy market and that vulnerable customers find shopping around suppliers even more taxing (E047).

5.44 Stakeholders called for WPD to be lobbying hard to get providers supplying pay-as-you-go meters to reduce tariffs of vulnerable people, as the prepayment meters provide the worst value for money and are responsible for the worst instances of fuel poverty (E047).

### Smarter Network

5.45 The measure to “Ensuring that vulnerable and fuel poor customers will not be excluded from benefits from a smarter network” was considered most important vulnerability and fuel poverty priority, while the measure to “Develop innovation trials to improve the way that customers in vulnerable situations can cope in a power cut utilising the positive impacts of new technologies such as smart networks and low carbon technologies” was seen as acceptable but requiring more clarity, such as what technologies will be developed, what is the timeframe and how it will be measured. Additionally, the measure to “Provide vulnerable and fuel poor customers with specific support and education in relation to the smart energy transition” was seen as acceptable

but needs specific associated measures, such as dates, when, who, how many (E071, E078).

5.46 Regarding the output to “Develop a model to identify the capabilities of vulnerable customers to participate in a smart, low-carbon future”, stakeholders suggested using this to maximise participation, remove barriers to entry and encourage collaboration with the wider industry. There was concern that a lack of capital is a barrier to vulnerable customers being able to participate in a smart future and whether the investment required to deliver net zero could come from those customers who will benefit most. This output was also seen as an acceptable measure during the Measures of Success research workshop(E071).

5.47 The measure to “Develop a model to identify the capabilities of vulnerable customers to participate in a smart, low carbon future” was seen as acceptable (E071). The same output with the addition of use this to maximise participation, remove barriers to entry and encourage collaboration with the wider industry received the highest ranking in the online polling among the Customer Vulnerability outputs in the South West and South Wales – 3.76 / 5 and 3.83 / 5 respectively – meaning stakeholders wanted WPD to be more ambitious in this area (E072, E073). In the East Midlands workshop, this output ranked just above the average baseline with 3.69 / 5 (E074), while it was widely supported by stakeholders in the West Midlands, scoring above the 3.69 / 5 baseline in the online poll, with 64% voting that the company should go further than planned (E075).

5.48 It was noted that there are technical challenges to ensuring that vulnerable customers are not left behind during the smart energy transition, which are often exacerbate due to geographical issues, making it possible to be left behind even when steps are taken to provide the technology to people. Other barriers to participation identified were low income and limited access to the internet (E072, E074).

5.49 Some stakeholders argued that, in planning terms, the biggest concern is about new houses going forward, with a developer voicing that smart future should be about understanding how households work, such as by using the household sensing model and e-monitoring (E074). However, one noted that 40% of the population have not got the capability of even going online, so WPD needs to find a way for everyone to benefit from the smart future (E075).

5.50 The output to “Provide vulnerable and fuel poor customers with specific support and education in relation to the smart energy transition” ranked third highest for Customer Vulnerability in the South West (3.53 / 5), meaning that stakeholders wanted to see WPD do more in this area (E072). It received an average of 3.78 / 5 both in South Wales and the East Midlands with 57% and 60% respectively wanting WPD to ‘do more’ or ‘do a lot more’ in this area (E073, E074). In the West Midlands, it polled slightly below the 3.69 baseline for all outputs, scoring 3.64 / 5 (E075).

5.51 To be able to provide vulnerable and fuel poor customers with specific support and education in relation to the smart energy transition, charities/NGOs indicated that partnerships are key, such as with care homes and carers. That would enable smoother transition to connect all sufferings (mental health, finance etc) for vulnerable people’s concerns (E047, E073, E074). One stakeholder felt that this seems slightly outside WPD’s core remit and wondered if it is a license obligation (E075).

5.52 The youth audience at the Youth Community Measures of Success Research thought that allowing more customers to use more smart, low carbon services will ensure a better environment for the future which might also reduce the amount of power cuts for vulnerable customers. They also thought that it is so important to give customers information and step by step guides especially if they can't support themselves or require support from others (E078).

5.53 Stakeholders in the South West generally felt that WPD had identified the right level of ambition for the output to "Take a leading role in initiating collaboration with a range of industry participants to share best practice and co-deliver schemes to ensure vulnerable customers are not left behind by the smart energy transition", with just over half (56%) voting for 'stay the same'. However, no stakeholders wanted WPD to do less in this area, with 13% thinking that WPD should do much more (E072). In South Wales and the East midlands, most stakeholders (56% and 53% respectively) wanted WPD to 'do more' or 'do a lot more' in this area, with the output ranking fourth (3.71 / 5) for Customer Vulnerability in the latter (E074). Lastly, in the West Midlands, this output was the highest scoring output when stakeholders were asked to vote in the online poll, with an average of 3.96 / 5 (E075).

5.54 Stakeholders praised partnerships and collaboration (E073, E075), with a utility stakeholder stating that the more you integrate the suppliers and distributors, the better outcome for the consumers (E074), and a parish/ community council asking for WPD to become a provider for their new green deal (E072).

### Roll out of smart meters

5.55 The WTP report showed that 46% of the sample have an electricity smart meter at home while the rest 52% does not and 2% said they do not know (E061).

5.56 A local authority officer noted that there was a lot of marketing on smart meters a couple of years ago, but it has been forgotten, so WPD could show an example of a smart meter in community centres in areas where there are a lot of vulnerable customers (E047, E074).

5.57 Stakeholders agreed that smart meters can assist behavioural change and smart energy use, but that the whole system is a bit of a mess and there needs to be more collaboration at the supply level (E073). However, also many stakeholders agreed that smart meters might become barriers for vulnerable customers if they are complex to understand (E047, E060, E074)

5.58 A Business customer said that smart meters allow people to identify where they are using excess energy. But the future is allowing the devices themselves to use that information and respond to it. For example, if your fridge can recognise that fuel is cheaper overnight, it could store up energy over night to use during the day (E074).

### Roll out of low carbon technology

5.59 Stakeholders made suggestions as to how to support customers in vulnerable situations in the future. For example, it was felt there was a real opportunity to support vulnerable customers by using battery storage to help those that are worst served by the

electricity network or saving money for fuel poor customers by installing solar PV on social housing (E047).

5.60 Referring to the output to “Take a leading role in initiating collaboration with a range of industry participants to share best practice and co-deliver schemes to ensure vulnerable customers are not left behind by the smart energy transition”, a connections provider is trialling a smart heating control system in Oxford at the moment, starting off in social housing, and the idea is that they have an automated heating control system that synchronises with time-of-use tariffs to save people money. They suggested that building that in from the beginning should work out well (E072).

### Other

5.61 A community interest company (CIC) is keen to get a research project started on rural vulnerability, with their current plan being to do some research into vulnerability (not leaving customers behind on a smart future was the WPD steer) as part of an already planned/scoped BEIS project (E052).

# High-level topic: Maintaining a safe and reliable network

# Sub-topic: Cyber resilience

**What we heard in early 2020:**

Stakeholders discussed a range of issues linked to cyber resilience. The effect that a cyber attack may have on the system and society was discussed, particularly in the context of WPD's internal operations and the system's vulnerability during an attack. Also, the physical security of WPD assets from threats such as terrorism was addressed in multiple events, and stakeholders were fearful of the damage possible from harming physical digital infrastructure.

Personal data security was a major topic of discussion within Cyber resilience, especially as stakeholders were sceptical of how new technologies – such as smart meters – and the involvement of third parties would increase customer vulnerability from cyber threats. Stakeholders were keen to access more information about WPD's incident recovery plans as well as questioning WPD's strategy in recognising and protecting its critical infrastructure. Finally, the communication with stakeholders about WPD's activities in this space and improving the awareness of stakeholders on this subject was something that was mentioned multiple times.

## Summary of Phase 3 feedback

6.1. Stakeholders felt that Covid-19 puts pressure on the company to have contingency plans in place to deal with unexpected scenarios and to ensure reliability for increased cyber resilience. There was agreement that the relevant outputs need to become more measurable, while there was also some concern for the level of security currently in place, for example that aspects of the network currently remain unencrypted, and for potential attacks. While stakeholders were very concerned about cyber resilience and disaster recovery and wanted WPD to do more to address them, they did not necessarily have the knowledge or understanding with which to advise.

6.2. Education and training of personnel was found to be important, to avoid human errors. It was also thought that WPD could follow best practices from other industries and seek to become accredited.

6.3. A total of **93** pieces of feedback were collected for cyber resilience during phase 3 engagement, which adds to the **115** pieces collected during phase 2, and further **3** pieces collected during phase 1.

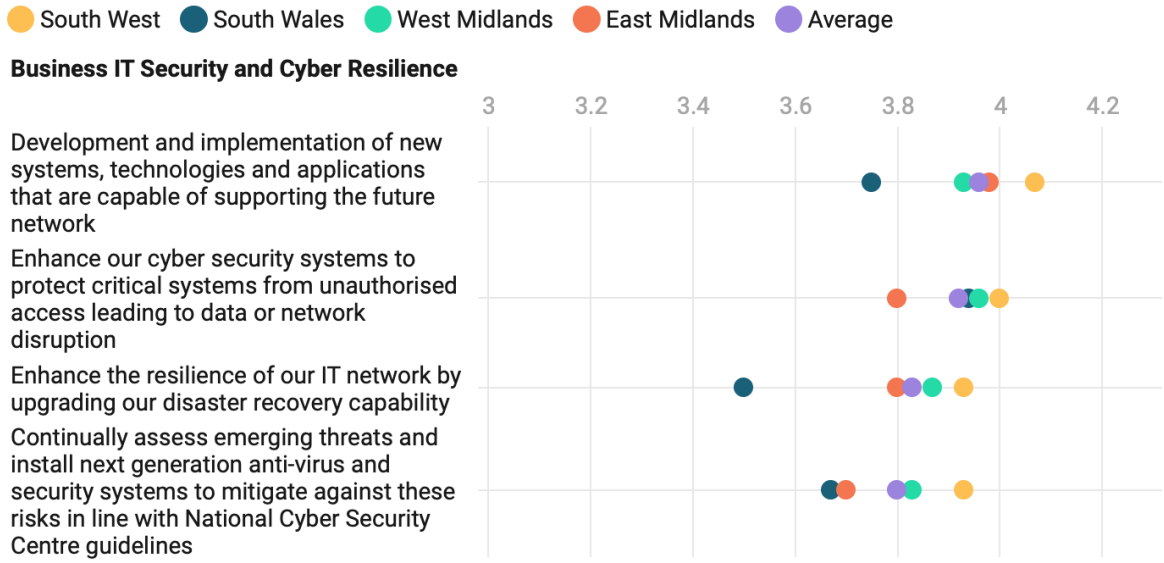


Figure 55: Business IT Security and Cyber Resilience outputs as voted for in the November workshops

For each output, stakeholders were asked whether WPD had got the right level of ambition, answering on a scale of 1 to 5 whether they should 'do a lot less' (1) through to 'do a lot more' (5). The online polling results are displayed per region and as an average out of 5.

## Detailed feedback

**Feedback for cyber resilience can be divided into three themes:**

- General
- Data and system protection
- Network security

### General

6.4 Stakeholders in the South West and the East Midlands did not feel that the Covid-19 pandemic had led to any change in priorities or emerging issues in the area of Business IT and cyber resilience (E072, E074), while those in South Wales and the West Midlands felt that the pandemic had demonstrated the critical importance of contingency planning to address the unexpected, such as for critical staff who fall ill or have to self-isolate (E073), and of a reliable electricity network for increased cyber resilience (E075).

6.5 A Storage and renewables provider / installer suggested that WPD could run a campaign on cyber security for customers in the move to DSO (E073).

### Data and system protection

6.6 Regarding customers' willingness to pay, 'Protect customers' data from potential cyber attacks' came 3rd out of 24 initiatives for household customers, and 2nd out of 24 for non-household customers. In more detail, among households, it ranked 1st by SEG AB (Higher & intermediate managerial, administrative, professional occupations), and 8th by SEG DE (Semi-skilled & unskilled manual occupations, Unemployed and lowest grade occupations). By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £1.50, or 0.26% of the total increase to Protect customers' data from potential cyber-attacks.

6.7 In the South West workshop, the output to "Enhance our cyber security systems to protect critical systems from unauthorised access leading to data or network disruption" ranked highly, receiving an average score of 4 / 5 ('do more'). While 37% of stakeholders felt the level of ambition was about right, the same proportion of them (37%) wanted WPD to 'do a lot more' in this area (E072). In the South Wales workshop, the same output ranked second highest among all draft Business Plan outputs with 3.94 / 5. 75% of stakeholders wanted to see WPD 'do more' or 'do a lot more' in this area (E073). 1.8. In the East Midlands, this output ranked joint second under this priority area with 3.8 / 5 – higher than the baseline average. Most (61%) wanted WPD to 'do more' or 'do a lot more' in this area, and it also scored the highest in its area with 3.96 / 5 in the West Midlands workshop (E075)

6.8 Stakeholders felt it was a major priority for WPD and that it should be a case of continual assessment with some sort of performance criteria, such as having nil unauthorised access (E072, E073, E078). There was also concern about the level of security currently in place, for example that aspects of the network currently remain unencrypted (E072), and about the prospect of other countries hacking into and bringing down the UK's electrical system, and whether Huawei equipment was going to be removed from WPD's network (E074).

6.9 It was also mentioned that breaches often occur because of personnel rather than systems and therefore training and initiating appropriate protocols in this area was

encouraged. Stakeholder also suggested that WPD should look to other industries such as the financial sector for examples of best practice to replicate and should also seek external accreditation such as ISO27001 (E075).

6.10 Stakeholders also urged WPD to embrace industry-wide collaboration to prepare for and eliminate potential threats (E072, E075) and made the case for forward investment to ensure a forward-looking perspective (E075).

6.11 The output to “Continually assess emerging threats and install next generation anti-virus and security systems to mitigate against these risks in line with National Cyber Security Centre guidelines” received the joint lowest ranking under this priority area in the South West, but it was still ranked at 3.93 / 5. Overall, therefore, this output scored quite highly, reflecting that stakeholders broadly want to see WPD do more in this area (E072). This was ranked 3.67 / 5 in the South Wales workshop – higher than the baseline average – with a fairly even split of 53% feeling the level of ambition was right and 47% wanting WPD to ‘do more’ or ‘do a lot more’ in this area (E073), while it ranked lowest under cyber security in the East Midlands workshop, but still scored 3.69 / 5, and 3.83 / 5 in the West Midlands – higher than the baseline average (E074).

6.12 Stakeholder said there should be greater collaboration with external agencies and national bodies on anti-virus and security systems (E075) but also with customers to protect them from cyber threats, as well as greater transparency when a cyber-attack does occur (E072).

6.13 Stakeholders expressed concern about the security of information help by WPD, with particular reference to the Priority Services Register, and noted that WPD will need to continually review and adapt to the changing types of threats they face (E073), with a Storage and renewables provider / installer asking if these outputs include ISO standards and essentials that you must meet, as this is something that some of your supply chain has: accreditation of cyber essentials (073).

6.14 Stakeholders argued that WPD should not lose sight of the human element and should provide training to its staff to ensure that the company is adequately protected, while an energy consultant commented that it is the NCSC and other state actors that work to keep the UK safe, that we should be trusting to ensure safety and to make this process completely transparent to the users of WPD (E075).

## Network security

6.15 Regarding customers’ willingness to pay, 'Protect WPD’s electricity network against cyber-attacks ' came 10th out of 24 initiatives for household customers, and 14th out of 24 for non-household customers, and although ranked as 10th overall among households, it ranked 14th by the 18-29 age group, and 6th by the 60+ age group, and ranked 9th by East Midlands, 3rd by South Wales, 11th by South West, and 12th by West Midlands. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £1.13, or 0.20% of the total increase to ‘Protect WPD's electricity network against cyber-attacks’ (E061).

6.16 The Development and implementation of new systems, technologies and applications that are capable of supporting the future network output received the highest ranking in this priority area in the South West (4.07 / 5). In fact, it was the third highest ranked draft output across all areas of the Business Plan. In total, 74% of stakeholders wanted WPD to ‘do more’ or ‘do a lot more’ in this area (E072). Similarly, in South Wales it ranked second for the outputs in this priority area with 3.75 / 5 – and 57% wanting WPD to ‘do more’ or ‘do a lot more’ in this area (E073), and in the East Midlands it also

ranked top with an average score of 3.96 / 5 and highest among all Business Plan outputs. In the West Midlands it ranked equally high with 3.93 / 5 (E074). Almost two thirds (65%) of stakeholders were of the view that WPD should go further than planned in ED2 (E075).

6.17 Stakeholders believed that, in relation to the output above, this should be happening already, therefore expecting more demanding targets. It was felt that the more complex the future network, the more vulnerable it will become, with a stakeholder reiterating the importance of the radio network for the future network, given its high levels of security (E072).

6.18 A business customer noted that security will be critical for a dynamic system with the transition to a DSO (E075). One stakeholder wanted to ensure that WPD were effectively trialling new systems before deciding on the best approach, while one academic encouraged WPD to review academic papers which will help inform them about what is going on (E074).

6.19 The output to “Enhance the resilience of our IT network by upgrading our disaster recovery capability” received the joint lowest ranking under this priority area, but it was still ranked at 3.93 / 5 in the South West, which is high compared to all the Business Plan draft outputs and means on average that stakeholders want to see WPD do more in this area (E072). However, it ranked second highest among all draft Business Plan outputs with 3.94 / 5 in South Wales, with 75% of stakeholders wanting to see WPD ‘do more’ or ‘do a lot more’ in this area (E073). In the East Midlands, this output ranked joint second for this priority area with 3.8 / 5 – 62% wanted WPD to ‘do more’ or ‘do a lot more’ in this area (E074), while in the West Midlands almost two thirds (64%) felt that WPD should go further than planned and have a number of more specific activities against it, including the production of a disaster recovery plan (E075).

6.20 Stakeholders supported that the output needs to have performance-based targets and KPIs (E072, E073) to reinforce the need for investment to ensure WPD has the best programmes in place, while reference was also made to the major power cut in the South of England in 2019 and the importance of learning the relevant lessons (E072).

# Sub-topic: Network performance

**What we heard in early 2020:**

It was deemed very important to stakeholders that electricity flow was continuous and reliable, and that WPD should endeavour to reduce the frequency of power cuts, power cut duration and the quality of supply. It was noted that any power cut or variation in power quality can have a substantial effect on businesses and vulnerable customers, which is why WPD should continue to improve from their current strong performance. An ageing network was one of the primary concerns of stakeholders and how these assets may deal with the increasing strain when electricity demand increases and is more variable. Finally, stakeholders wanted WPD to focus on asset monitoring and improving WPD's use of data, both internally and externally sharing this data with others.

## Summary of Phase 3 feedback

7.1. Network performance was regarded as extremely important, in response to almost the whole population working from home and relying on electricity. Stakeholders wanted WPD to be more ambitious with its outputs both for power cut frequency and duration, and they discussed having another output on education and engagement on black start situations. There was also agreement that average figures for the duration of power cuts varies significantly across regions, and therefore its reporting should be updated to reflect that.

7.2. Maintaining a reliable network and improving the quality of supply were also seen as essential, with stakeholders showing support for initiatives to implement LIDAR to reduce tree related faults, and the use of asset condition data to target where the need for investment is greatest. Grid constraints and capacity issues were often raised in this regard and WPD was called on to provide sufficient grid capacity for LCTs and support retrofits

7.3. Stakeholders urged WPD to improve the support and communication when power cuts and faults happen and to prioritise restoring vulnerable customers, which now very pressingly include those self-isolating. The worst served were also a key priority.

7.4. A total of **295** pieces of feedback were collected for the network performance during phase 3 engagement, which adds to the **238** collected during phase 2, and further **13** pieces collected during phase 1.

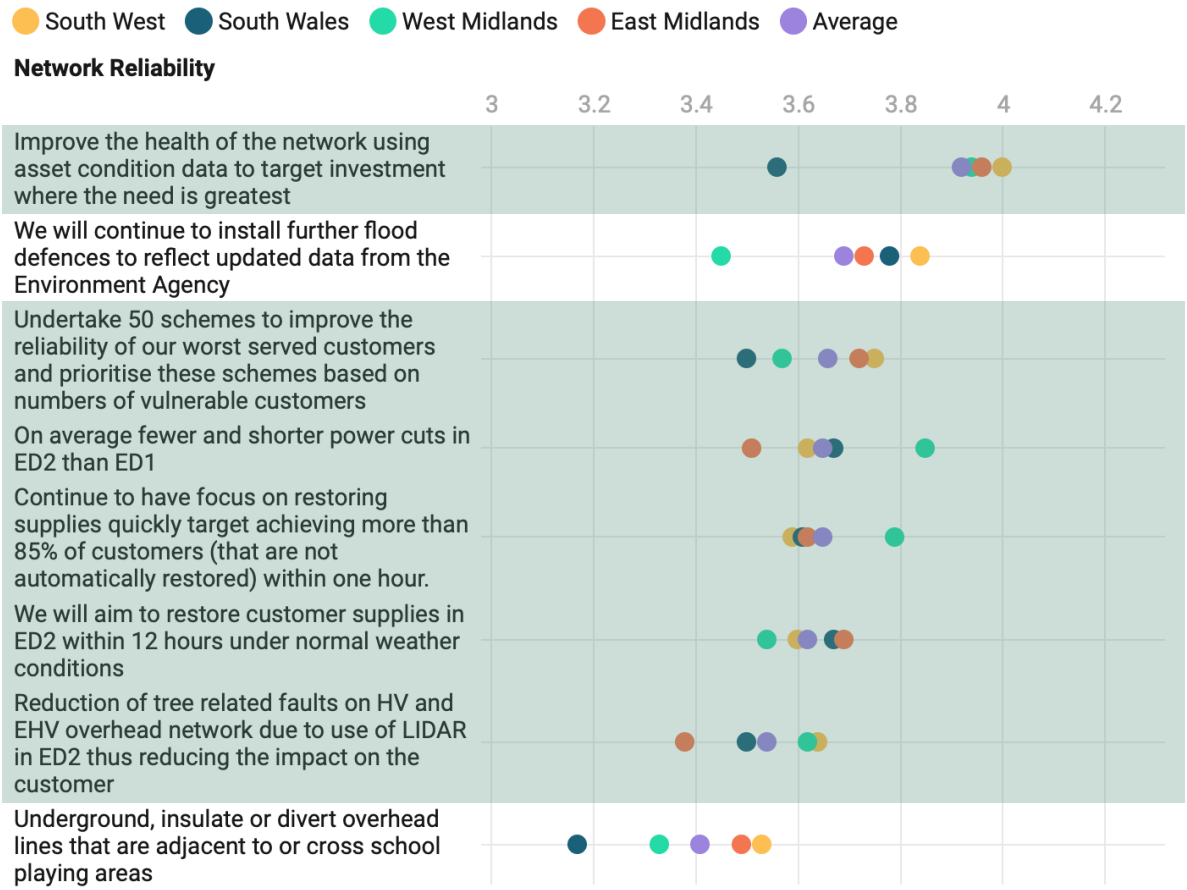


Figure 18: Network reliability outputs as voted for in the November workshops

*Also includes Scenario Planning commitments, but the relevant Network Reliability outputs have been highlighted in green.

For each output, stakeholders were asked whether WPD had got the right level of ambition, answering on a scale of 1 to 5 whether they should 'do a lot less' (1) through to 'do a lot more' (5). The online polling results are displayed per region and as an average out of 5.

| Network Reliability Measure/ Performance Target | Result |
|---|---|
| Volumes of power cuts = no higher than in previous business plan (1 every 26 months). In next business plan there will be a reduced impact on the customer e.g. getting power supply on quicker | Acceptable |
| Inspect, maintain and repair defects on our network in line with our policy | Acceptable but could be more specific |
| Reduction of tree related faults on overhead network thus reducing the impact on the customer | Acceptable but could be more specific |
| Further improve our asset condition data to ensure we efficiently improve the health of our network | Acceptable but could be more measurable |
| Continue to have this focus on restoring supplies quickly and will continue to target achieving more than 85% of customers (that are not automatically restored) within one hour | Acceptable, measurable and clear |
| WPD will continue to have this focus on restoring customer supplies within 12 hours | Standard not a target |
| We will complete resilience clearance programme on the network | Acceptable but could be more measurable |

Figure 19: Proposed Network Reliability and Resilience Measures from the Measures of Success workshop, where stakeholders were asked to review the draft Business Plan outputs of the top priority areas they identified and comment on whether the ambition should increase/stay the same/decrease.

## Detailed feedback

**Feedback for the Network performance can be divided into four themes:**

- General
- Power cuts and interruptions
- Asset health and network infrastructure
- Communication

### General

7.5. In terms of the impact of Covid-19 on WPD's approach to network reliability, it was noted by one stakeholder that WPD must be an essential service but that social distancing and other pandemic restrictions must have led to a slowdown of network maintenance and upgrade programmes. It was also felt that the shift to homeworking because of the pandemic would put further pressure on WPD to improve network performance by reducing the frequency and duration of power cuts, a reliability is more important than ever (E043, E072, E073, E074, E075).

7.6. A Stakeholder from Somerset, Mendip and Bristol raised the issue of resilience on street lighting, indicating that street lighting faults ordinarily would have taken 15 to 20 days to repair but were not done at all during Covid-19 (E046).

### Power cuts and interruptions

#### Power cut frequency

7.7. The importance of the keeping the volume of faults as low as possible was highlighted, not only due to the Covid-19 pandemic but also due to the increasing reliance on electricity as stakeholders move away from carbon (E043, E071, E072, E073, E074, E075).

7.8. Stakeholders thought that Power cut duration/frequency is essential to monitor, ensuring adequate staff/workforce to minimise disruption and looking after vulnerable customers during a power outage were the most important measures for network reliability (E071, E078).

7.9. In terms of the proposed Network reliability and resilience measures, "Volumes of power cuts to be no higher than in previous business plan (1 every 26 months) while in next business plan there will be a reduced impact on the customer e.g. getting power supply on quicker" was seen as acceptable (E071, E078).

7.10. The output pledging to have, on average, "fewer and shorter power cuts in ED2 than ED1", ranked 3.62 / 5 in the South West, with under half (49%) said the output was the right level of ambition and just over half (51%) said WPD needed to 'do more' or 'do a lot more'. Stakeholders did, however, feel that that output was too vague and needed more specific targets. In South Wales, this output was joint second highest for this

priority area (3.67 / 5), demonstrating that stakeholders felt it was very important and wanted WPD to display a high level of ambition. In fact, most stakeholders (55%) wanted to see WPD ‘do more’ or ‘do a lot more’ in this area (E073).

7.11. In the East Midlands on average most stakeholders (48%) felt WPD had got the level of ambition right for the above output, while in the West Midlands, this was the second highest ranked under the Network Reliability priority area with 64% voting that WPD should go even further than the stated level of ambition, quoting the transition to EVs, and the importance of electricity for heat going forward (E075).

7.12. In general, stakeholders agreed with the broad ambition of this output (E072, E074), while several noted the existing regional disparity in the reliability of the network, especially between rural and urban areas, urging WPD to focus on those worst served areas and reflect that in the output (E072, E073, E074, E075). For example, a community energy group stated they have had seven power outages in recent weeks, commenting that the general figures mask the regional problems, while a local authority in Gloucester said they barely have any power cuts, so instead they want WPD to focus on rolling out the technology to upgrade the network (E072).

7.13. Beyond that, stakeholders did not feel they had enough information to suggest specific targets and measurements, they said they needed to understand the current baseline and the performance of other DNOs to be able to advise appropriately (E072, E074, E075).

7.14. A Parish / community council mentioned that there are many people on small holdings that are not reporting their small power cuts and that means that they are not being reflected in WPD’s figures, which needs to be explored (E074). Additionally, a local authority stakeholder noted that these smaller outages can have a larger detrimental effect on modern technology than was the case in the past (E074).

7.15. The WTP report showed that a third (33%) of the total sample claim to have experienced a power cut within the last year, while 56% have not and 11% do not know or cannot recall. 'Reduce the number of unplanned power cuts' came 12th out of 24 initiatives for household customers, and 10th out of 24 for non-household customers. Similarly, 'Reduce the number of customers who have 12 or more power cuts over 3 years ' came 16th out of 24 initiatives for household customers, and 18th out of 24 for non-household customers, and although ranked as 16th overall among households, but ranked 11th by South Wales, and 18th by West Midlands. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £0.99, or 0.17% of the total increase to Reduce the number of unplanned power cuts, and £0.85, or 0.15% of the total increase to Reduce the number of customers who have 12 or more power cuts over 3 years (E061).

## Power cut duration

7.16. Regarding WPD’s outputs around network reliability and resilience, stakeholders generally approved of the 12-hour restoration target, although some were in favour of a more ambitious target given the rise in homeworking and people’s increasing

reliance on electricity (E044, E046), and there was the opinion that this is more a standard rather than a target, unless the aim is to improve it (E071). It was also questioned whether the target to restore 85% of customers within one hour went far enough (E046), although it was deemed acceptable in the Measures of Success research workshops (E071, E078). Other stakeholders however, from Devon and Plymouth, stated that the targets seem not to be tough enough, given one has not been able to get back online in one hour, and that there is too much jargon to understand the priorities (E046).

7.17. A stakeholder mentioned that outputs do not cover black start situations. It could take 48 hours to bring some customers back up to some supply if there is a black start, so customers and stakeholders need to be educated and engaged on this and this should be added as an output (E043).

7.18. Some stakeholders felt that 25 minutes average duration is very positive and impressive, while others focused on the uncertainty and inconvenience they cause. However, it was also voiced that 'average' figures can be misleading and stakeholders prefer to see this broken down by Rural/Urban, Seasonal, Worst/best affected, percentage rather than 4 hours, and measuring shortest and longest power cuts.

7.19. A stakeholder in Derby, Nottingham and Chesterfield noted that they faced big challenges with restoring power at homes due to the positioning of meters in cellars and the logistics of reprogramming the network. They would like to see a programme that could be rolled out to resolve these reprogramming issues (E044).

7.20. Stakeholders from Somerset, Mendip and Bristol urged WPD to put in place KPIs on the ratio between maintenance time and curtailment time, to encourage it to reduce curtailments and to provide the best community benefit. It is currently felt that WPD's communication with communities about potential curtailments could be better (E046).

7.21. In relation to the We will aim to restore customer supplies in ED2 within 12 hours under normal weather conditions output, stakeholder views were split in the South West on whether the ambition of this output was right. In the online polling, it ranked third lowest of the Network Reliability outputs on average with 3.6 / 10. The most common answer with 49% of the vote was to 'do more', but a significant proportion (39%) felt the level of ambition was right. 4% said WPD should do less (E072).

7.22. The same output was ranked joint second for this priority area with 3.67 / 5 in South Wales. Whilst most (56%) felt it was the right level of ambition, the remaining 44% wanted to see WPD 'do more' or 'do a lot more'. In the East Midlands, ranked at 3.69 – above the baseline average. Most (49%) wanted WPD to 'do more' or 'do a lot more' in this area, although a fair proportion (47%) thought the target was right (E074). Lastly, in the West Midlands, it did score below the baseline of 3.69 / 5 in the online poll, with 13% of stakeholders voting that WPD should not go as far as planned in ED2 (E075).

7.23. Regarding the above output, stakeholders expressed concern that the output did not refer to what would happen under abnormal weather conditions as it was felt these would become increasingly likely due to the impact of climate change (E072, E074, E075).

7.24. Stakeholders stakeholder urged WPD to prioritise restoring vulnerable customers, applying more flexibility in the restoration target for other customers as a result (E072, E074). Meanwhile, it was suggested people should look to become more self-resilient too, such as with a battery mitigation plan (E074, E075).

7.25. Stakeholders generally pushed to make the target more ambitious, reducing it to even 6 hours, and specified the need for forward-looking risk assessment (E072, E073, E074, E075). A stakeholder suggested proper undertaking proper modelling using the Met Office future weather scenarios (E072).

7.26. In terms of customers' willingness to pay, 'Reduce the average length of time of power cuts' came 17th out of 24 initiatives for household customers, and 15th out of 24 for non-household customers. Although it was ranked as 15th overall among non-households, it ranked 18th by Sector: Educ, Health, Govt, and 11th by Sector: Other. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £0.81, or 0.14% of the total increase to Reduce the average length of time of power cuts (E061).

## Quality of supply

7.27. Customers' willingness to pay report showed that 'Improve the quality of supply by reducing flickers and dips' came 19th out of 24 initiatives for household customers, and 20th out of 24 for non-household customers. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £0.71, or 0.12% of the total increase to Improve the quality of supply by reducing flickers and dips (E061).

7.28. Spontaneous priorities to fulfil WPD role of 'Maintaining a Safe & Reliable Network' derived from the Measures of Success research workshop highlighted the need for ensuring continued investment in research and development utilising new technologies to meet demand safely. Specifically, a HH, Younger, C2DE, South West stakeholder said that WPD should "Be at the forefront of research and design of new technologies" (E071).

7.29. Stakeholders talked about the issues that power cuts create for businesses, with a local authority in the East Midlands stating that they local business face major issues, which requires collaboration on industrial (E074) and, a local authority in the West Midlands noted that they have some businesses who work on very fine tolerances of what their machines can actually deal with, so the quality of the current is critical to them, and they have quite a lot of dropouts which then end up costing a lot of money, because expensive machines aren't able to cope with those fluctuations (E075).

7.30. Regarding the output to "Continue to focus on restoring supplies quickly and target achieving more than 85% of customers (that are not automatically restored) within one hour", stakeholders agreed with the ambition of this target – with one noting it will become increasingly difficult to meet due to extreme weather events increasing in frequency and severity. It received the second lowest ranking among the Network Reliability outputs in the South West (3.59 / 5 on average) (E072).

7.31. This output was ranked fourth for this priority area in South Wales (3.61 / 5) – which is above the average baseline. Whilst 56% felt the level of ambition was right, there was still a significant proportion (45%) that wanted WPD to 'do more' or 'do a lot more' (E073). In the East Midlands, it came out as the baseline average (3.62 / 5). The same proportion (48%) felt it demonstrated the right level of ambition as those that felt WPD should 'do more' or 'do a lot more' (E074), while in the West Midlands, around one third (32%) were of the view that the level of ambition is appropriate, with 64% voting in the online poll that WPD should go even further (E075).

7.32. Stakeholders agreed that this output should be broken down by region, as it might be at 90% in the South West and 70% in the Midlands (E072), and mentioned that weather is even more severe in rural areas (E074).

7.33. It was felt that the target should be stretched, especially as we move away from gas and towards electricity and as people spend significantly more time at home. Some stakeholders suggested a tiered approach to get up to 95% within two hours (E073, E074, E075) However, a local authority cautioned that the target needs to be considered against the ambitions of other targets, as ultimately everything costs customers money (E072).

7.34. Referring to the transition to a DSO, stakeholders disagreed with the output, saying that more power cuts will impede the transition and suggesting the use of batteries to make a more robust network during the transition to a DSO, because a flaky network will not encourage people to accept the changes (E075).

### Reliability and the grid

7.35. WPD was asked to focus on long-term collaborative planning and provide network reinforcement where necessary with a view to meeting increased demand, thereby avoiding future network reliability issues (E045). A stakeholder from Birmingham and Tipton stated that the network needs to be reinforced in advance to meet the potential demand, but that tends not to be a preferred strategy. They worry that they will see a similar issue with electrical heating, depending on how the government legislates in the years to come (E045).

7.36. Several stakeholders felt that WPD should acknowledge the greater need for reliability in the move to decarbonisation and the smart network (E043, E044). In anticipation of net zero initiatives, a stakeholder from Devon and Plymouth was interested to know about resilience, if WPD future proofs for EV charging points when digging up the road (E046). Furthermore, A stakeholder stressed the importance of dynamic systems and data visibility to prevent disruptions as more and more LCTs are connected (E043).

7.37. It was heard that WPD needs to think about customer-based resilience too and put in place solutions that resonate with local communities and their specific needs. There needs to be more fine-tuning on that level to help them (E044).

7.38. Spontaneous priorities to fulfil WPD role of 'Maintaining a Safe & Reliable Network' derived from the Measures of Success research workshop showed that the focus was on maintaining 24/7 supply with minimal safety risks. Specifically, a NHH, South West

stakeholder noted that WPD needs ""They have to ensure the deliver all of the time. Things are too uncertain for us at the moment and I'm not sure we can cope with anything else" (E071).

7.39. In terms of network reliability, the measures of success workshop showed that context generally ties in with current, positive experience but people were not aware/hadn't thought about 'worse served areas' (E071).

## Asset health and network infrastructure

### Equipment failures and faults

7.40. A stakeholder from Birmingham and Tipton noted that what is interesting is equipment failure when the power comes back on after power cuts. They stated that network resilience is important for rural areas (E045).

7.41. A stakeholder offering construction services noted that WPD mentions in several places that it builds its networks on the assumption of a 50-year operational life. Alongside the proposals for supplies to new installations, they voiced that WPD should also be replacing existing service cabling and upgrading to the new standard as this cabling either reaches the end of its intended service life or becomes irreparably defective/damaged. They further stated that whilst plans to make use of initial build works are understood, they would caution that WPD does not forget their existing customers and the state of the existing distribution/service cable network. ESQCR places an obligation on DNOs to maintain their service cables and the like (Regulations 6, 7(1), 8(1), & 92(b) refers. Additionally, they believe the primary focus network and, in particular, address the problems with broken CNE conductors and subsequent diverted neutral current (E067).

7.42. Spontaneous priorities from the Measures of Success research workshop that matched previous work included that there needs to be a rolling maintenance programme so there is rarely faulty or out of date equipment, and that WPD needs to be doing monthly check-ups of cables and pylons (E071). Stakeholders encouraged WPD to begin to think about measurement e.g. number of checks/tests on individual assets, comparisons with other providers as benchmark (E071).

7.43. In terms of the proposed Network reliability and resilience measures, "Inspect, maintain and repair defects on our network in line with our policy" was seen as acceptable but could be more specific and tangible (E071) and as a top priority for the young audience (E078). "Reduction of tree related faults on overhead network thus reducing the impact on the customer" was seen as acceptable but could be more specific. "Further improve our asset condition data to ensure we efficiently improve the health of our network" was seen as acceptable but could be more measurable. And "We will complete resilience clearance programme on the network" was seen as acceptable but could be more measurable and more differentiated against measure for tree clearing, while there should also be a tree planting programme to counter it (E071, 078).

## Tree-related faults

7.44. On the output of “Reduction of tree related faults on HV and EHV overhead network due to use of LIDAR* in ED2 reducing the impact on customers (*Light Detection and Ranging)”, the majority of stakeholders (57%) in the South West wanted to see WPD ‘do more’ or ‘do a lot more’ in this area (E072). In South Wales, ranked third lowest in this area in the online polling – just under the baseline average. Half of stakeholders (50%) felt the level of ambition was right (E073). This output ranked lowest out of the Network Reliability outputs, scoring on average 3.37 / 5 in the East Midlands, while in the West Midlands, 43% of stakeholders voting were of the view that this output represented the right level of ambition, although over half (53%) voted for WPD to go even further in ED2 (E075).

7.45. Stakeholders supported the use of undergrounding to minimise the impact on existing trees and wanted to see WPD commit to replacement planting and even a policy of biodiversity net gain to offset the impact of their tree management operations (E072).

7.46. Stakeholders discussed the effectiveness of LIDAR versus the use of helicopters to identify areas requiring tree management. Specifically, a local authority said that in the Forest of Dean, helicopters come out and look at trees and a few days later they come and cut the trees, which they think is good. However, the focus was actually on the impact on the trees themselves (E072). Other stakeholders really approved the use of the technology because it is a quick way to get information (E073, E075).

7.47. A developer referred to collaboration, saying they have a lot of data across the country, and this information could be shared. If WPD has surveyed areas and that is available, it could have wider applications. In terms of flood resilience and liaising with the AA, it could well be that WPD has more accurate information than they have (E075).

7.48. Stakeholders referred to ash dieback, which they said is a big issue, especially in Wales this year, with a lot of trees being infected. Once the trees die, they are very brittle and will come down very quickly, damaging the lines. They are interested in what policy exists from a highways perspective (E044, E073).

7.49. Stakeholders also agreed that reducing tree faults on the network should be formed into continuous long-term program with targets (E073, E075), which takes place at the right time, for example, in summer, not winter and not when the farmers need to be working on the land. There was criticism that Network Rail were guilty of cutting railway embankments at the wrong time of year a couple of years ago, so they were looking for reassurance that WPD is doing things at the right time (E073). There was also a complaint that was some bad flooding in the valleys last year where people’s houses were flooded for the simple reason of branches being left in the way (E073).

7.50. Regarding a similar output stating that We will complete our tree resilience clearance programme on the EHV network, stakeholders were very concerned that WPD is not fully considering the environmental impact of this programme, and that it should consider more undergrounding, coppice rather than cut down trees and / or instate a tree replacement programme to match what others are doing in this area (E072).

7.51. In relation to this output, it was also mentioned that tree management is very emotive; often, customers will not allow to touch their trees, especially in rural areas. Stakeholders would like to see WPD using the data they are getting regarding the trees to be cleverer about which trees they are cutting, and suggested a commitment is put in place to set goals like planting trees where there is no wire (E075).

7.52. If trees needed to be removed, stakeholders wanted WPD to replace the trees and improve biodiversity in other ways – working with parish councils and other organisations. There was concern as to whether WPD works hard enough to protect mature trees. Despite this concern, one stakeholder did reiterate how important it is that tree clearance takes place to protect power lines (E074).

## Three-phase connections

7.53. In relation to three phase connections, an energy/utility company stakeholder said that WPD should consider the extra costs holistically and the additional joints on the network, which tend to be the fault spots. Another energy/utility company agreed with the aforementioned increase of risk of faults due to the addition of more joints on the LV infrastructure (by a factor of 3 or more) and increase in Opex costs and hence customer quality of supply issues and / or interruptions (E063).

## Network health

7.54. In response to which network reliability priorities are considered most important, the Measures of Success research workshop revealed the following: “Overall health of network assets” because if WPD get this right and there will be no outages. However, “Proactively identifying which assets are vulnerable” was identified as missing (E071).

7.55. Regarding the output to “Improve the health of the network using asset condition data to target investment where the need is greatest”, it received the highest average ranking at 4 / 5 in the South West – meaning that stakeholders wanted to see WPD to more in this area. Most stakeholders (73%) wanted WPD to ‘do more’ or ‘do a lot more’ (E072) However, in South Wales, ranked just slightly lower than the average benchmark with 3.56 / 5, and the majority (50%) felt it demonstrated the right level of ambition (E073).

7.56. In the East Midlands, the above output ranked highest overall under this priority area at 3.94 / 5, with 64% wanting WPD to ‘do more’ or ‘do a lot more’. In fact, it ranked joint second highest across all priority area outputs (E073). And in the West Midlands, it also ranked the highest of all Network Reliability outputs. It scored 3.94 / 5, with over one third (34%) voting this 5 / 5.

7.57. Feedback on this output included that targeting investment needs to also cover future infrastructure as well as network capacity, to ensure that there will be efficient demand and supply capacity so that low carbon technologies can be put in place for the Net Zero transition (E072). One stakeholder also felt it is important for the electricity supply to the mobile phone and mobile broadband networks to be resilient too (E075).

7.58. Stakeholders shared their own experience with predictive maintenance equipment, including an automated fuse, with which when there is a trip on the line, you can test the line to see if there is an outstanding fault and if not, the fuse can be turned back on automatically (E073, E074). One stakeholder mentioned they believe other DNOs are already using technology that monitors the temperature of their assets, and an academic stakeholder proposed making use of https://dafni.ac.uk to predict future usage scenarios, and other types of simulation (E074).

7.59. Overall feedback for targeting investment included an energy consultant, interested to assess fault current limiters, as there is a problem in getting it implemented in distribution networks and they do not quite know how to put a target on this as there are solutions not yet won. They do not think you need to put a monetary target on reinforcing substations because the network does not have enough head room. They would be interested to hear about indirect customer views. In this case the council is a direct customer of the DNO as they can be direct in line of communication (E075).

7.60. An Energy consultant suggested that an obvious target would be for the DNO to have a certain fault current headroom on all of their substations to facilitate DG connections. Where the cost falls is in the speculative current improvement. At the moment the process is completely passive. There has to be an approved piece of equipment, but this approval process is the problem. They cannot share knowledge between councils because of this (E075). On this, a local authority proposed that a target could be that it is incumbent to keep a 20% fault current headroom on each of the primary substations (E075).

### Worst served customers

7.61. In terms of network reliability, the worst served proved to be the key priority with feedback saying that 4 power cuts every year feels high, although the shorter they are the better, 6,385 properties out of 1.4m is not too bad, but that stakeholders would be keen to know before moving into a worst affected property (E071).

7.62. In relation to the output to “Undertake 50 schemes to improve the reliability of our worst served customers and prioritise these schemes based on numbers of vulnerable customers”, stakeholders broadly wanted to see greater ambition on this output, with the majority (57%) wanting to see WPD ‘do more’ or ‘do a lot more’. Overall, it ranked third highest out of the Network Reliability outputs with 3.75 / 5. Stakeholders did, however, question the rationale of focusing on the number of schemes rather than the outcome of those schemes (E072). In South wales, this output ranked just slightly lower than the average benchmark and the same as the previous output under ‘targeted investment’, with 3.5 / 5. The majority (50%) felt it demonstrated the right level of ambition.

7.63. In the East Midlands, the above output was ranked third for this priority area with an average score of 3.71 / 5 – above the baseline average, while in the West Midlands, 39% of stakeholders were of the view that this output represented the right level of ambition, although over half (52%) voted that WPD should go even further.

7.64. It was felt this approach could mean that those vulnerable customers in particularly isolated, rural communities could be overlooked, if the process is based solely on an

algorithm. Instead, frequency of loss of energy supply should be a factor as well (E072).

7.65. One stakeholder urged WPD to look at setting up a fund to provide battery storage for vulnerable customers. Another urged WPD to assess those parts of the network most at risk of failure, particularly when they are supporting critical infrastructure such as hospitals (E072, E073, E074).

7.66. Stakeholders made the case for KPI inclusion in the output regarding the worst served, while some felt they did not have the necessary information to put it into perspective (E074), or that it was not ambitious enough as 50 schemes over 5 years is less than one per month (E075). One stakeholder said it is commendable that WPD has reduced the number of worst served by 12,000, but there will always be worst served customers, so maybe also rewarding it could be a bit less misleading (E073).

7.67. A vulnerable representative asked how is WPD identifying the 50 schemes, as presumably WPD has some data to show where the worst-served customers are. Another representative also asked if the company has any mapping or link between customers on the PSR and tree management or areas with a high risk of faults (E075).

## Capacity constraints to new developments

7.68. For many councillors, their interest in LCTs stemmed from their local Net Zero targets. Grid constraints and capacity issues were often raised in this regard and WPD was called on to provide sufficient grid capacity for LCTs and support retrofits (E046).

7.69. A stakeholder from Swansea and Wales has described their situation as frustrating as they have looked at putting panels on rooves of housing estates and have experienced serious obstacles. They have had to adjust their positioning and stagger them due to the constraints on the network (E043).

7.70. In terms of industrial size developments, stakeholders spoke of at least one case where a developer was more than happy to fund a roof full of EV panels but was unable to get a connection because of the substation. WPD asked for a million-pound contribution to put this right. Essentially, a would-be connector being awarded a 1-million-pound bill for solving an asset problem, which is actually the DNO's problem (E075).

## Interconnectivity of the network

7.71. In response to which network reliability priorities are considered most important, the Measures of Success research workshop revealed the following: "Interconnectivity: contingency grids should reduce outage" (E071).

## Communication

7.72. In terms of network reliability, the most important focus areas in the Measures of Success research workshop were the ones relating to prevention then minimising impact and communication measures expected to ensure customers are well and regularly informed. The priority considered most important was Customer service to ensure people are looked after at the critical time, while Communication – what is happening, projected outage, number of updates, and Using customer feedback tools/measuring complaints were thought to be missing (E071).

# Sub-topic: Scenario planning

**What we heard in early 2020:**

Stakeholders discussed the range of scenarios and potential risks to the network that WPD should plan for, including the increased frequency and magnitude of weather events due to climate change as well as terrorism. Developing and sharing a range of future scenarios was seen as a critical first step to helping WPD and the wider community to prepare for potential risks in the future. It was also noted that WPD should consider the different vulnerability of each of its assets, due to location and age.

Flooding was one of the most frequently discussed topics with stakeholder very keen to see WPD move assets from floodplains and improve network resilience in high flood risk areas. Tree cutting was another area of high stakeholder interest as feedback suggests that stakeholders wanted WPD to reduce their rate of tree cutting and endeavour to replace the same number or more trees that then cut. This was seen as important to help with facilitating net-zero, but also to use natural barriers to protect assets from extreme climate change-related weather events.

The physical security of assets and their vulnerability to terrorism was also discussed, with stakeholders encouraging WPD to consider increasing security and protection against these types of threats. Stakeholders also discussed the importance of coordinating and collaborating with others that work in the area to ensure that everybody is clear about any mitigation measures put in place, as well as the emergency response and recovery plans in place.

## Summary of Phase 3 feedback

8.1. Stakeholders discussed scenario planning as crucial for resilience and maintaining a safe network with minimal risks. Stakeholders were concerned about the increasing number of extreme weather and unpredictable events that affect the network. Flooding was a big issue in specific reasons, although stakeholders generally felt that WPD has proven successful in dealing with these situations. Collaboration with local agencies and authorities was seen as key to employ a preventative approach based on historic data.

8.2. Stakeholders expressed concerns about tree cutting and management, although they were supportive of undergrounding, insulating, or diverting overhead lines that are close to school playing areas.

8.3. A total of **80** pieces of feedback were collected for scenario planning during phase 3 engagement, which adds to the **173** collected during phase 2, and further **9** pieces collected during phase 1.

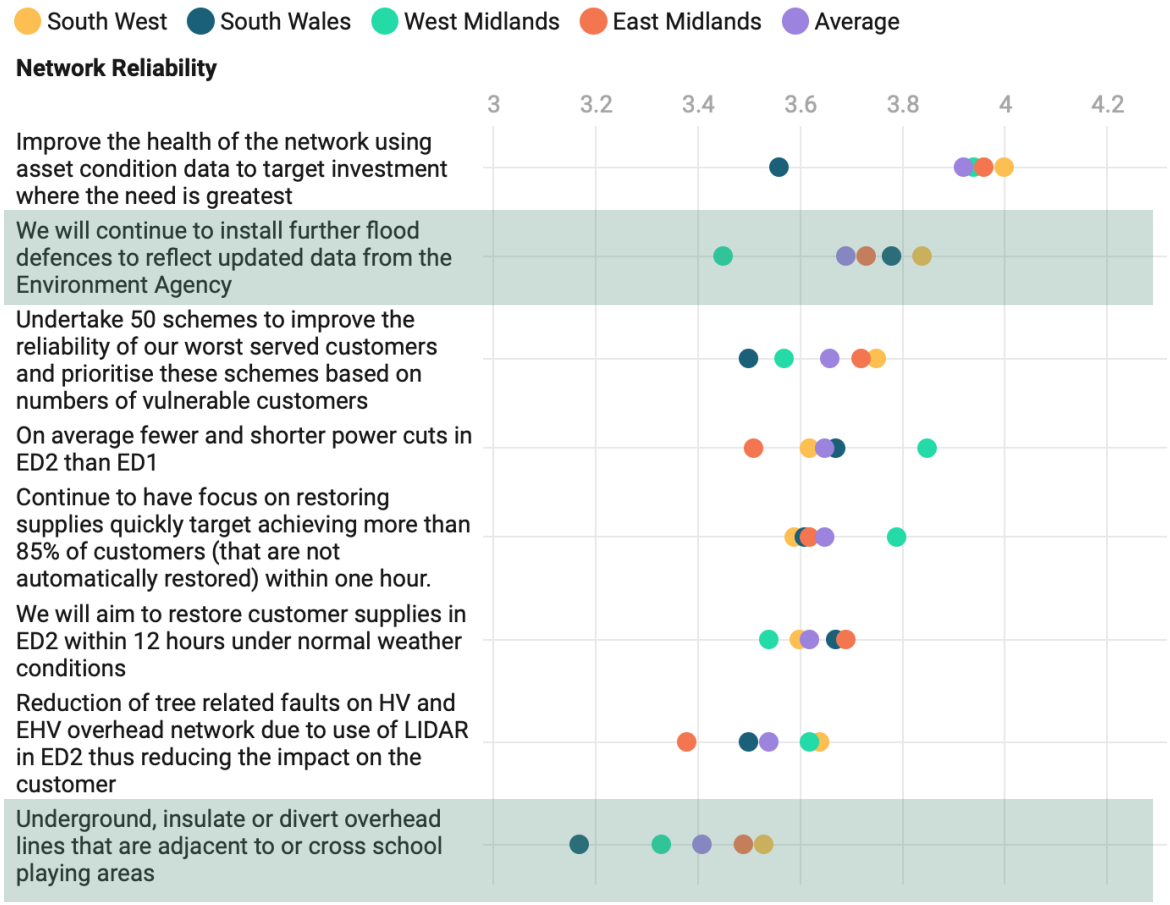


Figure 20: Network reliability outputs as voted for in the November workshops

*Also includes Network reliability commitments, but the relevant Scenario Planning outputs have been highlighted in green.

For each output, stakeholders were asked whether WPD had got the right level of ambition, answering on a scale of 1 to 5 whether they should 'do a lot less' (1) through to 'do a lot more' (5). The online polling results are displayed per region and as an average out of 5.

| Scenario planning Measure/ Performance Target | Result |
|---|---|
| We will continue to install further flood defences to reflect updated data from the Environment Agency | Acceptable but could be more ambitious and measurable |
| Underground or divert overhead lines that are adjacent to or cross school playing areas | Acceptable but could be more measurable |

Figure 21: Proposed Scenario Planning measures from the Measures of Success workshop, where stakeholders were asked to review the draft Business Plan outputs of the top priority areas they identified and comment on whether the ambition should increase/stay the same/decrease.

## Detailed feedback

**Feedback for Scenario planning can be divided into five themes:**

- General
- Floods
- Tree cutting
- Extreme weather events
- Undergrounding

### General

8.4. Scenario planning was thought as critical for building resilience, reducing risk, and enhancing safety. Stakeholders thought it should involve learning from historic events and planning for worst case scenario, and it shows WPD are thinking ahead. Missing measures included Collaboration with partners e.g. councils, rail networks, farmers/community, local resilience plans e.g. community electricity storage, and Security of network e.g. vandalism/terrorism (E071), while a stakeholder from Derby, Nottingham and Chesterfield thought that it is worth planning ahead for any overheating issues on the grid assets, such as substations, as the temperatures rise (E044). There were also some real concerns about the environmental impact of resilience initiatives (E071).

### Floods

8.5. WPD was praised as being very good at handling flooding emergencies (E043), and stakeholders were keen to work with WPD on activities that foster local resilience, such as tree planting and flood protection, particularly with sea levels rising (E046). Resilience to floods was a particular concern in Derby, Nottingham, and Chesterfield, with stakeholders advocating for better planning, a clear logistical approach to restoring the network after flooding and more input from experts (E044).

8.6. In terms of the proposed Network reliability and resilience measures, “We will continue to install further flood defences to reflect updated data from the Environment Agency” was seen as acceptable but could be more ambitious and measurable, and have a focus on establishing safe ways not to damage or negatively affect the environment (E071, E078).

8.7. The output ‘We will continue to install further flood defences to reflect updated data from the Environment Agency’ received the second highest ranking among the Network Reliability outputs of 3.84 / 5 in the South West, with 60% wanting to see WPD ‘do more’ or ‘do a lot more’ (E072). In South Wales, it was ranked 3.78 / 5, with 61% wanting WPD to ‘do more’ or ‘do a lot more’ (E073). In the East Midlands it also ranked second for this priority area on the online poll with 3.72 / 5. 56% of stakeholders wanted WPD to ‘do more’ or ‘do a lot more’ (E074), while in the West Midlands almost half (49%) were of the view that this output represented the right level of ambition, although 43% voted that WPD should go further (E075).

8.8. On the above, stakeholders urged WPD to be more specific in the wording of the flood defences output with set targets such as number of substations protected. It was noted that many flood defences that had been installed were inadequate (E072) and that they are an incredible challenge as flood areas change and 1 in 100 years incidents are becoming more frequent (E044).

8.9. Concern was also expressed as to the validity of data held by the Environment Agency, which was said to underestimate the situation. It was noted that this data was not in line with central government data, and other agencies also made predictions that this should be considered as well. An energy consultant pointed out that the Environment Agency is in England, so WPD needs to be considering a different organisation in Wales (E072).

8.10. Stakeholders were also of the view that local agencies and authorities will have more valuable regional data, rather than environmental agencies that will have more general data, so WPD should work with them as well as with other utilities, such as Severn Trent Water, to integrate with local flood management planning (E072, E074, E075).

8.11. Stakeholders including a parish/ community council noted that WPD has achieved 72 out of 75 substations, which they find disappointing, although an energy consultant argued this that needs to be looked at on a case-by-case basis rather than a specific number of assets (E072, E073).

8.12. Stakeholders were keen to see another output on this depending on the scale of the problem of flood defences and different approaches, or about improving information to help anticipate severe weather events which might cause flooding (E044) as well as mapping to look at different flood risks depending on the level of warming (E072, E073). It was argued that more sharing of not just historic data, but the real-time level of floods within the industry, in a secure way, is valuable and can make WPD more targeted and quicker in their response (E074).

8.13. There was also discussion around targeted investment, with one stakeholder not wanting defences in areas that do not flood, while others wanted more of a dialogue and advice for local authorities regarding new sites and power supplies, as they increase the built environment (E074, E075).

### Tree cutting

8.14. In terms of Network Resilience, many participants of the Measures of Success research workshop had concerns over tree cutting (2,947km) due to the negative impact on wildlife, impact on local landscapes and need for replanting schemes. Various stakeholders, NHH from South West and South Wales, and HH, Younger, ABC1 from South West, expressed their discomfort and concern for the environment (E071).

8.15. When looking at network resilience in isolation, missing measures identified included the “Relocation of trees/replanting programmes”, and the feedback suggested to begin to think about measurement e.g. total number of flood incidents (E071).

### Extreme weather events

8.16. Stakeholders suggested that the outputs should touch upon the effects of climate change, which include more frequent extreme weather events (E043), and the need to pre-plan for climate change extreme events (E060). General observations from the Measures of Success workshop included that data for Storm Ciara demonstrates the significant impact on the network (E071). In addition, it was thought that a measure currently missing is “Not just flooding impact of big freeze, heatwave, tidal” (E071).

## Underground cabling

8.17. At two of the three Investment workshop events, there were calls for WPD to increase cable undergrounding with a view to increasing resilience and fostering sustainability (E045). Stakeholders were in favour of undergrounding cables and welcomed the output to “Divert or underground overhead lines that are adjacent to or cross school playing areas” (E046), which was also seen as acceptable during the Measures of Success research workshop but not measurable enough (E071). A missing measure identified was a “Programme of underground cabling to reduce risk of disruption” (E071).

8.18. In the South West, the output to “Underground, insulate or divert overhead lines that are adjacent to or cross school playing areas” ranked lowest among the Network Reliability outputs (3.53 / 5). In fact, 10% of stakeholders wanted to see WPD ‘do less’ or ‘do a lot less’ in this area. Similarly, in South Wales, it ranked lowest for this priority area, coming significantly below the average baseline with 3.17 / 5. In fact, 17% wanted WPD to ‘do less’ in this area (E073). This also ranked second lowest for this priority area with 3.46 / 5 in the East Midlands (E074), and lowest of all the Network Reliability outputs, with an average of 3.33 / 5 in the West Midlands (E075).

8.19. Stakeholders wanted this target to be more measurable and advocated that the time to address this issue is at the planning stage, by liaising with local planning authorities more effectively and keeping records of where these cables are. At the same time, there was concern for the negative effects of undergrounding on the environment (E072, E073). The youth audience at the Youth Community Measures of Success Research thought that power lines can be very dangerous towards children of school age, especially if they do not understand the dangers. Working with schools to assess risks and educate the children would improve the company's abilities to still run lines through playing areas safely (E078).

8.20. Stakeholders also wanted to identify other risk areas and assets with the greatest public risk, such as football fields, civic playing area or recreational ground, as well as protect the aesthetics of areas of outstanding natural beauty. At the same time many were concerned of the cost/benefit analysis of such initiatives (E075).

# Sub-topic: Workforce resilience

**What we heard in early 2020:**

Stakeholders note the importance of good workforce planning for a number of reasons including; ensuring WPD have adequate skills and staff members internally to continue operating effectively; to be able to recruit and replace an ageing workforce; to upskill the workforce in an ever-increasingly technological environment where it has to deal with the DSO transition, the integration of AI; to expand the workforce to deal with the increasing electricity demand from the electrification of heat and transport; as well as ensuring current staff are happy and have equal opportunity.

Diversity and appreciation were two subjects that were discussed extensively with regards to current staff, alongside the career path development as employees gain experience and upskill.

## Summary of Phase 3 feedback

9.1. Stakeholders referred to workforce resilience as a pressing issue due to the Coronavirus pandemic, as people working from home makes communication more difficult. Stakeholders also felt that is critical for WPD to continue upskilling a specialised workforce, in light of the smarter network and new technologies, such as to be able to install three-phase connections.

9.2. Diversity and inclusion were felt to be important so that WPD can reach a more diverse demographic. The safety of the workforce was also discussed, with stakeholders urging WPD to be more ambitious about reducing accident rates and ensuring there is enough education to make its workforce feel safe and capable of prioritising their safety while working.

9.3. A total of **43** pieces of feedback were collected for workforce resilience during phase 3 engagement, which adds to the **252** pieces collected during phase 2, and further **1** piece collected during phase 1.

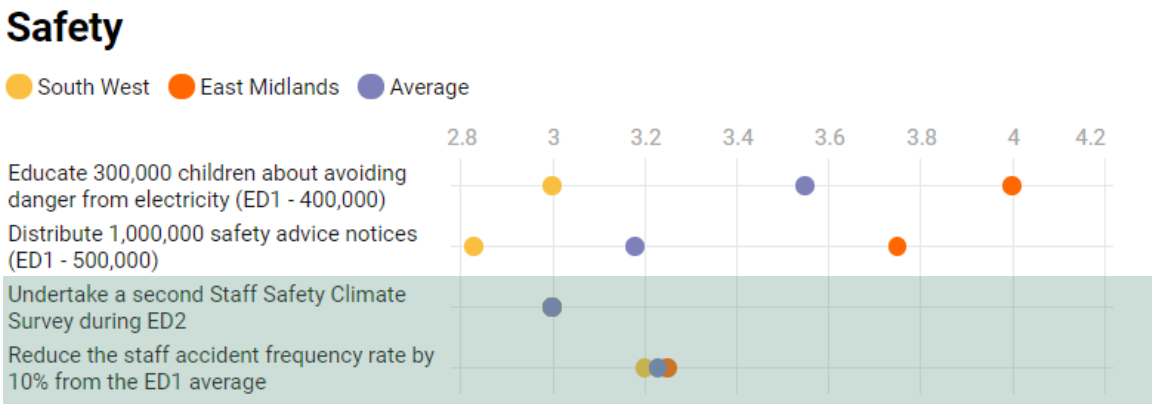


Figure 22: Safety outputs as voted for in the November workshops

*This poll is only based off 2 events, rather than 4. It also includes Awareness/Safety commitments, but the relevant Workforce Resilience/Safety outputs have been highlighted in green.

For each output, stakeholders were asked whether WPD had got the right level of ambition, answering on a scale of 1 to 5 whether they should ‘do a lot less’ (1) through to ‘do a lot more’ (5). The online polling results are displayed per region and as an average out of 5.

## Detailed feedback

### Feedback on workforce resilience can be divided into two themes:

- Response to threats such as Coronavirus
- Recruitment and upskilling of a specialised workforce
- Safety

### Response to threats such as Coronavirus

9.4. As an outcome of Covid-19, stakeholders have mention that WPD should put in place robust data-sharing processes and ensure that their staff members remain easily contactable (E043, E045). Stakeholders showed concern that businesses might face difficulty to reach their engineers quickly and easily due to Covid-19 and working from home (E043). Several stakeholders expected their workload to increase as they began to deal with the backlog that had built up over lockdown, warning that this may have a knock-on effect for WPD's staff (E045).

9.5. Stakeholders felt that WPD would need to consider workforce resilience in the context of pandemics like Covid-19, such as by ensuring there is a high level of communication with employees during any periods of required homeworking (E073).

### Recruitment and upskilling of a specialised workforce

#### Recruitment of top talent

9.6. Regarding the output to "Ensure that WPD is the employer of choice and attracts the top talent for advertised roles", stakeholders wanted WPD to raise awareness and perception of the industry, which is very hidden, and to focus on the latest technologies to do so, with suggestions such as creating an avatar for college and school presentations (E073). In the East Midlands, 50% of respondents felt it was the right level of ambition and 50% wanted to see WPD 'do a lot more' (E074).

9.7. One stakeholder noted that a way to attract new talent is to emphasise the importance of the industry – and a particular role – in the move towards decarbonisation and achieving Net Zero, as it is something many feel passionate about (E073).

9.8. Stakeholders supported apprenticeship schemes, which are already in places for other internships such as the building industry, to help make WPD's industry a less hidden one (E074).

#### Diversity and inclusion

9.9. Stakeholders agreed with previous feedback that WPD should reach a demographic outside of the traditional, white British male population. In the East Midlands, the output to "Improve the diversity and inclusion of our workforce" ranked very highly at 4.33 / 5 – with 67% wanting WPD to 'do a lot more' in this area (E074).

9.10. 'Encourage people into a career in engineering and increase the diversity of WPD's workforce' came 24th out of 24 initiatives for both household and non-household customers. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £0.43, or 0.08% of the total increase to Encourage people into a career in engineering and increase the diversity of WPD's workforce (E061).

### Promoting STEM subjects

9.11. In terms of the output to “Increase the STEM pipeline”, stakeholders recognised the importance of universities as well as schools in creating a resilient workforce. It was also noted that parents play a significant role in encouraging young people to take specific courses at university (E073).

### Upskilling

9.12. Several stakeholders noted that missing from WPD's current approach to three phase service cables is the potential challenges with the availability of qualified electricians for domestic installations and meter operators, as they are mainly trained to deal with single phase metering installations. It was suggested that up skilling of the workforce will be essential. However, it was thought that if three phase installations became more standard as LCT's and three phase supplies become more prevalent, skills training could be coordinated by relevant government/non-government bodies to help enable the transition to net zero (E063, E066).

9.13. A stakeholder from Telford and Stoke raised a complaint that WPD only have a small resource of people doing the works. They could be reducing their quality of staff as they will have to bring in lots of people to get them over the hump. The upshot of that is they are setting themselves up for a lot of issues down the line due to poor service. They need to deal with people who come on a first come, first served basis (E045).

## Maintain a safe, healthy and motivated workforce

### Safety

9.14. In relation to the output to “Reduce the staff accident frequency rate by 10% from the ED1 average”, it ranked the highest on average out of all the Safety outputs with 3.2 / 5 in the South West (E072), while ranking lowest for this priority area with 3.25 / 5 for the East Midlands (E074).

9.15. Stakeholders, including a government stakeholder, urged WPD to be more ambitious for their improvement rate for this output, since accident rates were 0.75 in ED1, so this is only a 10% improvement (E072, E074, E078). They also wanted to see WPD adopting language that promotes a supportive culture where workers know that they can stop and prioritise their own safety (E074).

9.16. Stakeholders in the South West felt that the output Undertake a second Staff Safety Climate Survey during ED2 reflected the right level of ambition with an average score of 3 / 5 (E072), while in the East Midlands, it ranked on average 3 / 5 – although views were split, with 25% saying ‘do a lot less’, 50% saying the level of ambition was about right, and 25% wanting WPD to ‘do a lot more’ (E074).

9.17. Stakeholders commented that the format of safety surveys is an important consideration because It is about how you group things to establish what safety in the workplace is, and that the way you have written the questions may be different to how they are read by staff (E074).

### Motivation and well-being

9.18. Stakeholders suggested that, in line with the output to “Maintain a healthy, happy and motivated workforce”, surveys should be in place to analyse how the workforce is

feeling, as this is even more crucial with people being isolated due to Covid-19 without social interaction at work (E073).

# High-level topic: Delivering an environmentally sustainable network

# Sub-topic: Business carbon footprint

**What we heard in early 2020:**

Stakeholders were passionate about WPD reducing their carbon emissions, showing leadership in the industry and society and setting ambitious targets for improvement. There was a substantial proportion of feedback discussing the correct net-zero target for WPD, with several workshops suggesting 2030, as well as suggesting aligning with local authority targets. Despite the demand for WPD to announce a climate emergency, it was noted that making a statement was insufficient without a concrete plan for action to reduce emissions.

A major focus for stakeholders was WPD's fleet and the need to electrify, especially as so many other organisations have already managed this and WPD should be leading the way. Also, the point was raised that employee emissions should be reduced through promoting public transport, car-sharing and cycling, as well as offering more flexibility to work from home to remove the commute altogether. WPD's buildings were another topic of discussion with stakeholders keen to see energy efficiency improvements of current buildings, retrofitting solar panels and insulation as well as having a high environmental specification for new buildings.

Carbon offsetting was mentioned repeatedly, but stakeholders did not want WPD to use this as an excuse not to reduce emissions where possible and wanted WPD to only offset where unavoidable. This was linked to the upgrading of network equipment needed in order to improve its energy efficiency, which should be considered in WPD's

## Summary of Phase 3 feedback

10.1. Stakeholders were critical of WPD's net zero target, deeming it unambitious and urging the company to pledge to a more ambitious date, to lead by example in the industry. Some suggested a tiered target, and some were concerned about whether any target set stretches to WPD's supply chain and contracts. The adoption of EVs decarbonisation of buildings and depots were seen favourably, although various stakeholders noted that hydrogen and alternative technologies should be considered for larger vehicles. It was noted that procurement should be responsibly source and that the electrification of the fleet shall not come at the cost of the environment or produce waste.

10.2. On the operational impact of WPD's network, some stakeholders felt they did not have the technical knowledge to comment and advise on outputs about harmful leaks, losses, and fluid-filled cables, although greater ambition on all targets was deemed appropriate. The point was made that there should be a stronger link between the operational impact and WPD's innovation strategy.

10.3. A total of **139** pieces of feedback were collected for business carbon footprint during phase 3 engagement, which adds to the **189** collected during phase 2, and further **4** pieces collected during phase 1.

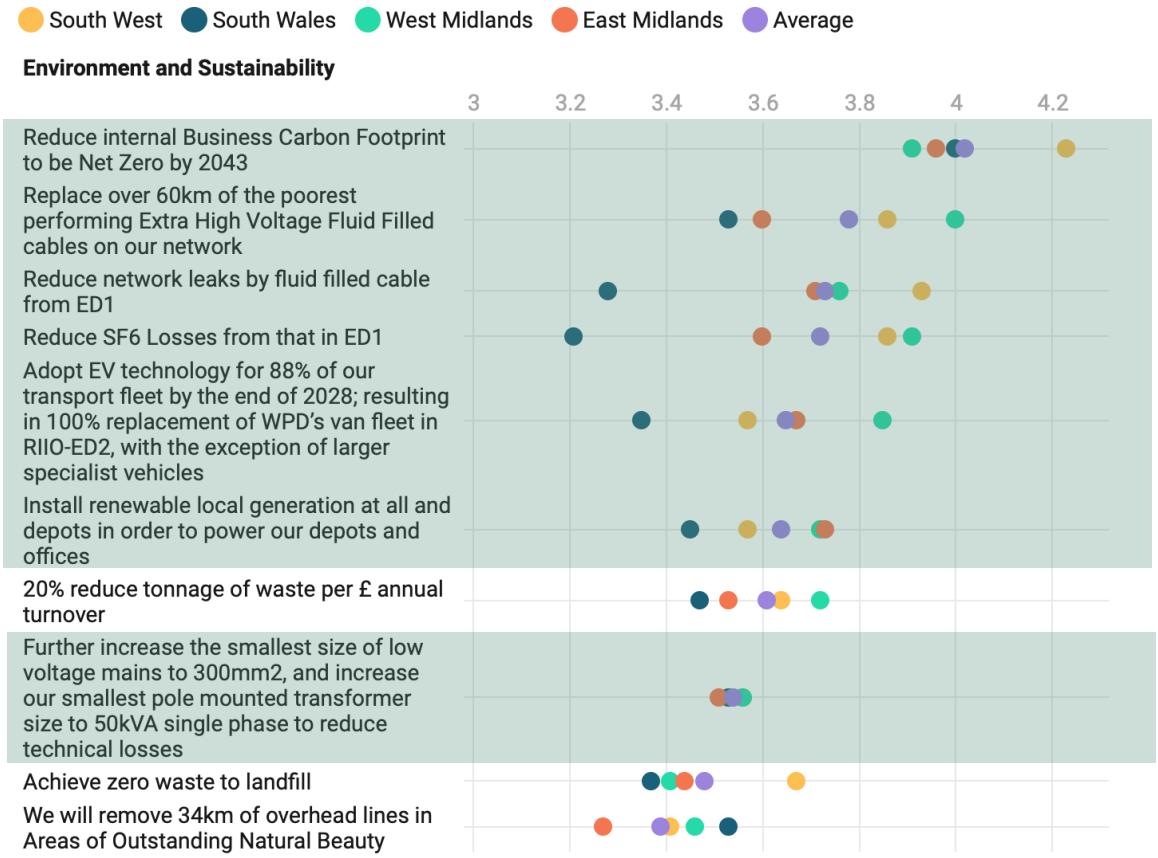


Figure 23: Environment and Sustainability outputs as voted for in the November workshops

*Also includes Broader Environmental Impacts commitments, but the relevant Business Carbon Footprint outputs have been highlighted in green.

For each output, stakeholders were asked whether WPD had got the right level of ambition, answering on a scale of 1 to 5 whether they should 'do a lot less' (1) through to 'do a lot more' (5). The online polling results are displayed per region and as an average out of 5.

| Environment and Sustainability Measure/ Performance Target | Result |
|---|---|
| Reduce internal Business Carbon Footprint to be Net Zero by 2028 | Acceptable and ambitious |
| Use science-based targets to certify WPD's Carbon Footprint | Acceptable |
| Ensure compliance with legislation and work in partnership with the Environmental agencies for England and Wales | Acceptable but legislation not stretch target |
| All depots and offices to produce electricity to meet their operational demand | Acceptable |
| All new major infrastructure projects to have an embedded carbon reduction plan and natural capital assessment | Acceptable |

| | |
|---|---|
| Fluid Filled Cables - Reduce network leaks by 50 % | Increase |
| SF6 gas is used throughout the industry as an insulating medium in switchgear -reduce SF6 losses by 20% | Increase |
| Overlay of 60 km of the poorest performing Extra High Voltage Fluid Filled cables on our network | Increase |
| All PCB contaminated equipment will be removed from the WPD network by 2025 (PCB = organic, manmade chemicals that are toxic) | Increase (reduce timeframe) |

Figure 24: Proposed Environment and Sustainability Measures from the Measures of Success research workshop where stakeholders were asked to review the draft Business Plan outputs of the top priority areas they identified and comment on whether the ambition should increase/stay the same/decrease.

*These commitments correspond to Business Carbon Footprint

## Detailed feedback

**Feedback for Business Carbon Footprint can be divided into five themes:**

- General
- WPD's net-zero target
- Transport
- Building and depots
- Reduce leaks and network losses

### General

10.4. Stakeholders raised various topics they felt were missing from the draft outputs. This included reducing water usage, as well as supporting local authorities to develop their own low carbon local energy plans. Two stakeholders suggested measures that might provide assurance in this area: obtaining IEMA membership and using it to drive an improvement in environmental standards within the business; and becoming ISO 14001 compliant (E074)

### WPD's net-zero target

10.5. In terms of the Environment and meeting the government target of Net Zero, 2050 feels unambitious and this is an area of particular importance. In response to what measures are missing in relation to the Environment, "Net zero earlier than 2050" was identified, while the proposed measures to "Reduce internal Business Carbon Footprint to be Net Zero by 2028", and "Use science-based targets to certify WPD's Carbon Footprint" were seen as acceptable and ambitious (E071, E078). Other general 'carbon footprint' reductions were felt to be more standard, such as electric vehicles being essential for size of fleet and carbon neutral offices (E071).

10.6. Whilst one or two stakeholders commended WPD for having a Net Zero target date that is ahead of the UK's 2050 target, it was strongly felt among most stakeholders that 2043 was nowhere near ambitious enough. Local authorities in particular expressed concern that this was insufficient given the 2030 ambitions of most local authorities in the South West – and that if the DNO's target is later than their own it would impact their ability to achieve their own targets (E072, E073, E074, E075).

10.7. The output to "Reduce internal Business Carbon Footprint to be Net Zero by 2043" ranked 4.23 / 5 in the South West – the highest ranking of any of the draft outputs across all priority areas, with 81% of stakeholders wanting WPD to 'do more' or 'do a lot more' (E072). Equally in South Wales, it was the highest ranked across all areas, with an average of 4 / 5, and 70% wanted WPD to 'do more' or 'do a lot more' here (E073). In the East Midlands, it ranked joint second out of all the draft Business Plan outputs with an average of 3.94 / 5, demonstrating that stakeholders wanted WPD to be much more ambitious – over a third (35%) wanted them to do a lot more (E074), while in the West Midlands, it got an average score of 3.91 / 5, with almost two thirds (64%) of stakeholders voting that WPD should go further against this target (E075).

10.8. Stakeholder suggested a tiered target as it was noted the target is 15 years after the end of the next plan period of 2023–2028, and to show interim targets that show the pathway towards being carbon neutral by 2043, rather than carrying on as usual until 2042 and then suddenly switching to carbon neutral at the last moment (E072, E073). When presented with a target of 2028, the youth audience at the Youth Community Measures of Success Research workshop had mixed thoughts, saying that on the

hand it feels progressive in contrast to 2050, but on the other hand it is still a decade away (E078).

10.9. Stakeholders needed more detail on the measures WPD is taking to reduce carbon usage (E074), while a storage and renewables provider / installer argued that if carbon offsetting is used for the first 5 or 6 years it would be valuable as a short-term tactic, but it is not a long-term solution (E073).

10.10. Stakeholders were also concerned about whether any target set would stretch to WPD's supply chain and contracts delivered by suppliers, especially when buying from abroad (E072, E073).

10.11. An academic institution pointed out the fact that there are different environmental considerations, such as the impact of batteries on the environment, their waste and recycling. They explained that this has not been considered on a national framework yet (E075).

10.12. Two stakeholders suggested measures that might provide assurance in this area: obtaining IEMA membership and using it to drive an improvement in environmental standards within the business; and becoming ISO 14001 compliant (E074)

## Transport

10.13. Customers' willingness to pay report showed that 'Reduce the carbon emissions from WPD's transport fleet' came 18th out of 24 initiatives for household customers, and 19th out of 24 for non-household customers, and although ranked as 18th overall among households, it ranked 7th by the 18-29 age group, 19th by the 30-59 age group, and 17th by the 60+ age group. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £0.79, or 0.14% of the total increase to Reduce the carbon emissions from WPD's transport fleet (E061).

10.14. In relation to the output to "Adopt EV technology for 88% of our transport fleet by the end of 2028; resulting in 100% replacement of WPD's van fleet in RIIO-ED2, with the exception of larger specialist vehicles", stakeholders agreed that the target was realistic and ambitious enough. The output got a ranking of 3.57 / 5 in the South West which, though still relatively high, was one of the lowest ranking outputs under this priority area. The largest proportion of stakeholders (53%) said they felt this was the right level of ambition (E072). In South Wales, it ranked third from the bottom for this priority area, with the majority (60%) saying it had the right level of ambition (E073). In the East Midlands, this output ranked fourth for this priority area with 3.65 / 5 – just above the baseline average (E074), and in the West Midlands, 60% of stakeholders voting that the company should go further than planned (E075).

10.15. Stakeholders felt that WPD should also consider alternative technologies and fuels for larger vehicles – particularly green gas like biomethane or hydrogen (E072, E074, E075), while the fact that WPD has bought around 200 extra diesel vans was criticized (E045).

10.16. Some stakeholders felt the target could be more stretching, while others recognised that technological and infrastructure constraints – such as batteries not being powerful enough for large fleet vehicles or insufficient charging infrastructure for long distance journeys – meant that the target was realistic and achievable.

10.17. It was pointed out the target would need to be reviewed in light of the government's white paper. Stakeholders were also interested to know whether supply chain vehicles

could be incorporated into the output; ensuring WPD has a green recycling initiative for old vehicles; and whether this output could extend to include plant machinery (E072, E073).

10.18. The point was made that WPD should ensure that the EVs it procures are responsibly sourced so that this output does not come at an environmental cost, in terms of the carbon impact of their production and the need to replace them. It felt that WPD could lead the way in this area by sourcing the energy for EV charging from renewable sources and that the company should demonstrate that it is doing so by publicising the fact on the side of its fleet (E075).

10.19. In relation to the effect of Covid-19, it was noted that as in general more people commute on separate vehicles now, WPD could experience a shift on how many and how employees commute to work in the future, hence altering electric vehicle use and uptake (E073).

## Buildings and depots

### Existing buildings

10.20. In the WTP report, 'Make WPD's offices and local depots carbon neutral by 2050' came 23rd out of 24 initiatives for household customers, and 22nd out of 24 for non-household customers. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £0.53 or 0.09% of the total increase to Make WPD's offices and local depots carbon neutral by 2050 (E061).

10.21. The largest proportion of stakeholders (49%) in the South West felt that WPD had got the right level of ambition in relation to the output to "Install renewable local generation at all offices and depots in order to power our depots and offices". Several stakeholders wanted to see WPD deliver this as quickly as possible, with a floated target date of 2030 (E072). In South Wales, the same output ranked slightly lower than the baseline average at 3.45 / 5 and most (55%) feeling it was the right level of ambition (E073). In the East Midlands, it ranked joint second for this priority area with 3.71 / 5, and over half (52%) wanting WPD to 'do more' or 'do a lot more' (E074) and in the West Midlands, 43% thought this output represented the right level of ambition, with just over half (54%) voting to go further than planned in ED2 (E075).

10.22. Some stakeholders indicated that PV on roofs would be a quick win, although they were keen to see a cost/benefit analysis to assess its effectiveness. However, a connections provider would be more comfortable if WPD were going to work out the total energy use and then put in the equivalent amount of generation, including heat (E072).

10.23. Stakeholders also said that WPD should use its knowledge and experience to help other partners move in the same direction, such as other organisations and local authorities (E075).

### New buildings

10.24. In terms of the proposed Environment and sustainability measures, "All new major infrastructure projects to have an embedded carbon reduction plan and natural capital assessment" was seen as acceptable (E071), although the young audience thought it should be done already (E078). The measure to "Ensure compliance with legislation and work in partnership with the Environmental agencies for England and Wales" was seen as acceptable but as following legislation not a stretch target. "All depots and

offices to produce electricity to meet their operational demand" was seen as acceptable but would like to see associated target e.g. all electricity, every year (E071).

## Reduce leaks and network losses

### Harmful leaks

10.25. Regarding customers' willingness to pay, 'Reduce the number of environmentally harmful leaks of greenhouse gases/oils from WPD's equipment' came 7th out of 24 initiatives for household customers, and 6th out of 24 for non-household customers, and although ranked as 6th of 24 overall among households, it ranked 6th by women, and 13th by men. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £1.26, or 0.22% of the total increase to Reduce the number of environmentally harmful leaks of greenhouse gases/oils from WPD's equipment (E061).

10.26. Spontaneous priorities to fulfil WPD role of 'Delivering an Environmentally Sustainable Network' derived from the Measures of Success research workshop indicated that at that point people were not aware of leakage from switchgear or any specifics, and that leak information provides important context. The new 'news' was alarming for everyone, as it was felt it is something that WPD can control, the numbers are not clear and feel high and is a critical area to address. Stakeholders expressed their concern about leaks saying that they it did not occur to them that WPD would have leaks, and that they urge WPD to find an alternative. A household stakeholder in the South West noted that environmental damage caused by leaks should be a think of the past and "Addressing 'harmful' leakage" was identified as the most critical measure in the Environment area (E071).

10.27. The aspiration of the output that "All PCB contaminated equipment will be removed from the WPD network by 2025" was commended (E073) but was seen by some as needing to be more ambitious in the sense of reducing the timeframe (E071). The youth audience at the Youth Community Measures of Success Research workshop thought that using safe materials is important to a customer, and it would be good to know that the correct things are being used and especially being safe too, toxic chemicals can be dangerous to everyone. There was real appetite for faster change here – contaminated equipment by 2025 (E078).

### Fluid-filled cables

10.28. In terms of the proposed Environment and sustainability measures, "Fluid Filled Cables - Reduce network leaks by 50 %" was seen as a target to be increased i.e. reduce leaks by more or even eradicate, while SF6 gas is used throughout the industry as an insulating medium in switchgear – "reduce SF6 losses by 20%" was seen as needing to be more ambitious and not enough of an improvement from previous business plan of 17%, so it also needs to be increased (E071, E078).

10.29. In the South West, the output to "Reduce network leaks by fluid filled cables from ED1" was ranked second highest in this priority area by stakeholders (3.93 / 5). In total, 65% said they wanted WPD to 'do more' or 'do a lot more' in this area (E072). However, in South Wales, this output ranked second lowest for this priority area and well below the baseline average with 3.28 / 5. 17% even wanted WPD to 'do less' or 'do a lot less' (E073). In the East Midlands, the same output ranked joint second for this priority area with an average of 3.71 / 5 – higher than the baseline average (E074),

and in the West Midlands, 39% of stakeholders voted that it represented the right level of ambition, with the remainder 61% voting that WPD should go even further in ED2 (E075).

10.30. Feedback included that some stakeholders did not understand the technical content of the output and did not really know its implications and impact in order to be able to constructively make comments. (E073, E074). It was also suggested to change some of the wording to 'stop' rather than 'reduce', but you need to make sure that they are achievable (E073, E075).

10.31. One stakeholder also made the point that they would like to see more linking of the operational impact to WPD's innovation strategy, including working with higher education, colleges and universities and more research into mitigating its carbon footprint (E074).

10.32. In terms of the proposed Environment and sustainability measures, "Overlay of 60 km of the poorest performing Extra High Voltage Fluid Filled cables on our network" was seen as needing to be more ambitious (E071).

10.33. The output to "Replace over 60km of the poorest performing Extra High Voltage Fluid Filled cables on our network" ranked joint third highest in this priority area with 3.86 / 5 and 58% of stakeholders in the South West wanting WPD to 'do more' or 'do a lot more' in this area (E072). In South Wales, it scored about average with 3.53 / 5. Sentiment was split, with 42% of stakeholders feeling it was about right and 48% wanting to see WPD 'do more' or 'do a lot more'. The remainder wanted WPD to 'do less' (E073). In the East Midlands, ranked 0.02% lower than the baseline average at 3.6 / 5, and half (51%) felt the level of ambition was right (E074), while in the West Midlands, it was the highest ranked output in the Environment and Sustainability priority area. Over 70% of stakeholders were of the view that this output does not go far enough in ED2 and called on WPD to 'do more' or 'do a lot more' (E075).

10.34. Comments for this output included that stakeholders required more context and information on the existing performance or total mileage of fluid filled cables on the network to infer whether the 60km is an appropriate target (E072, E073, E074).

### Losses

10.35. On the output to "Reduce SF6 Losses from that in ED1", in the online polling, 63% of stakeholders in the South West wanted WPD to 'do more' or 'do a lot more'. The output ranked joint third highest on average under this priority area with a score of 3.86 / 5 (E072), as was the case in the East Midlands where it ranked 0.02% lower than the baseline average at 3.6 / 5 – and 62% felt the level of ambition was right (E074). However, in South Wales, it ranked lowest among the Environment and Sustainability outputs with 3.21 / 5. Most (58%) felt the level of ambition was right and 10% even wanted WPD to 'do less' or 'do a lot less' (E073). In the West Midlands, almost two thirds (63%) of stakeholders who voted felt that the output did not go far enough and should go further in ED2 (E075).

10.36. Some stakeholder wanted WPD to aim to get rid of SF6 completely in the Plan period (E072, E075). Whilst one noted this could be unachievable, they certainly wanted to see more ambition here (E072). The youth audience at the Youth Community Measures of Success Research noted that SF6 is dangerous for workers, because high concentrations of SF6 could lead to harmful medical problems (E078).

10.37. An IDNO said that from an engineering perspective, they would like to see more information on the SF6 losses and that it must be a near-impossible target to monitor

losses (E075). SF6 losses reports would be useful for a local authority as well, who is trying to quantify greenhouse emissions in their county (E072).

10.38. Stakeholders asked if WPD will be driving manufacturers to make changes to the technology and suggested applying a requirement for new switchgears not to use SF6 gases (E072, E073)

10.39. The output to “Further increase the smallest size of low voltage mains to 300mm2, and increase our smallest pole mounted transformer size to 50kVA single phase to reduce technical losses” was ranked second lowest of the outputs in the South West, receiving an average of 3.56 / 5 (E072), it came joint second (with two others) but still came in 0.01 under the average baseline at 3.53 / 5 and the majority of stakeholders (53%) felt it had the right level of ambition in the South Wales (E073), and ranked third bottom for this priority area with an average of 3.48 / 5 – below the baseline average in the East Midlands (E074).

10.40. 56% of stakeholders were of the view that the output to ‘‘Further increase the smallest size of low voltage mains to 300mm2 and increase our smallest pole mounted transformer size to 50kVA single phase to reduce technical losses” represented the right level of ambition (E075).

10.41. It was commented that this output is economically viable as it would reduce future operational costs. It was also noted that this increase in the size of low voltage mains would be needed to accommodate the projected increase in the take up of EVs, making the target unambitious (E075).

# Sub-topic: Broader environmental impacts

**What we heard in early 2020:**

The natural environment was important to many stakeholders during the six regional workshops and many wanted WPD to analyse and evaluate their impact, throughout their supply chain. The first subject of discussion was reducing leaks, particularly in terms of SF6 which was noted repeatedly. The key points noted here were the need for extensive and transparent asset monitoring work as well as investing in innovative technologies to try and find an alternative to SF6.

Stakeholders were also concerned about the effect of operations on biodiversity and wildlife with discussions around the planting of trees, rewilding, and sustainable land-use practices. Improving WPD's natural capital and the biodiversity on their land could also help reach carbon neutrality and the net-zero target.

It was also briefly discussed that WPD should aim to connect new buildings in an environmentally sustainable way and try to limit visual pollution. Waste was another theme discussed, in particular the reduction of waste to landfill and the reduction of plastic use and waste. This led to conversations on WPD's entire supply chain – the responsibility to ensure that all its suppliers align with WPD's high environmental goals – and establishing a policy for a circular economy.

## Summary of Phase 3 feedback

11.1. Stakeholders were very passionate on the broader environment and supported measures to reduce carbon emissions, plastics, and waste. They were particularly interested in minimising the effect of the network on biodiversity, such as the effects of tree trimming on nesting, and although resonated with the initiative to remove overhead lines in Areas of Outstanding Natural Beauty, they were concerned that underground lines will be more disruptive.

11.2. A total of **113** pieces of feedback were collected for the broader environmental impacts during phase 3 engagement, which adds to the **182** pieces collected during phase 2, and further **4** pieces collected during phase 1.

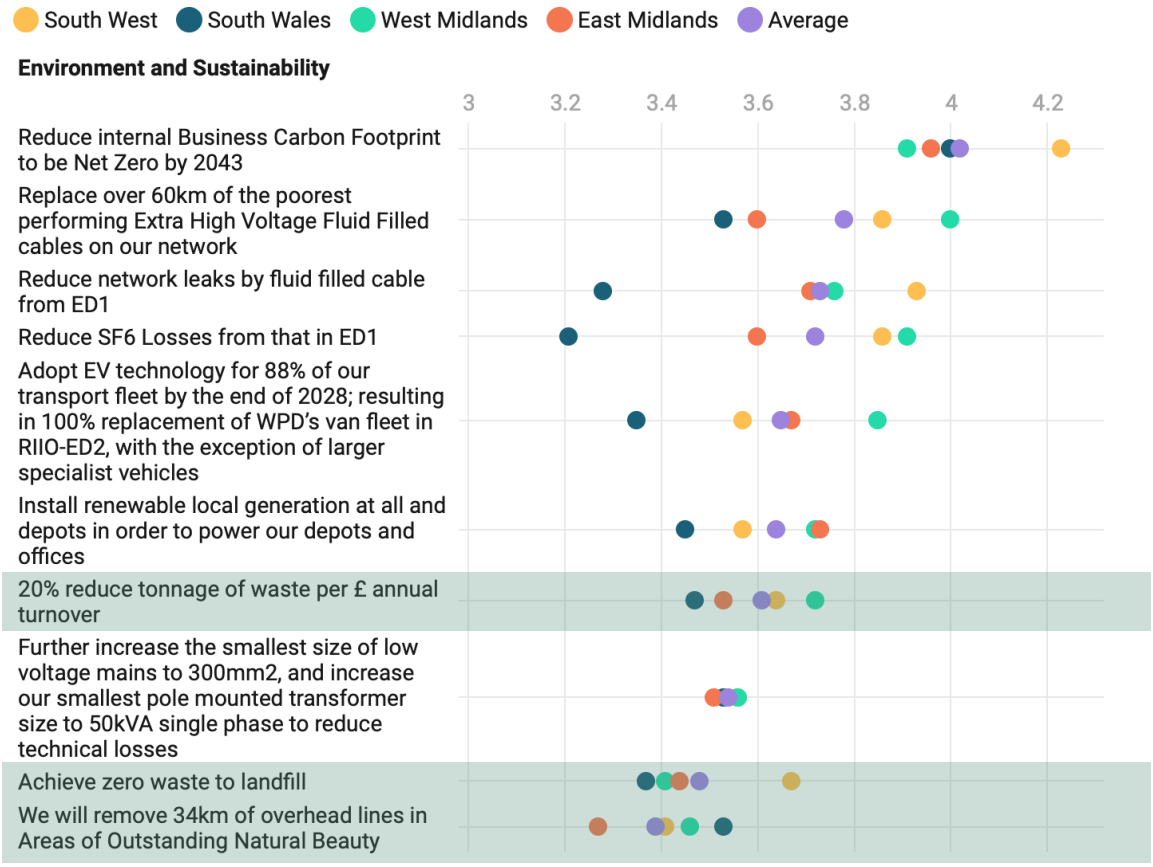


Figure 25: Environment and Sustainability outputs as voted for in the November workshops

*Also Includes commitments from Business Carbon Footprint, but the relevant Broader Environmental Impacts outputs have been highlighted in green.

For each output, stakeholders were asked whether WPD had got the right level of ambition, answering on a scale of 1 to 5 whether they should 'do a lot less' (1) through to 'do a lot more' (5). The online polling results are displayed per region and as an average out of 5.

| Environment and Sustainability Measure/ Performance Target | Result |
|---|---|
| 20% reduction in tonnage of waste per £ annual turnover | Increase |
| Achieve zero waste to landfill | Acceptable |

Figure 26: Proposed Environment and Sustainability Measures from the Measures of Success research workshop, where stakeholders were asked to review the draft Business Plan outputs of the top priority areas they identified and comment on whether the ambition should increase/stay the same/decrease.

## Detailed feedback

**Feedback for the Broader environmental impacts can be divided into three themes:**

- General
- Waste
- Effect on the natural environment

### General

11.3. Covid-19 implications for WPD were that people continued to focus on the environment as they believed anything is possible (E071). Environmental discourse has increased, and majority of people believe change is needed, but there is still a spectrum of attitudes from the climate 'connected' to the climate 'soldiers'. The implication for WPD is that there is appetite for strong environmental measures and targets e.g. tree planting programmes, minimising impact on eco systems (E071).

11.4. Missing areas identified in relation to the Environment were that people feel the need for greater ambition to address key environmental issues, partnerships with environmental agencies, and education for renewables, and tree planting programmes, although participants insisted on an existing recommendation, to be planting a tree every time trees are cut trees (E071). Stakeholders wanted more focus on measurables e.g. weight of waste sent to landfill vs recycling, measure EV vs. petrol /diesel mileage (E071).

11.5. The measures to reduce wastage, plastics, carbon emissions and footprint were all thought to be critical, with a priority proposed to “Campaign for heavy taxation on fossil fuels and nuclear energy suppliers” (E071).

11.6. Relating to the output to “Ensure compliance with environmental legislation and work in partnership with the Environment Agency and Natural Resources Wales”, stakeholders encouraged WPD to have a greater level of ambition than to simply comply with legislation, for example, improving the land the company owns by bringing in the biodiversity net gain principle. One stakeholder cautioned WPD not to confuse the standards of England and Wales (E072, E073, E075).

11.7. The Youth Community Measures of Success Research revealed that the youth audience felt WPD should have a stronger voice in tackling climate change e.g. educating re EV, explaining how to reduce demand, etc (E078).

### Waste

11.8. A number of stakeholders advocated for the company to “Recycle waste materials produced when replacing network equipment, while in terms of the proposed Environment and sustainability measures, “Achieve zero waste to landfill” was seen as acceptable, while “20% reduction in tonnage of waste per £ annual turnover” was seen as not ambitious enough with suggestions to improve it, i.e. increase the % reduction of waste (E071). A participant in the Youth Community Measures of Success Research commented that managing waste is important, as landfill damages the environment, and causes massive impacts on sustainability, because the waste decomposes slowly, and emits toxins, that often end up in the water supply, contaminating the water (E078).

11.9. Stakeholders unanimously supported WPD reducing the amount of waste to landfill, with many commenting it should not have to wait until the start of the next Business Plan. There was, however, discussion about the appropriateness of the target. Some stakeholders felt it was disappointing this was not already happening, whereas others felt 'zero' may open WPD up to criticism later (E072, E074, E078).

11.10. Stakeholders were interested to have the baseline figures to compare and would like details in what alternative methods the company is planning to use to deal with its waste (E072).

11.11. In South Wales, "Achieve zero waste to landfill" scored less than the average baseline with 3.37 / 5 (E073), while in the East Midlands, it ranked 3.41 / 5 – second lowest of the outputs in this priority area and below the baseline average. Most (67%) felt the level of ambition was right, although 6% wanted to see WPD 'do less' – perhaps reflecting the view that the scope of this output was unrealistic (E074). In the West Midlands, it was the lowest ranked output in the vote, but no stakeholders voted that WPD should do less than proposed in ED2 (E075).

11.12. A local authority stakeholder noted that considering that a lot of the waste will be wiring, there will be a lot of copper. On that basis, they think that there are opportunities for salvaging here. They would like more information about how WPD intends to dispose of some of the more dangerous materials (E075).

11.13. Several stakeholders sought further clarity on the 20% reduce tonnage of waste per £ annual turnover output, for example there was confusion as to the link between waste and annual turnover. One stakeholder questioned whether this link was appropriate (E072). In the South West, the largest proportion (51%) wanting to see WPD 'do more' or 'do a lot more' in this area (E072).

11.14. Whether the strategy should be to focus on reducing non-recyclables rather than reducing tonnage of waste was also questioned. This output came below the average baseline in South Wales (3.47 / 5), with 63% feeling the level ambition was correct (E072) and in the East Midlands (3.5 / 5) (E074), although in the West Midlands, half of all stakeholders were of the view that it represents the right level of ambition, with the remainder voting that WPD should go even further (E075).

11.15. Stakeholders required more context to fully understand the scope of this ambition, while the comment was made that there is a waste hierarchy, so the company should work to move certain types of waste up the hierarchy and endeavour to design them out of processes, where possible, in order to meet this target (E075).

## Effect on the natural environment

### Visual

11.16. "Ensuring that impact on local environment is minimised" was thought to be the most important measure, while a measure to 2Underground cabling to improve the visible environment" was thought to be missing in the workshop (E071).

11.17. The output pledging to "remove 34km of overhead lines in Areas of Outstanding Natural Beauty" ranked lowest of all outputs in this priority area in the South West, with an average of 3.41 / 5, well below the average baseline, with 16% of stakeholders wanting to see WPD 'do less' or 'do a lot less' in this area (E072). It also came in 0.01 under the average baseline at 3.53 / 5 in South Wales (E073), and well under the baseline average with 3.27 / 5 in the East Midlands too. Compared with other outputs, views were quite split, with 8% wanting WPD to 'do less' or 'do a lot less', 58% feeling

it was about right, 25% wanting WPD to ‘do more’, and 8% wanting WPD to ‘do a lot more’ (E074). In the West Midlands, almost half of stakeholders who voted (48%) were of the view that WPD should go further than planned (E075).

11.18. Stakeholders required more detail to put the figure of 34km into perspective, and more detail on which areas will be prioritised, e.g. AONBs, and how these lines will be replaced. It was heavily argued that underground lines will also result in disruption to the environment in those areas, which can be as or more harmful than using overhead cables. It was also added that reliability should be considered too, opting for a balance between proactivity and reactivity (cost of undergrounding versus cost of dealing with a power cut) (E072, E073, E074).

11.19. Notably, a local authority stakeholder noted that there is a pipeline project to Heathrow Airport and the digging involved pioneering mole technology, hoping that WPD is using similar technologies (E074).

11.20. A trade association made noted that that this came up in National Grid’s Business Plan as well, meaning that the industry focuses a lot on natural beauty and does not concentrate enough on the overall impact of the system, and that consumer representatives, such as Citizens Advice needs to be included in the discussion (E075).

### Biodiversity and ecology

11.21. Stakeholders expressed great concern about the environmental and ecological impact of tree trimming and urged WPD to engage with residents and stakeholders (E044, E046). A stakeholder in Lincolnshire says that their members are interested in tree planting and the benefits of that for the climate, but that brings into consideration planning and the work WPD does with electricity. They would like to know what they should take into consideration if they do any major schemes going forward (E044).

11.22. Stakeholders thought that WPD should be interacting with landowners and local authorities to ensure that trimming work is mindful of ecology, avoiding nesting seasons and replacing bat boxes (E044).

# High-level topic: Delivering future energy networks

# Sub-topic: Connections

**What we heard in early 2020:**

Connections was an important topic for stakeholders, gathering a significant volume of feedback. First, changes to the speed, simplicity and availability of the application process were discussed with most people asking for more information throughout. This was also true once WPD had provided an offer to customers, especially for those that may not have the complete engineering understanding. The future options for connections were also discussed, particularly around smart connections and the importance of three-phase connections, with the cost and lack of understanding being the main barriers to uptake. There was substantial discussion around the allocation of capacity, the cost, competition for connection and the prioritisation of projects.

Finally, low carbon technology connections received a lot of feedback, especially around the cost of these connections, the need to incentivise developers to have these connections, as well as the potentially massive demand for EV charging point connections in the future.

## Summary of Phase 3 feedback

12.1. Connections was an important topic for stakeholders, gathering once again a significant volume of feedback. Firstly, in terms of the application process, there was appetite for early engagement and support, especially with community energy groups, more availability of information on the process itself, and most prominently on capacity. Secondly, stakeholders felt that prioritising community energy groups when capacity exists is important to get them motivated to participate, otherwise they lack expertise in the connections area and tend to lack funding in the beginning of projects, making it harder for them to secure the connections. Stakeholders called for a joint-up approach and more collaboration and early planning for connections, including strategic investment and promoting competition. Thirdly, stakeholder had extensive discussions on different connections, including three-phase connections, with some stakeholder agreeing with their benefits and their contribution in facilitating net zero, and others expressing concerns over practical limitations and the increased costs to customers and developers. Alternative connections where also discussed stressing the importance of flexibility. Low carbon connections were also a big theme although stakeholders discussed that they are limited by capacity constraints.

12.2. Local authority stakeholders submitted their plans for industrial and commercial, and domestic developments and discussed to what extend Covid-19 has affected those. These have been summarised in a table. Stakeholders also discussed capacity allocation with some favouring developing the network strategically and others developing it reactively.

12.3. A total of **406** pieces of feedback were collected for connections during phase 3 engagement, which adds to the **223** pieces collected during phase 2, and further **23** pieces collected during phase 1.

## Detailed feedback

**Feedback for Connections can be divided into five themes:**

- General
- Application process
- Communication, collaboration and support
- Connection options
- Stakeholders' future plans
- Allocation of capacity

### General

12.4. There was agreement that the connections outputs are strong and welcomed, and that WPD has worked hard (E043, E044, E045). However, one stakeholder said they would expect more of an explicit focus on new technology for single domestic households in the connections engagement since there is a big uptake (E043).

12.5. In response to whether stakeholders think the proposed outputs meet the requirements of the high-level connection principles and associated baseline standards, stakeholders thought that there is the right level of reliance between customers and the DNO and that some rigour and process are needed to make sure the whole network does not suffer at the principle of a commercial gain for a connection. Another comment was that, regarding the Baseline 3 Standard ('where there are slow-moving projects that are impacting on other customers, have processes in place for releasing capacity that is not being used'), this is a significant standard towards not tolerating delays to other potential customers. Other stakeholders wanted WPD to be more focused in collecting that customer feedback (E077).

12.6. There was mixed feedback on whether Covid-19 had slowed down connections works. One stakeholder indicated that although developments (and, by inference, connection requests) had slowed as a result of Covid-19, they expected these to now pick up as part of the government's Build Back Better policy (E074)

12.7. The output We will develop tailored processes for meeting different customer group needs from initial application stage to final connection and energisation received an average score of 3.27 / 5, indicating that WPD had got its level of ambition broadly right, although almost one third (31%) opted for WPD to do more or do a lot more (E077).

12.8. Stakeholders explained that they face the challenge of needing to put in an actual application in order to get up-front information, therefore they need more conceptual information about what the potential capacity is and would also favour a logged informal dialogue on things that can then lead into an application, such as an ongoing portal of advice and conversation (E077).

12.9. Stakeholders also agreed that simplicity and clarity are needed when discussing capacity allocation to ensure that all types of customers can engage with and understand the information (E077).

## Application process

### Speed of process

12.10. The output around pre-application information clearly resonated with stakeholders and there was an appetite for early engagement and transparency, partly because navigating community energy projects could be a daunting and complex process (E044).

12.11. The speed and timeliness of the connection process seemed to be an important consideration especially as a barrier to low-carbon projects. A stakeholder from Hereford, Gloucester and Worcester mentioned that WPD's engagement with them in planning, should be helpful. They mentioned the pressure of capacity issues, but one thing that can really hold up low-carbon projects is the long lead time required to obtain connections (E045).

12.12. A district council noted that there is need to educate people, particularly smaller developers, on the sort of time it takes to provide the energy supply (E044).

### Availability of information

12.13. The importance of early engagement with WPD and the need for detailed pre-application information were highlighted, including on costs and capacity for new connections (E043, E044, E045). Stakeholders called for WPD to improve the presentation and readability of network capacity maps (E043).

12.14. There were calls for the company to collate and publish more information on unsuccessful connection requests for renewable energy and EV charging, or connections that were turned down for cost reasons. It could be done in a more strategic way for investment (E043). Several attendees felt that by improving its communication, WPD could help to address the lack of capacity for renewable connections. For example, the company was advised to also compile information on connection applications that were unsuccessful owing to lack of capacity and share its findings, in addition to holding more open-ended conversations around flexibility services during the application process (E043).

12.15. Stakeholders in the South West strongly supported the output stating We will develop our connections process and improve availability of information so that customers wishing to connect can easily comprehend the process and follow a simple set of rules to apply for a connection output, with the majority (57%) feeling it was the right level of ambition, although the remaining 43% wanted to see WPD ‘do more’ or ‘do a lot more’ (E072). Stakeholders in the East Midlands also stakeholders felt that WPD had got the level of ambition right with a score of 3 / 5 (E074), while in the West Midlands 2 out of 5 stakeholders thought this is the right level of ambition and the rest wanted WPD to go further (E075). It was also the highest-ranked in this priority area in the Connections workshop, scoring 3.69 / 5 (E077). Some further clarification was suggested for this output, especially around how comprehension of the process will be practically measured (E077).

12.16. Several stakeholders felt the need to improve the availability of data, particularly community energy groups, who perhaps had less experience of the process and / or were only applying for a single connection, although one did comment that WPD’s capacity data is already more robust than that of some other DNOs. Videos and better mapping were thought of as the most helpful (E072, E073, E075, E077).

12.17. WPD was urged to create bespoke information guides for a range of customer types, depending on different needs and levels of knowledge (E074).

12.18. Stakeholders wanted to see curtailment information included as part of the available information recognising opportunities for Active Network Management. One stakeholder felt the Energy Data Hub would be useful here, while others requested capacity information at substation level and more publicised data on how long a connections application takes (E073, E074).

12.19. Several stakeholders expressed their satisfaction about the current connections process, although an energy consultant noted that on WPD's application forms, when somebody puts down if they want a heat pump, it does not state the fact you have got to complete the EA heat pump form first (E077).

### Quotation

12.20. The output to “Provide new connections quotations and energisation in line with customer expectations” ranked highest in the South West, with 4.14 / 5. In fact, it received the highest ranking of all Connections outputs by a considerable margin, with 72% wanting to see WPD ‘do more’ or ‘do a lot more’ (E072). Also, in the East Midlands, on average wanted to see WPD be more ambitious, ranking it 4 / 5 (E074), as they also did in the West Midlands, where it was the most highly ranked Connections output, scoring an average of 4.2 / 5 (E075).

12.21. Stakeholders focused on the need to develop more innovative connections offers that make better use of capacity, for example by extending renewable connections offers that recognise they only require capacity some of the time or consider the use of batteries. Another suggestion was a hybrid connection where two generators could combine to share a grid connection. Another wanted to see fibre optic connections made to microwave towers (E072, E073).

12.22. One stakeholder requested that connections offers include accurate pricing information and that costs do not escalate once more detailed surveys are undertaken. If new applications and offer processes are put in place, another stakeholder wanted confirmation of what information would be available (E073).

12.23. A stakeholder sought clarity on whether large connections customers had any choice if they were offered a flexible connection or a quotation based on Active Network Management (E074).

12.24. The point was made that, whilst it is important for the process to be facilitated in a timely fashion, it was more important that information is accurate and that their time frames are guaranteed as this means that the process can be completed more quickly (E075).

## Communication, collaboration and support

12.25. Stakeholders were delighted to see the support for local energy projects, but also agreed that WPD could be providing more technical support, in areas such as connections, more data, communication and regulatory assistance to help them engage, gain more knowledge and experience, as there seems to be an issue with understanding how the systems work, and it can be hard to motivate communities to get involved (E044, E045).

12.26. Stakeholders said that communities tend to have a lack of funding at the start of projects, at a disadvantage to others in this respect and feel way down the list in terms

of connections (E046). There was a request for a joined-up approach and early planning that avoids having to talk to numerous parties (E045). Interest was in making sure that suitable connections are made and that they are joined up with the neighbouring authorities, and even given priority if there is limited grid capacity (E043, E045). Discussions with a LEP (energy steering group) revealed plans for a Local Authority Led Financing Mechanism to support new businesses that need extensive new connection work (E048)

12.27. Stakeholders also discussed increased engagement over connections to assess if there are gaps in EV charging infrastructure. They mentioned having a contact for each area so they can see whether their plans match WPD's and to have mapped data so that they know where they should install the chargers (E043).

12.28. A stakeholder calls for more engagement between planning and local authorities on the topic of connections and community energy (E043). Stakeholders welcomed WPD's plans to engage with LEPs, as they have a good understanding of local connections (E044).

### Strategic investment

12.29. The output to "Engage with local authorities and local enterprise partnerships to understand their requirements for strategic investment in terms of changes in demand or network use", received the second highest ranking for Connections outputs with 3.86 / 5. Whilst 57% felt it was ambitious enough, the remaining 43% wanted WPD to do a lot more in this area (E072). Likewise, it ranked highest out of the connection outputs with an average score of 4.33 / 5 in the East Midlands (E073). This also received an average score of 3.30 / 5 in the Connections workshop (E077).

12.30. Stakeholders agreed that LEPs were very important in the context of the above output (E072), and there was acknowledgement that engagement with the relevant tiers of local and regional government was appropriate as an output and that this engagement should inform WPD's future plans (E075).

12.31. Stakeholders also felt if this information were available and there was a constrained network, it could facilitate discussions with community groups who could then look to deliver community energy projects (E073).

12.32. It was clear that this output needed to be expanded to also include engagement with developers. Developers wanted to have the ability to get an indication of capacity and estimated connection cost without having to go through a formal connections process to be able to properly value allocated land in Local Plans. In fact, it was suggested Local Plans should also include potential capacity and upgrade requirements for development land (E073)

### Collaboration and competition

12.33. The output to "Improve DNO/IDNO/NGET/ESO cross border working practices and promote competition in connections (to ensure that the consumer is best served under the process)" received the lowest ranking both in the South West and the West Midlands with 3.14 / 5 and 3.5 / 5 accordingly. However, in the South West, the majority (86%) felt it was ambitious enough (E072), and likewise, in the East Midlands it was thought to have the right level of ambition, with a score of 3/5 (E073).

12.34. 12.32. The output to "Improve DNO/IDNO/NGET/ESO cross border working practices and promote competition in connections (to ensure that the consumer is best served under the process)" also received an average score of 3.53 / 5 in the Connections workshop, with over half (51%) opting for four or five out of five, indicating

that a large proportion of stakeholders would like WPD to go further than proposed in ED2 (E077).

12.35. Stakeholders felt that the above output needed to be more specific and include measurable targets so WPD can ensure it is delivered, with an IDNO wanting to see something relating to facilitating delivery and pushing competition in new connections added to the Business Plan (E074, E075).

12.36. Stakeholders agreed that engagement with end consumers at the beginning of processes would be helpful, and that close collaboration with Connections providers and DNOs is crucial (E077).

12.37. Stakeholders voiced that there is a lack of available information about connections being required, from a street works point of view. The example was given that when looking at highway resurfacing or sharing road space to make roadworks more useful and less disruptive, LAs are often the last to know that a connection is going to be required by a customer of WPD (E077).

## Connection options

### Three-phase

12.38. In terms of the proposal and the four benefits of three-phase connections put forward by WPD, there was some agreement that they are substantial benefits which could have a significant impact on the ease and affordability of connecting low carbon technologies, V2G and PV/storage. It was therefore thought by many stakeholders that upgrading to three-phase connections will be very important in facilitating the transition to net zero, and that it would ease the load strain experienced already in domestic installations, when assessing for EV installs and for heat pumps in larger properties. However, concern was also expressed regarding the improvement offered, unless a comparison is completed between single phase connection and three-phases connections (E063).

12.39. Some customers saw even further benefits of three-phase connections, including that increasing the supply capacity to properties will also allow for greater decentralised energy generation, without the current limitations of 3.68kW normally attributed to a property with a single phase for connect and notify under a G98. This will help homeowners and building designers to maximise their generation capacity and also to spread the generation across the phases (E063). A developer also addressed the additional technical points that three-phase will provide greater flexibility opportunities allowing EV charging to be carried out in narrower windows, supporting the grid at critical times rather than stressing it (E063).

12.40. A consultant added that a further benefit could be resilience - customers could retain supply if 1 phase is faulty? They suggested WPD should provide an example of the losses calculation - street of single-phase versus street of three-phase (E063).

12.41. An energy/ utilities company addressed three-phase connections and said that whilst the improved voltage regulation was described in the document it may be worth highlighting the improved voltage waveform and power quality benefits from a three-phase supply in particular the reduction in voltage unbalance (% NPS) (E063).

12.42. Although some believed three-phase connections to be an improvement, there were major concerns and objections to the proposal. These included the plans to replace the existing single-phase cables and who will cover the cost, and the risk of only benefitting new homes, as it would cost far too much to retrofit all the older homes in this country (E047, E063). It was noted that three-phase could be worth considering

but not for all house sizes, with discussions for houses upwards of 4 beds, although if OLEV do not dictate 3ph chargers there will always be a potential imbalance (E063). An energy/ utility company stakeholder indicated that WPD also needs to consider the possible DUoS arrangements for customers with three phase services (E063).

12.43. Another stakeholder commented that efficiency section should have greater focus on the cost of the alternative solutions and why this is the solution that is most economically suitable, as the area that they would think is the major risk and needs more focus is the off-gas housing built pre 2012 as the insulation levels and equipment used within them will result in greater electrical need (E063). A local authority/council officer added that 3 phase connections are only part of the solution. Cable sizes should also be such that will have the capacity to meet future demand to avoid stalling de-carbonisation efforts and expensive upgrades. A domestic customer said that they cannot understand how solar energy, such as solar roof tiles, has been overlooked.

12.44. Overall, stakeholders still thought the biggest concerns to be the lack of a control mechanism for load balancing across phases, more joints and therefore more potential faults are added to the network, and the increased costs, including initial cost, repairs cost, and cost to upskill installers (E063). An energy/utility company stakeholder reflected that the ability for the Network Operator (DNO / IDNO) to control the load balance on their network has been potentially lost as this is now the responsibility of the customer to load balance on the secondary side of the meter (E063).

12.45. Stakeholders also felt that the 4 key headings highlighted for three phase service cables are too generic. A consultant commented that the proposal seems not to be adequately addressing sustainability rather than only ‘ticking boxes’. This is because it only avoids the need for future excavation, if redundancy / spare capacity is designed into the LV mains infrastructure but does not deal with any additional transformer or mains cable increases (E063).

12.46. A Utilities stakeholder's views on the four key benefits were that three-phase gives more scope for future technology connections without the risk of overloading the service cable and supply cut-out, it allows the Network to be balanced more readily but will have to be done in conjunction with Supplier and Meter Operator parties; so future connections would need to have defined and detailed policy, it future proofs the network and reduces ongoing maintenance costs and unnecessary delays in supply upgrades when new customer generation is required at site (E066). However, they suggested that WPD policy needs to distinguish clearly between a single-phase customer supplied by a three-phase cable and a three-phase customer. Unless there is some need for a multi-phase connection the customer should normally remain as a single-phase user - hence no on-site load balancing (E066).

12.47. Some stakeholders highlighted that any such change needs to be national, across all GSP groups. Majority of customers, connection providers consultant, regulations apply across the GSP's. Switching 4 license areas to 3-phase services as a default, causes disruption to the entire system (E063). However, the majority of Energy/utilities companies agreed that the three-phase proposal should not become national standard as this is setting a standard for a future scenario that may not happen, and by doing this, it will limit creativity in solutions to reach net zero and decarbonization.

12.48. Stakeholders argued that other solutions may provide a more cost effective and enduring outcome for consumers. Instead of dictating what a technical solution should be, focus should be on providing a regulatory requirement for a specific outcome (e.g. all homes to have an EV charger, all homes to have low carbon heating, all new homes to have a maximum import capacity of x kW) (E063).

12.49. Further points that were addressed were that there is currently only one vehicle capable of three phase AC charging and that, meter cupboards and distribution boards locations will need reassessing for space provision too (E063).

### Three-phase – initial build work

12.50. Most respondents agreed with the proposal to work now to avoid future revisits and upgrades in the future, citing the simple fact that works completed at the time of installation are much more economic than revisiting later, although one stakeholder expressed a future home with green technologies may use less grid power, not more (E063). A developer supports making the use of the initial build work a national standard and adds that three phase will further enable the drive for Net Zero homes which aligns with the needs of a decarbonised National Grid, where renewables-led generation at scale is more effective when energy demand can be aligned with the variability of generation and storage (E063).

12.51. Stakeholders were also against asking house builders to pay more for the service installation to improve losses, even if potentially WPD will then gain an incentive from Ofgem (E063).

12.52. Expressing their views on plans to make use of the initial build work, an energy/ utility company stakeholder argued that rather than an arbitrary upgrade in cable and meter box size, WPD could oversize the service duct to minimise the future impact IF the customer wants 3ph or large EV charging (E063).

12.53. In terms of how to how improve, expand or refocus three phase service cables, a domestic customer (or representative) suggested grants to subsidise retro fitting of 3 phase to existing properties, allowing for the realistic load of 2+ EVs per household and heat pump and exported power (E063).

### Three-phase – aspects missing from current assumptions

12.54. In terms of aspects missing from current assumptions, a stakeholder offering construction services noted that a 3-ph service head and associated metering equipment, means of isolation (which should be provided) and the customer's consumer unit will all be physically larger than the 1-ph equipment typically installed currently. This may present problems when seeking to locate the equipment in the premises (E067). A Utilities representative asked whether the three-phase supply be an option or a mandatory requirement? The metering and therefore the customer charges for the supply will increase as a result, three phase smart metering is available in various forms but the space requirements for cut out and metering will need to be considered (E066).

12.55. On aspects missing from current approach, a domestic customer (or representative) suggested that WPD should consider: Firstly, shared ducting (e.g. with fibre broadband). Secondly, accessibility for no dig maintenance. Thirdly, pullable rather than permanent cabling for future upgrades. Fourthly, theft protection for cabling (3 phase will have more conductor). Lastly, routing of cabling to make use of passive heating (e.g. could you help keep critical rural roads de-iced using conductive losses from HV cabling) (E063).

12.56. A stakeholder addressed the significant import and export loads that will occur at certain peak times. A domestic customer (or representative) noted that domestic electricity storage (Powerwalls, V2G etc.) have not been mentioned. That will presumably lead to very large import/export loads at certain times of day (E063).

12.57. An energy/ utilities company added that the impact on reliability of supplies to residential locations is missing from WPD's approach. They gave an example asking if one phase is out of service to a three-phase supply across a street does a whole street need to be taken off load rather than only those on that phase? (E063) A Utilities representative also said that when the supply to the service cut out is 3 phase and the customer has a single-phase supply and meter; WPD policy needs to clearly define how a meter operative would determine which phase to utilise and which 2 phases to leave dormant to ensure load balancing on the system. Would WPD be clearly marking every new cut-out to prevent any ambiguity? (E066)

12.58. An energy/utility company stakeholder is posing the following questions: High mileage customers having a 22kW connection for EV is made; will the mains and transformers automatically be uprated to a higher assumed ADMD when three phase connections are offered? How will WPD restrict customer's usage to 22kW and not see them increase to 70kW as the service will normally dictate what load can be taken and this is the standard that has been circulated to all electrical contractors when assessing what load can be installed at a property (E063)

12.59. A domestic customer noted that the focus seems to be correctly applied to transport, although there is yet to be an inevitable question around heating. Displacing gas supplies with alternate technologies will have additional demand. Also, would there be any benefit for integration with consumer renewable energy (e.g. solar cells)? if so, worth a discussion point as these continue to become more common place (E063).

12.60. A consultant wondered how WPD is planning to address providing the potential safety issues of introducing 400V into a domestic application (E063). A developer also added the following aspect as missing from current approach: Although in principle three phase supplies would balance loads there will naturally be a dominant phase within the homes as appliances still tend to be single phase. Consideration into how to safely roll phases should be made rather than enforce 3 phase appliances, there will be a need for both (E063). A stakeholder offering construction services asked if customers even in domestic premises be able / expected to balance their connected loads over the three phases? (E067)

12.61. A Utilities representative indicated that clarification is required if the three-phase cut-out would be fused at 3 x 100A or potentially 3 x 40A. Is the main purpose to balance load (3 x 40A) or provide more load capacity for new technologies (3 x 100A)? (E066)

12.62. A stakeholder offering construction services said that the most pressing network/service cable issue for the electrical contracting industry is lost CNE and subsequent diverted neutral current. It would be better to replace the existing service cabling to solve this issue first (E067). They added that attempts to mitigate for diverted neutral current in installations are adding unwanted complexity and uncertainty for contractors and significant additional cost to customers. If a 3-phase supply is taken to every new premises, will WPD install monitoring equipment to detect lost PEN conductor faults introduced from existing network /service cabling which on detection, disconnects supply and notifies DNO to ensure speedy repair so minimizing disruption and potential danger to customers/users? (E067)

12.63. A stakeholder offering construction services indicated that the declared aspiration to remove the requirement to revisit installations can only be achieved if a means of isolating the supply to all of the consumer’s electrical equipment within a premise is provided. They further added that in order to do this WPD will need to provide an isolating switch between metering equipment and consumer’s first item of switchgear. Is this your intention? (E067) A consultant stated that they would be interested to know how much revisiting of addresses WPD currently carries out to rebalance loads across the three phases (E063). Unless existing beyond service life service cabling is

replaced, broken CNE conductor and subsequent diverted neutral current events may affect other parts of the distribution network. This existing service cabling should upgrade as well as providing 3-ph cabling for new installations (E067).

12.64. A business customer (or representative) recommended a move to TN-S and away from TN-C-S and PEN conductors, to prevent broken PEN issues which the installer is having to remedy and put in place onerous measures to protect against (E066).

12.65. A domestic customer (or representative) said that the new connection policy must come with a clear plan for upgrading existing customers with inadequate and out of date connections. Existing customers who want/need 3 phase power will feel hugely taken advantage of if they have to pay large amounts to correct the past under-specification of their domestic connections and the network (E063).

12.66. A Utilities representative highlighted that there is still no SMETS2 3 phase solution available (E066).

12.67. A domestic customer filling out the survey indicated that they are keen to talk to WPD on the specifics that were asked in the questions, while they agree with only some of the benefits and feels WPD is missing something, although overall it is a sensible proposal (E063).

12.68. An energy/utility company stakeholder said that WPD also needs to consider that within the next three to four years ASHP will become the heating solution of choice and if these are installed as single phase then they will not see any benefit in installing three phase EV charging points. This all needs to be considered in such consultation.

12.69. A developer highlighted that conventional design policies in the UK only provision a single-phase connection to customers, but three-phase connections are more widely available in some countries. Although this limitation is accepted at present, as the EV market becomes more established customers may expect DNOs to have anticipated the need for faster charging and to have included appropriate cabling, at least in new-build developments.

### Three-phase costs

12.70. Stakeholders criticized that costing presented in the three-phase consultation appears not to make a true comparison, as a single-phase joint can have up to 4 single-phase services, however moving to three-phase services will result in one service joint per domestic premise (E063). They urged WPD to be honest and show the true costs, which they have estimated in materials alone to be up to 120-200% more by looking at overall network (E063). Stakeholders added that WPD should consider the impact on house wiring installation and its cost, three phase switchgear and increased safety requirements(E063).

12.71. An energy/utility company stakeholder also discussed the higher operating and replacement costs for three phase services. Since at present there is a single rate for all domestic customers, they believe that by charging a single rate for all domestic customers irrespective of their access to the distribution system WPD is potentially creating a cross-subsidy whereby those single-phase customers are contributing to the additional costs created by the customers with three-phase connections without receiving the benefits of the substantial increased access to the distribution network (E063).

12.72. Another energy/utilities company called for WPD to further consider how will the current DUOS system cover the increased cost of operating and maintain the

proposed superfast arrangement. Will customers pay more, does the current tariff structure work or will domestic customers in WPD's license area be penalised? (E063)

12.73. A domestic customer stated that they would happily pay more than the suggested £270 cost if they were made aware of the benefits as an option, if it were available, and they believe many others would do so. It could be bundled with a charge-point for a fee that would include this cost (E063).

12.74. A local authority/council officer stated that simplifying design choices, removal of need to revisit installations and avoiding future excavation and replacement all reduce costs that help partly offset the extra cost of three phase cable (E069).

12.75. A local authority/ council officer commented that without the change of 3 phase, early adopters of electric cars with large batteries or heat pumps (who are likely to be more affluent given the higher upfront costs of technologies that have not yet reached full market penetration) will disproportionately take capacity on a local network. This could make future connection costs prohibitive for later adopters, some of whom will be much less affluent. Three phase connection to each dwelling helps to mitigate this and is more equitable (E063).

### Alternative connections

12.76. Stakeholders wanted WPD to look more into alternative connections, as it could be beneficial in terms of viability and could help future energy projects to take off (E043). A stakeholder from Somerset, Mendip and Bristol would like to find out how they can access more flexibility and connections with a community energy focus, given that there are rural and urban aspects to be considered (E046).

12.77. The output We will improve clarity concerning the availability of flexible Connections and promote access to deliver more efficient network utilisation received an average score of 3.52 / 5, indicating that this was an area where stakeholders felt WPD could go a little further than planned (E077).

12.78. Stakeholders felt that these proposed improvements would be helpful for stakeholders and that this was something that had been suggested in the past, but that WPD is still to ask for specific flexibility offers. A developer indicated that UKPN offer a 5-day promise on connection applications that WPD could look to emulate (E077).

12.79. WPD was criticized for allowing connections some fossil fuel generators, and that still a lot of diesel and gas are getting flexibility contracts (E046, E065).

### Low carbon technology

12.80. Stakeholders are very keen to get involved with renewable energy and low-carbon technologies but there is usually no grid connection available and no capacity to support this (E043, E046, E047). Stakeholders explained that grid capacity was vital for their growth plans, particularly in light of the green recovery and their net zero targets (E046, E070).

12.81. One council described how it is crucial that WPD engage with the North Magazine development scheme, as it is an enormous development and will not be able to meet their environmental targets if WPD do not make sure that capacity is available for it (E045).

12.82. A combined authority wants further discussion on the consultation process with WPD to identify the best and cheapest connection sites across their area for the roll out of their EV strategy, and want further advice regarding the best approach to on street residential charging and how they could secure capacity for such sites (E070).

### G99

12.83. Stakeholders wanted to know specific information on whether WPD had any further information on the proposals currently in with the ENA to increase the G98 current limit from 16A per phase to 32A per phase and if it is likely to go through, and how flexible the testing process is, for example where the wind is unpredictable (E065).

12.84. Stakeholders also raised the issue of increased costs as a barrier to uptake, although a renewables provider stakeholder commented that these are passed on to EPC as they are due to the requirement to be compliant (E065).

12.85. A utilities company stakeholder asked WPD to touch on any distinctions between requirements for storage and synchronous plan for type C and D (E065).

### Cost of connections

12.86. Several stakeholders commented that the cost element of connections is a barrier to many initiatives to diversify when there is grid capacity available, and that WPD needs to be subsidising these very high costs (E043, E044) The Welsh government also wants to see how WPD can help drive policy change on a much higher level to tackle this (E043).

12.87. Stakeholders also requested more engagement in early stages of planning applications to early on ensure the financial visibility and investment implications (E043), as well as to drive transparency in costs, as there currently are a lot of omitted costs from initial quotes.

## Stakeholders' future plans

### New domestic and I&C developments

12.88. There are various sources of stakeholders' thoughts on the effect of Covid-19. Surveys with different participants were conducted during the investment workshops, the DFES engagement, as well as the Connections workshop. 47% of stakeholders present in the Connections workshop did not expect delays to the volumes of industrial / commercial / domestic developments they are predicting as a result of covid-19, while 41% do expect delays and 12% were not sure (E077).

12.89. During the investment workshops (E043, 044, E045, E046) there was mixed feedback on whether stakeholders are expecting delays to the volumes they are predicting as a result of Covid-19. The survey results showed a fairly even divide among those who were 'not sure' whether Covid-19 would affect volumes (32%), those who expected delays (34%) and those who did not expect delays (34%). Some said that they had seen an increase in applications for planning for housing (E043), while others said that Covid-19 has caused problems with planning, for example, site visits, and it has slowed things down, with a backlog of work building up (E045). How many houses will be constructed is also down to government policy and they see the type of

housing changing e.g. people need home offices now (E044). Although some had seen a decline in applications or experienced delays, the consensus seemed to be that house building was picking up (E044). Notably, a stakeholder from a local planning department said they are busier than ever, having delivered more dwellings than targeted last year (E044).

12.90. The 15 local authorities in the South West that participated in the DFES engagement had limited information in terms of the projected numbers provided as part of the DFES engagement. Some authorities provided information on the number of homes forecasted to be built during different timelines based on their local plans and referred to delivery of affordable homes within the Green Energy Project (E069).

12.91. In terms of the impact of Coronavirus (COVID-19) on local energy plans and whether they expect delays to the volumes they are predicting, the majority in the South West were not sure of the potential impact, with some noting that their income is down, and the future budget is affected, the impact is short term rather than long term and that growth may accelerate as part of a national rebuild strategy, their targets are reduced for this and next year. One authority stated that they are working on COVID-19 recovery plan with local business and authorities to enhance resilience and to build back better infrastructure to safe proof for any similar situation in the future, and to ensure stable growth going forwards, while another one stated that it is not relevant to them (E069).

12.92. The 7 local authorities in South Wales that participated in the DFES engagement gave details of their projected plans, with the majority saying that their plans are under review. In terms of the impact of Coronavirus (COVID-19) on local energy plans and whether they expect delays to the volumes they are predicting, authorities are experiencing delays in implementing the proposed Climate Change Plan, and in decision making on adoption of Decarbonisation strategy and green energy investment opportunities. Planned projects for installation of LED's, Photovoltaic systems and EV charge points have all been delayed, along with the delays to planning of future projects. Although the impact seems to be short-term, due to large number of contractor's being furloughed leading to a lack of resources, the full impact is yet unclear (E069).

12.93. The 19 local authorities in the East Midlands that participated in the DFES engagement described their targets for new developments, comparing against WPD's projections. Some asked where WPD had got the data from, where there were big differences in the projected numbers. In terms of the impact of Coronavirus (COVID-19) on local energy plans and whether they expect delays to the volumes they are predicting, feedback was mixed. On the one hand, local energy plans were reported to have been paused while also officer capacity is directed towards the pandemic response, long-term requirements of some projects may be subject to change, and there is need to re-profile the delivery timescales of initiatives. On the other hand, some thought that COVID-19 may in fact enhance local energy target plans and not delay them, as people now see alternatives to cars and travelling i.e. EVs and working from home. Also, government funding and focus will ensure that momentum is not lost. Some local authorities noted that LAs have a significant role to play in getting the economy back up & running and that the net zero plan cannot slip due to covid-19, while one said that it will be hard to get business to install renewable technologies unless it is mandated i.e. in building regs/other regs, while economic recovery will be the foremost challenge (E069).

12.94. Some of the 15 local authorities in the West Midlands that participated in the DFES engagement stated that they have a lot of relevant details in their local plans, while others reported their projected numbers or commented on whether the projected number by WPD look high or low. One local authority noted that due to COVID-19

there may be changes, depending on whether the government will look at increasing manufacturing, so there could be more industrial load than predicated, e.g. more warehousing. More thoughts on the impact of Coronavirus (COVID-19) on local energy plans and whether they expect delays to the volumes predicted included that finances will be impacted in terms of both short-term financial investment versus long term aspirations and that there is delay in energy consumption in connection with new dwellings. EV take up may be slower over the next 12 months and whilst vehicle use has declined during lockdown, the shift to public transport may be impacted. Some said that delays are likely because budgets have been affected but there is still a big drive on renewable energy development to drive net zero target, and that these effects will be balanced in the long-term, while some believed that there is no effect, or they have not quantified it yet (E069).

## Allocation and reservation of capacity

12.95. The output We will develop processes to improve management of capacity allocation to mitigate against the underutilisation of capacity in constrained areas received an average score of 3.24 / 5 (E077).

12.96. One stakeholder noted that not having a heat deposit to secure a connection is a challenge (E043).

12.97. Some stakeholders shared a concern that they will lose the connection if a period of time expires and suggested giving definite time period allocations to customers, although one stakeholder made note to people locking up all of the connections and potential capacity, especially in the areas surrounding substations, where big developers are forcing the landowners to go through them as an intermediary (E077).

12.98. Stakeholders suggested that an annual or biannual engagement with the local authorities and a timeframe for submitting to the planning authority within e.g. two years in order not to have that connection taken off you. However, a developer stated that there are milestones that need to be met in Connections offers, but if a project is really big e.g. solar park then progress can take multiple years (E077).

12.99. In terms of how certain developers were able to be about the size and quantity of Connections they would need, the response from most was that they were not certain at all. When asked to vote on this out of ten, with ten being ‘very certain’ only 23% answered eight or more with 40% opting for one, two or three (‘not certain at all’). It was commented that there are a range of factors which create uncertainty, including changes in Government policy, land values, rental income, and the wider economic outlook as well as the impact of Covid-19 restrictions which have caused delays. In addition, consumer behaviour was cited as a significant factor influencing projects with the example given of the increase in online shopping, which was driving the construction of more large warehouses and distribution centres (E077).

12.100. When discussing whether for ED2 DNOs should develop the network strategically (leading connections volumes) or reactively (lagging volumes), stakeholders seemed to be torn because they do want to be able to apply for big loads but at the same time, there is uncertainty about whether a proactive approach is the best use of resources or whether reactive is best. They can see the need for being reactive to not spend money where there is no need, but at the same time you do not want to see lead times spiral out of control by only reacting to them (E077).

12.101. A major connections customer found this a difficult one to balance, due to the types of Connections required. For example, EV charging Connections have a different impact on the grid to streetlight Connections, so this cannot be approached in a purely binary way (E077)

12.102. Some thought that socialising costs in the domestic market was believed to be positive, but it would not work for the commercial market, and that long-term planning seems to be the most strategic solution, although also that seemed to be easier in urban rather than rural areas. For example, there was a suggestion to look at a future scenario where we do not use office blocks anymore (E077).

12.103. Stakeholders also agreed that historically, the ability to not invest ahead of need has been a problem. In terms of reinforcement, making a reasonable business case to put forward to Ofgem for review will mean that even if that reinforcement was not needed at least it was reviewed (E077).

12.104. A developer notably argued that, due to their interest in low carbon, we should tolerate a reasonable risk in investment, because it would be a bad outcome if decarbonisation was hindered by the inability of the network to accommodate it (E077).

12.105. When stakeholders were asked if they agree that WPD's DFES engagement process will provide a highly certain view of investment required, 42% of stakeholders felt neutral, 29% agreed, 17% disagreed, 13% strongly disagreed and 0 strongly agreed (E077).

12.106. Stakeholders would appreciate being able to have a session with WPD where it signs off on their needs to help them get investment, as they need to be able to present proposals with more certainty. One stakeholder, however, did not think that they could give a certain view of the future, as they find them to be a very broad range of plausible outcomes rather than a prediction of the future (E077).

12.107. One stakeholder made the case that in order to get a certain view of the investment required, it would be useful to get a feel for the extra capacity for an area and where it would be needed elsewhere, so two-way conversations with local authorities would help, in order to feel more certain about growth and have a generally clearer picture about growth. One stakeholder argued that although there is probably capacity in the existing network to deliver more energy, that is constrained by peak power. Therefore, using flexibility and the times of the day when there is less demand is something that needs to look at, to optimise the existing use of the network (E077).

12.108. Stakeholders brought attention on the fact that heating will triple or quadruple demand, and in order to reach the goals set by net-zero, investment needs to take place much earlier to meet targets (E077).

12.109. It was supported that joined-up planning infrastructure could work very well for some of the local authorities who are able to operate in that way, but that some local authorities would find this difficult to implement (E077). However, it was also suggested that a separate body that works as an intermediary between the local authorities, planners and DNOs could be more beneficial and deliver more fairness (E077).

# Sub-topic: Network flexibility

**What we heard in early 2020:**

Increasing the amount of variable renewable electricity generation and the transition to a DSO requires WPD to substantially increase the amount of flexibility on their network. Stakeholders generally understood the benefits of flexibility, but the amount of information and educational resources available for domestic and commercial customers were limited, which would ultimately limit the uptake of flexible technologies and services. Tariffs were discussed as a key mechanism to encourage a change in behaviour, as people tend to react better to financial benefits rather than intangible environmental benefits.

There was extensive discussion about the roll-out of flexibility services for both domestic and commercial customers. Domestic customers tended to be limited in terms of their smaller demand and lack of understanding, but automation and the deployment of new technologies (such as smart meters and batteries) could be a great facilitator for these customers to participate. There was significant debate about whether commercial customers would be more or less favourable to target for flexibility as they tended to have much larger energy demands but maybe less flexibility in their demand profiles. It was clear that both commercial and domestic customers required clear, simple steps to allow them to become more flexible, and it was also mentioned that commercial customers would likely require a well-established proposition to entice uptake.

## Summary of Phase 3 feedback

13.1. Covid-19, once again, challenged the performance of the network and highlighted the need for upgrades to facilitate the decarbonisation and electrification agenda. It was thought that policy and regulation developments, education, co-operation within different sectors of the smart charging value stream, residential flexibility from electric vehicles will be key drivers of domestic flexibility adoption.

13.2. Community groups were thought to need to play an important role, but they require more support and guidance, especially on the technical side. WPD needs to ensure they are not disadvantaged in terms of capacity allocation. Stakeholders were also interested in battery storage and getting WPD's input on strategic investment. One stakeholder wanted WPD to lobby Ofgem to get regulations changed around setting up community battery storage and having access to operate it.

13.3. Stakeholders also favoured producing case studies and clear information to demonstrate the benefits of flexibility services to customers, investigate the use of incentives to encourage greater take up of flexibility services. It was also acknowledged that, at present, the rules, and processes for procuring DSO flexibility services are complex and that there is currently a lack of standardisation, which should be addressed.

13.4. A total of **104** pieces of feedback were collected for the network flexibility during phase 3 engagement, which adds to the **103** pieces collected during phase 2, and further **19** pieces collected during phase 1.

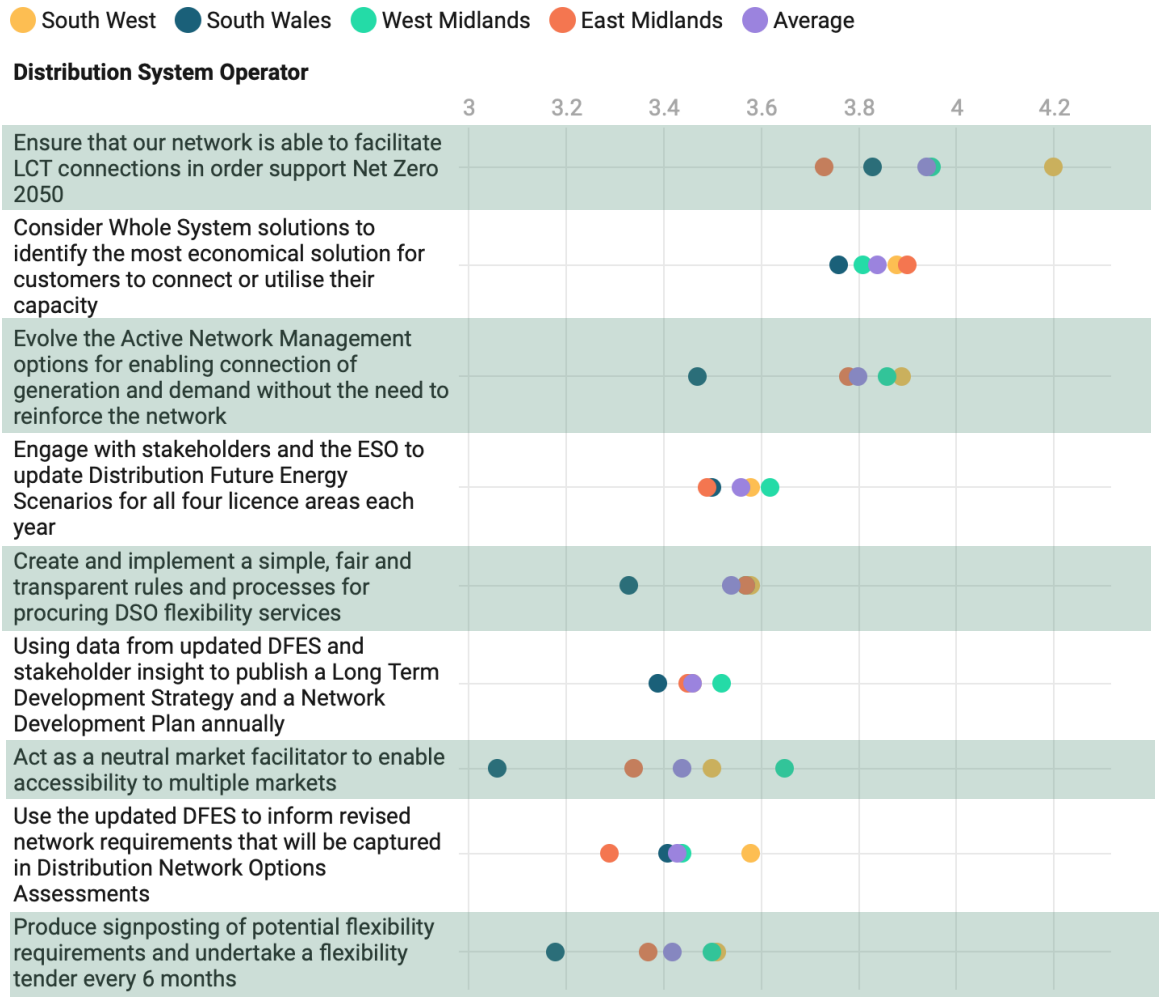


Figure 27: Distributed System Operator outputs as voted for in the November workshops

*Also includes Collaboration and whole systems approach commitments, but the relevant Network flexibility/DSO outputs have been highlighted in green.

For each output, stakeholders were asked whether WPD had got the right level of ambition, answering on a scale of 1 to 5 whether they should 'do a lot less' (1) through to 'do a lot more' (5). The online polling results are displayed per region and as an average out of 5.

| Proposed Measures/Performance target | Result |
|---|---|
| Develop a balanced scorecard approach to identify the areas where the use of flexible services will be a benefit to the customer | Acceptable |

Figure 28: Proposed Network Flexibility Measures from the Measures of Success Research workshop, where stakeholders were asked to review the draft Business Plan outputs of the top priority areas they identified and comment on whether the ambition should increase/stay the same/decrease.

## Detailed feedback

**Feedback for network flexibility can be divided into two themes:**

- Flexibility services
- Community energy and local energy storage
- DSO transition

## Flexibility services

13.5. It was felt that the strain placed on the network during lockdown highlighted the need for upgrades to facilitate future changes to the network and aid the green recovery (E044). Stakeholders were interested to learn how to overcome these barriers to allow for increasing renewables and dealing with the climate emergency, was well as putting the Green recovery at the forefront (E045, E046).

13.6. A customer voiced that WPD needs to work with industry to alter patterns of work to smooth out the load. Industries need to regulate their peaks and spread this out more so that the distribution can be balanced better (E045). Another stakeholder mentioned that managing network constraints is about educating people to change their habits and behaviours (E047).

13.7. It was thought that the UK energy market is still a way off from being a mass adopter of domestic flexibility, and unlocking this is the key to achieving net zero by 2050.This can only be enabled through firstly, key developments in policy and regulation such as prioritising domestic flexibility to meet reliability needs and more granule pricing at the network level; secondly, continued co-operation within different sectors of the smart charging value stream, and thirdly, residential flexibility from electric vehicles (E059).

13.8. Stakeholders described their plans and expressed the need to upgrade substations in light of the future overhauls of the network (E044, E045), and to map out all of the potential local sources of energy, including things like mine water, heat recovery from the sewers and heat from waste. Some stakeholders are worried that the approach to DFES engagement is a bit narrow and does not consider different city topographies (E045). A stakeholder from Hereford, Gloucester and Worcester would welcome having a specific target of how much more energy per substation WPD would like to take in. That way they could also plan for the future accordingly (E045).

13.9. The output to “Ensure that our network is able to facilitate LCT connections in order to support Net Zero 2050” received on average 4.2 / 5 in the South West – the highest output under this priority area by a considerable margin and the second highest output across the whole Business Plan. 79% of stakeholders wanted WPD to ‘do more’ or ‘do a lot more’ in this area (E072). It also ranked third among the outputs across all of the priority areas in South Wales, scoring an average of 3.83 / 5. In fact, 56% wanted WPD to ‘do more’ or ‘do a lot more’ in this area, while it ranked third for this priority area with 3.7 / 5 – just above the baseline average in the East Midlands (E074). There was also clearly a good deal of support for the output in the West Midlands, with almost two thirds (64%) voting for WPD to go further than planned in ED2. As a result, it was the highest ranked of all outputs in the DSO priority area, scoring 3.95 / 5 (E075).

13.10. Referring to the output to “Ensure that our network is able to facilitate LCT connections in order to support Net Zero 2050”, stakeholders again challenged WPD on the Net Zero target date, urging them to aim to facilitate LCT connections to support local authorities’ more ambitious target date of 2030 (E074).

13.11. Stakeholders discussed a range of initiatives they felt were required to facilitate low carbon connections. This included: connections quotations with accurate costs; more robust milestones to stop customers holding capacity; lobbying to change legislation so renewable generators can use batteries, minimising their grid requirements; and encouraging access for three phase supplies. One stakeholder urged WPD to make sure that rural networks have sufficient capacity to cope with the increase in low carbon connections (E074).

13.12. It was commented that data transparency should be an area of focus for WPD under this output, with the suggestion made that WPD should help to facilitate a data hub involving all the DNOs as well as TOs and the ESO to help connections customers to plan where to roll out LCTs (E075).

13.13. In terms of the proposed Net zero and community measures, “Develop a balanced scorecard approach to identify the areas where the use of flexible services will be benefitting the customer” was seen as acceptable but ‘Balanced scorecard’ feels like management speak/buzz words rather than customer facing target idea of supporting customers to get best tariffs is well liked (E071).

13.14. The output to “Evolve the Active Network Management options for enabling connection of generation and demand without the need to reinforce the network” was ranked second highest for this priority area with 3.89 / 5 in the South West, indicating that stakeholders thought Active Network Management needed to be prioritised. 67% of stakeholders wanted WPD to ‘do more’ or ‘do a lot more’ in this area (E072).

13.15. The same output about ANM ranked just below the baseline average with 3.47 / 5 in South Wales, where 59% felt it was ambitious enough (E073), second highest with an average of 3.77 / 5 in the East Midlands, with 57% wanting WPD to ‘do more’ or ‘do a lot more’ (E074), and second highest of all the DSO outputs in the West Midlands, scoring an average of 3.86 / 5. 69% of stakeholders voted for WPD to go further (E075).

13.16. Stakeholders stressed the importance of taking a holistic approach where ANM and new connections are considered in the round, as well as rolling it out to include the whole network, including community energy groups, as this will help to free up capacity in the network, which will be needed to accommodate the anticipated uptake of EVs (E072, E075).

## Community energy and local energy storage

### Community energy groups

13.17. There was overwhelming agreement that community energy would have an important role to play in the future, with communities standing to benefit from greater control over energy flows and costs (E044). It was felt that communities would benefit from community ownership, local generation, and consumption (E045). Grid capacity was a significant barrier for these projects, especially for microgeneration (E045).

13.18. Stakeholders suggested WPD could go further in its support of energy community groups by helping them to demonstrate viability and carry out feasibility studies, appointing a WPD representative to respond to community energy enquiries, lobbying for change to regulation, sharing case studies, perhaps via an online community energy hub, and providing advice on funding routes (E044). A stakeholder from Derby, Nottingham and Chesterfield would want WPD to do feasibility work and pay funding or grants to enable community energy groups to test out feasibility (E044).

13.19. Stakeholders voiced that many people do not have the engineering knowledge to lead community energy projects but have the vision, so the support that needs to be provided should focus on the technical side, highlighting key barriers, underlining any acknowledgement for the community benefit that a project can have, as well as ensuring fairness in the allocation of grid capacity (E046). It was also thought that WPD needs to be a bridge between the councils and community energy groups (E046).

13.20. A stakeholder noted that they want to make use of surplus energy within their community and have done community engagement for peer-to-peer trading in the community through their Community Energy groups. It is in its infancy, but with modern technology, they feel that it is viable (E046).

### Energy storage

13.21. Local authorities were mostly interested in understanding where battery storage can be located within their districts and required further engagement with WPD to alleviate obstacles and uncertainty (E046). In Devon they need strategically placed storage that could be managed by a DSO or a private or public sector initiative (E046). A stakeholder from Derby, Nottingham and Chesterfield would want to see WPD lobby Ofgem to get regulations changed around setting up a community battery and have access to operate it (E044).

13.22. A wind power company expressed their concern that as renewable schemes grow, generators in Cornwall will have to turn their equipment off because their excess energy will cause the grid to overload in Somerset. They suggested more battery storage would be a good solution (E046).

## DSO transition

13.23. On the policy level, there was a suggestion that lessons can be learned from Germany's current initiative to overhaul their energy system, in which EVs have not featured significantly.

13.24. The output to "Create and implement simple, fair and transparent rules and processes for procuring DSO flexibility services" received an average of 3.58 / 5 in the South West and 3.33 / 5 in South Wales, with the majority (59% and 78% of stakeholders respectively) saying they felt the level of ambition was right (E072, E073). Similarly, it got 3.55 / 5 – just below the baseline average in the East Midlands (E074).

13.25. Almost half (48%) of stakeholders in the West Midlands felt that the output had the right level of ambition (E075), while two fifths wanted the company to go further against this output and perhaps bring forward any time frames. It was felt by some that this output is somewhat vague and that it should have measurable targets against it (E075).

13.26. Stakeholders had some questions as to which customers could deliver flexibility services. There was support for these to include small generators, like solar, as well as those who own batteries – including those who aggregate smaller batteries together (E072, E074). It was noted that there is currently a lack of knowledge on the part of many of those who will be looking to procure DSO flexibility services, so simple, clear case studies should be included to encourage their take-up (E075).

13.27. It was also supported that the simple fair and transparent rules are going to be very important for local businesses so that they know they can change their business plan but know that the supply will always be there for them (E074).

13.28. There was acknowledgement that one of the impacts of the EV roll-out will mean that EV owners are likely to find themselves operating in this market in ED2. The comment was made that these people should be engaged, educated and, potentially, incentivised in the future so they can actively participate. It was also felt that this should be broadened to society and perhaps the word 'education' should be included in this output, as most people have very little knowledge of flexibility services (E075).

13.29. The point was made that the market is currently somewhat fragmented, so greater standardisation across all DNOs would be needed to ensure that rules and processes are simple for all, irrespective of where they live in the UK (E075).

13.30. In relation to the output to "Provide accurate, user-friendly and comprehensive market information", stakeholders commented that they want to understand what information is currently being provided to be able to make an informed decision on the appropriateness of this output (E074), and similarly that a KPI for how much curtailment is delivering should be added (E072). It and that that a lack of standardisation across the DNOs would make the market information complicated for the flexibility suppliers (E073).

13.31. Stakeholders were interested in the role local authorities could have in flexibility services wanted closer working with planners to ensure customers understand the opportunities that flexibility could open up in terms of network capacity (E072, E074).

13.32. There was a discussion about the positive impact this output could have for vulnerable customers, but it was noted that this requires better communication so customers can understand the potential benefits of flexibility services, particularly in terms of cost savings. One stakeholder wanted the market information on flexibility to also include a medium-term view of the opportunities that might become available (E074).

13.33. Making the topic of flexibility more accessible for the public was highly supported, although the point was made that there is a limit to the amount of information that certain stakeholders would want to be in the public domain, given that developers, for example, are operating in a market and would not want their competitors to see commercially sensitive information (E075).

13.34. The output to "Produce signposting of potential flexibility requirements and undertake a flexibility tender every 6 months" received 3.51 / 5, with the largest proportion of stakeholders (55%) in the South West stating they felt the level of ambition was right (E072). That was the case also in South Wales and the East Midlands, where it ranked lower than the baseline average at 3.18 / 5 and 3.33 / 5 respectively, and the vast majority (88% and 67% respectively) felt it demonstrated the right level of ambition. In the West Midlands, it also scored below the 3.69 baseline with 3.5 / 5, but whereas 52% voted that this output represented the right level of ambition, 43% voting that WPD should go further in ED2 (E075).

13.35. In relation to the above output, stakeholders were keen that WPD engage with housebuilders and large commercial and industrial customers to encourage them to take up opportunities to deliver flexibility services where they are needed, it was, however, commented that this output would benefit by having some dates and locations included to allow customers to plan ahead (E074, E075).

13.36. The output to "Act as a neutral market facilitator to enable accessibility to multiple markets" received 3.5 /5, with the largest proportion of stakeholders (59%) stating they

felt the level of ambition was right, in the South West (E072). However, in South Wales, it got an average of 3.06 – well below the baseline, with 12% even thinking WPD should 'do less' in this area (E073). This also ranked joint lowest for this priority area in the East Midlands, with an average of 3.3 / 5 (E074), although half of stakeholders polled in the West Midlands (51%) stated that it represented the right level of ambition for ED2 and the remainder 49% voted for WPD to go even further than planned (E075).

13.37. On the one hand, some felt that the inability to favour the connection of low carbon technologies could contradict WPD's ability to deliver on other Business Plan outputs (e.g., Business Carbon Footprint) and therefore they wondered whether there was scope to change this. On the other hand, some felt that as market neutrality was a legislative requirement the output was obligatory and not open to discussion (E073).

13.38. One stakeholder, who lives in a county covered by two different DNOs, questioned whether there is a consistent industry approach to flexibility services (E074).

13.39. It commented that a distinction should be made between the different types of flexibility and the different types of customers these are open to. There was also acknowledgement that access to flexibility services, for domestic customers, is likely to benefit the more affluent, early adopters of new technology so consideration should be given to those who do not have these technologies at their disposal (E075).

# Sub-topic: Facilitating net-zero

**What we heard in early 2020:**

Facilitating net-zero was by far the most discussed topic during phase 2 of engagement with the highest volume of feedback as well as the highest number of priorities. This in itself communicates the importance stakeholders place on this topic. Despite the importance of the topic, stakeholders noted the amount of confusion and lack of awareness about what net-zero actually is and how stakeholders can decrease their emissions. Subsequently, educating customers was a key theme discussed during the feedback, in all contexts from net-zero as a whole, new technologies like EVs or heat pumps and how communities can act to improve their carbon footprint.

Electric vehicles was the largest discussion point within net-zero, especially concerning how WPD can help facilitate the deployment of more electric cars on the road, and the facilitation of the charging network to support this new fleet. Collaboration was discussed as a key action for WPD, from working with local planning stakeholders on charging network locations, to car manufacturers on the standardisation of technologies and with the government to implement better incentives for EV uptake and network improvements. There were detailed discussions in several locations on the prioritisation of home charging or charging when away from home, as well as topics including fast charging, charging hubs and inductive charging. There was a general understanding that the network would require substantial reinforcing to be able to deal with the substantial increase in demand from EV charging.

Despite being important to facilitate the decarbonisation of transport, stakeholders were also conscious of the huge potential cost of reinforcement and charging infrastructure, and affordability of charging, as well as affordability of consumer bills, were mentioned as important considerations, especially not to put vulnerable or fuel poor customers at a disadvantage. Vehicle to grid technology was also discussed as a potentially important technology for WPD to develop and deploy, both to help make EVs more attractive to consumers and to help them provide grid flexibility.

The facilitation of low carbon technology was also discussed by stakeholders, both in terms of renewable energy generation, storage, carbon capture and heat decarbonisation. A key way of doing this would be preferable terms for renewables or more expensive connections for non-renewables.

Stakeholders also discussed the importance of facilitating other organisations' net-zero targets, particularly local community groups and local authorities. It was suggested that this could be done with a set plan or for WPD to provide a trial village or case study for others to follow. It was also mentioned that some climate change effects are inevitable and thus WPD should have an adaption plan in place.

## Summary of Phase 3 feedback

14.1 Facilitating net zero was the topic that received the most feedback by far. Overall, stakeholders were very keen for decarbonisation and supported initiatives that would speed up them achievement of net-zero targets, however, there was a lot of discussion around the technical barriers, capacity and grid constrain, unbalancing of the network

due to excess demand, costs, and lack of education and awareness. Apart from heat pumps and electric vehicles, stakeholders were interested in the circular economy and other technologies that can provide renewable heat. It was also felt that going greener will depend on the education, behavioural changes and encouraging greener behaviour and thus WPD's role in the transition should have a wider scope.

14.2 Most local authorities have set ambitious net-zero targets, earlier than the government's 2050 and a big majority have declared climate emergency, although there was consensus that there is need for joint-up action and support from WPD. The details of each local authority's targets and actions have been summarised in a table. Moreover, local authorities set out the details of their local energy strategies and how these are structured and governed, their plans for EV and heat pumps uptake, as well as for renewable and other generation, also summarised in a table. Most stakeholders favoured prioritising on-street charging in terms of electric vehicles, and both housing developments and off-gas grid properties in terms of heat pumps.

14.3 Stakeholders were particularly wary of capacity constraints to local generation being a barrier to achieving net-zero and discussed the demand for help from WPD especially for local communities. There was agreement that rural communities should be paid particular attention so that they are not left behind.

14.4 A total of **729** pieces of feedback were collected for the Facilitating Net-Zero during phase 3 engagement, which adds to the **582** pieces collected during phase 2 engagement, and further **36** pieces collected during phase 1.

## Detailed feedback

**Feedback for Facilitating Net-zero can be divided into six themes:**

- General
- LAs' decarbonisation plans
- Ensure capacity there for local generation to achieve net-zero
- Help local communities to achieve their net-zero emissions targets
- Ensure rural communities don't lose out
- Educating and helping others

### General

14.5 The transition to net zero seemed to be the most important and common priority with councillors framing their interest against their Local Plans and carbon neutrality targets (E045, E046, E060). Stakeholders wanted to see WPD setting more ambitious outputs (E044). There was also a lot of discussion on the effect of Covid-19, with some saying that there is a danger money will be spent elsewhere post-Covid and that the momentum to go green has dropped off (E045, E046).

14.6 A stakeholder from Hereford, Gloucester and Worcester considered the outputs to be 'very soft'. They added that exact figures and specific targets are needed, as well as delivery metrics, as currently they are interpretable and will be difficult to hold WPD accountable (E045). A stakeholder from Devon and Plymouth commented that they are on the climate change and planning committee, have been to previous useful events and they are glad to see priorities reflected after inputting on that (E046).

14.7 Some stakeholders felt that WPD's role in Net Zero should be wider in scope, perhaps encompassing a facilitating and signposting element with a view to providing a wider stakeholder forum (E043). Stakeholders also suggested that the company explain or avoid complex terminology where needed and ensure that its reports are accessible to a wide readership (E046).

14.8 54% of the WTP household sample use some form of low carbon technologies in the home, with the most commonly cited being LED lighting, followed in order by smart plugs, smart heating system, solar panels, EV, heat pumps and other. The rest 46% said they use none of the above (E061).

14.9 In terms of willingness to pay, 'Working with local communities to achieve net zero carbon emissions targets' came 15th out of 24 initiatives for household customers, and 11th out of 24 for non-household customers, and although ranked as 15th overall among households, it ranked 11th by the 18-29 age group, and 19th by the 60+ age group. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £0.88, or 0.15% of the total increase to Working with local communities to achieve net zero carbon emissions targets (E061).

14.10 There was a consensus that coordination and collaboration will achieve more results, and forward thinking and future proofing were felt to be critical, as well as that collaboration with others in supply chain is missing as a measure (E071). Non-household stakeholders from the Midlands thought that green practices need to become the normal for all reputable businesses within the next few years (E071).

14.11 Relating to the question in the wider context of net zero, apart from making connections for EV & HP, what areas does WPD still need to address, a Storage and renewables provider / installer proposed that despite WPD being heavily invested in heat pumps, looking at other technologies that can provide renewable heat, such as

biomass for example, could be used to give an indication as to whether the best investments are being made (E077).

14.12 A Storage and renewables provider / installer suggested that, as electricity is being supplied to organisations that generate a lot of waste, which can be utilised in a circular economy to generate materials and energy. This could take a form of a distributed model for power generation and distribution, so that WPD can become a facilitator in this way (E077).

14.13 Stakeholders argued that more work is needed to be done on tariffs and encouraging greener behaviour, and that as an industry there needs to be more a long-scale funding regime and more political support by the transmission companies as well as the DNOs (E077).

## LAs' decarbonisation plans

### Net zero targets and climate emergency

14.14 During the local investment workshops, surveys revealed that 71% of local authorities attending the workshops in the East Midlands had declared a climate emergency, rising to 88% of respondents at one workshop, while 57% had set a target date for net zero (E044). In the South Wales investment workshops, 50% or attendees revealed they have declared climate emergency while the other 50% was equally split between no and not sure, while most respondents (75%) reported that their local authority had set a target date for reaching Net Zero (E043). In the South west, the majority of survey respondents (86%) indicated that their local authority had set a target date for reaching Net Zero and declared a climate emergency (E046). Over three quarters (79%) of survey respondents in the West Midlands reported that their local authority had declared a climate emergency and set a target date for reaching net zero (E045).

14.15 Most local authorities seemed to have more ambitious targets than the UK government's 2050 goal, with some aiming to achieve net zero by 2030, also in line with the Welsh government's target and, in one case, 2028 (E043, E044, E045), while others were guided by wider initiatives such as WM2041, a plan to achieve net zero in the West Midlands by 2041, and LEP strategies (E045). Despite these targets, an environmental group commented that lots of councils in the local area have declared climate emergencies but have not done nearly enough to follow it up (E044).

14.16 In the DFES engagement, local authorities' targets in the South West varied from 2025 to 2050, with 2030 being the most quote one, while a lot of authorities also listed their commitments. All 15 South West authorities that provided feedback during the DFES, except one, had declared a climate emergency and had detailed plans in place to achieve their targets (E069).

14.17 Of the 7 South Wales authorities that provided information during the DFES, 5 had 2030 as a target, with one having a target in line with Welsh Government and only one not having a target. In terms of climate emergency, only 4 out of 7 had not declared it but did give details of their other commitments for addressing climate change (E069).

14.18 Similarly with the other license areas, the targets for authorities in the East Midlands ranged from 2030 to 2050, while four out of the 19 authorities that provided feedback had not set a target yet. Of the total, 10 authorities had declared a climate emergency,

while the rest either had either not declared a target overall, did not have a mechanism to do so or had signed up to a commitment to do so (E069).

14.19 Of the 15 local authorities in the West Midlands that provided information on their targets, most had a net-zero target of 2030, while targets ranged from 2028 to 2045, with 3 authorities not having a target but working on their plans. 3 authorities had not declared climate emergency, but most were working on climate change initiatives and had plans to do so (E069).

14.20 Although these aims were ambitious and challenging, attendees explained that they wanted to set an example and there was clearly a will for urgent action. Stakeholders also reminded WPD that the Welsh Government's approach to Net Zero differed from that of the UK Government, pointing to the Welsh public sector's ambitious 2030 net zero carbon target (E043). An environmental group asked if there have been any alternative scenarios tested with shorter targets than the government's 2050 target for going carbon neutral, since many councils are being far more ambitious than the national government (E044). Stakeholders felt that it was important for WPD to support their local goals, even where they differ from Government targets (E046).

## Decarbonisation & energy strategy

14.21 The green recovery was at the forefront of many stakeholders' minds. Some saw opportunities for greater ambition, including the chance to focus on EV roll-out, develop local systems and encourage community energy projects, although others warned that some of these solutions may not be suitable for rural communities (E045). There was need to work with DNOs, and plans need to be developed with a cost-benefit analysis to allow for long-term investment (E044).

14.22 Most of the 15 South West authorities involved in the DFES engagement had local energy plans and had created working groups and joint strategies to address power usage and decarbonisation. Although action plans, and not strategies, were mentioned, the authorities gave details on who they are working with and what their plans are for developing one in the future. In terms of an organisational structure for delivering energy policy decarbonisation, some authorities gave detailed answers including names while others noted that they have internal teams in place and others that the structure will be outlined when their plans are published. One noted that the money to achieve their energy plans will come mainly from the private sector (E069).

14.23 Most of the local authorities in South Wales involved in the DFES engagement had local energy strategies in place, detailing their goals and ambitions, with a couple being works in progress or in a draft stage. Only 1 out of 7 did not have one but had a carbon management plan in place. Some of them did not have an organisational structure for delivering energy policy decarbonisation but were committed to meeting the targets set by the Welsh government. Most had working groups in place to oversee the strategies and gave specific names and responsibilities for the members (E069).

14.24 Most of the engaged authorities in the East Midlands in the DFES did not have a local energy strategy, although had some local energy plans to guide them, and others were in the process of developing their strategies. Only 6 out of the 19 had specific strategies in place. In terms of an organisational structure for delivering energy policy decarbonisation, most stated to not have large executive teams in place, but rather local structures, while others outlined the specifics of their structures giving names and titles. There were four that either did not give details or did not have one at all (E069).

14.25 The 15 West Midlands authorities that provided feedback during the DFES engagement gave mixed feedback in terms of their local energy strategy. Almost a

third had an energy strategy in place and outlined their plans, while most of the other two halves had either draft and under review strategies or were basing their targets and commitments on their local energy plans. Only 2 authorities did not have such plans in place at all. All except one gave details of their internal structures for delivering energy policy decarbonisation, including names, titles, responsibilities and contact details (E069).

## Electrification

14.26 Most local authorities had plans in place to support their net zero and electrification targets, particularly around electric vehicles and infrastructure, and heat pumps. already developed a local energy strategy to drive their decarbonisation agendas and reach their net-zero targets (E043, E044, E045, E046, E069).

14.27 Plans included installing charging points in car parks and new developments, moving to EV fleets, but also hydrogen was featured, and launching pooling schemes for electric vehicles, as well as council housing heat pumps, and community projects (E044, E046).

14.28 There was mixed feedback on whether Covid-19 had delayed plans or not, although multiple stakeholders noted that projects had stalled, such an electric car club reporting that Covid-19 had resulted in delays to network upgrades, impacting their plans for new chargers (E044). Another challenge raised by Covid-19 is understanding the new behavioural patterns, such as moving away from wanting to use bus services and moving towards more individualised transport (E045).

14.29 Quick poll responses with 39 contributions on WPD's engagement hub on how likely people are to own an electric vehicle showed that 28.2% (11) already own one, 38.5% (15) will likely do so in the next 5 years, 20.5% (8) likely in the next 5-10 years, 10.3% (4) likely in over 10 years' time and 2.6% (1) will never/highly unlikely (E062).

14.30 In terms of willingness to pay, 'Help local authorities and communities switch to electric vehicles on a mass scale' came 22nd out of 24 initiatives for household customers, and 23rd out of 24 for non-household customers. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £0.53 or 0.09% of the total increase to Help local authorities and communities switch to electric vehicles on a mass scale (E061).

14.31 Feedback on Electric Vehicles included that all aspects are important, it is a new area for people and they need support, facilitating take up is key and feels like a catch-all, and easy charging points as this is a barrier (E071). Moreover, cost advice and battery life are missing as measures (E071).

14.32 Challenges that were discussed included capacity issues, customers wanting to plug in all at once and supplier charges, extortionate cost to transfer to an EV fleet, the possibility of inequality from electric charging, as someone with a private drive pays 14p while in a block of flats the charge is 30p, and that key services may change (E043, E046, E060). WPD was challenged on how it plans to scale up the connections process for when there are 3 million electric vehicle chargers on the WPD network by 2030 (E047).

14.33 An energy consultant expressed their concern that the deployment of renewables could be stopped if EV charging plant is treated in the same way as telecoms plant. Landowner perception would be worried about reliability and this approach to EV could have significant unintended consequences. It needs to be framed the right way for

DNO's needing powers to install electrical plant –de-link from being a specific requirement, e.g. EV (E065).

14.34 A business stakeholder has EV charging at their new office and as and when people change over, they will install more. They say their influence is more on the buildings we create (E044).

14.35 Transport for Wales intends to put in 1,200 charging points in early 2021 and will need to do a formal application. Looking at 50kw for the large parts of the country with poor provision. They are also looking at decarbonisation of bus and taxi fleet within 8 years where lots of research needed in a short period (E043).

14.36 Several stakeholders felt that there needed to be specific reference to the challenge of electric vehicle charging infrastructure, particularly with regard to working with local businesses to ensure there are charge points available at the workplace. Currently people at North Devon and rural Wales are worried about the lack of infrastructure (E047).

14.37 The Welsh government said that they are looking at plans for EVs or hydrogen and are starting work looking at charging infrastructure. There are a couple of projects going on already in Cardiff and the city region too, and it is about trying to tie it all together to have more of a national plan. They need to understand if there are any capacity issues and we need to ensure their plans match WPD's (E043).

14.38 Of the 15 South West authorities, two had no figures for wider community, another two did not make any comments, while the remaining 11 either approved the projected numbers provided by WPD or laid out their detailed plans and their own projections for Electric Vehicles. In regard to heat pump projections, the majority, 12 out of 15, did not make any comments or needed time to review the data WPD provided, one had not produced any figures themselves and the remaining 2 submitted their own projections (E069).

14.39 In relation to electric vehicles plans, one authority noted that Covid-19 is a factor in delays in production of energy plans and the development of projects. One authority did not make a comment on the projected numbers provided by WPD, while the remaining 6 laid out the details of their plans. Regarding heat pumps, 2 authorities did not have specific details, one made no comments, and the remaining 4 discussed their current progress and their future targets (E069).

14.40 Of the 19 East Midlands authorities that were engaged in the DFES, one noted their plans are not sufficiently advanced to determine their EV projected numbers, 2 said they have no large-scale plans for chargers and are unsure on EV numbers, 5 did not make any comment and the remaining 11 discussed their plans and targets with one not providing numbers but stating that among other initiatives, they are investigating future viable alternatives such as vehicle to grid and vehicle to building systems and investment in possible balancing charging with photovoltaic power. A LEP noting that for this and all other indicators, the impact of Covid-19 is likely to have significant implications for the ability of customers to invest in these new technologies. In addition, authorities may be able to make more nuanced observations on their areas, by comparing and contrasting against aggregated data on a wider LEP area context (E069).

14.41 In terms of heat pumps, 9 out of 19 did not make a comment, or had no plans to include heat pumps in new builds but one referred to a possibility to do so through joint planning, one had a policy to encourage their use but no numbers targeted, with the remaining 10 discussing their ideas and plans for future adoption (E069).

14.42 Of the 15 West Midlands authorities that were involved in the DFES discussions, there seemed to be a big regional update of EVs, with only one authority not making direct comments, and the majority having their own projected numbers and making comments on WPD's projections. It was commented that the Government is likely to bring forward the phase-out of internal combustion engines, stressing the need for a smooth and rapid transition. In relation to heat pumps, 6 authorities did not make any comments or had no defined strategy yet in place, with the rest discussing their feasibility work and future plans. One noted that as a council, they do not have available data on private heat pump systems in the borough. Notably, one authority noted, in relation to the 'gone green' projections, that there likely to be a push to install heat pumps in social housing depending on government steer and building regulations, making these more accurate (E069).

## Electric vehicle strategy

14.43 Responding to what do stakeholders think WPD needs to prioritise next in terms of their electric vehicle strategy, 53% of votes were in favour of on-street charging, 17% were in favour of supermarket charging, 13% were in favour of office car parks for employees and equally of tourists hubs, and the remaining 3% were in favour of depot charging of small vans (E077).

14.44 Stakeholders felt that further development in the area of on-street charging points is needed, as well as making charging more socialised, noting that the government cannot expect councils to meet zero carbon targets if customers are expected to finance on-street chargers alone. It was also supported that greater incentive for developers to innovate in relation to on-street parking must come from the government (E077).

14.45 Stakeholder supported that workplace charging will be incredibly important as well as supermarket charging (E077). A housing developer however, stated that the biggest issue that their sector has is that there are not sufficient charging points in housing developments (E047), while an electric vehicle and charge point manufacturer made reference to rural areas where there are likely to be more off-road parking.

14.46 Stakeholders also discussed the need to improve range anxiety amongst users, making cost heat maps more transparent to local communities, and having usage information when planning, applying, and installing EV charging points, for example, they would be interested to see the results of WPD's housing project (E077).

14.47 Stakeholders wanted to see a quicker roll-out of the fast-charging points and prioritising proof of technologies that work for rapid EV charging in remote areas (E077). There were also some concerns that EVs and charging would require changes to the energy bill, which is potentially a lengthy process (E065).

14.48 Stakeholders further supported that tourism has to be considered, but it has to be after getting it to work for people's day-to-day (E077).

14.49 Responding to what do stakeholders think WPD needs to prioritise next in terms of their electric vehicle strategy, a utility stakeholder supported that there should be more focus on lobbying Ofgem to look at its charging regulations and trying to find a balance so that the network can be upgraded for future needs but ensuring that customers' money is not wasted (E077).

## Vehicle to grid

14.50 Local authority stakeholders showed interest in being able to harness smart-grid technology to feed power from EV batteries back into the grid in order to charge other vehicles (E045).

14.51 An NGO stakeholder asked if there any V2G in Electric Nation –Powered Up? (E065).

## Heat pumps strategy

14.52 In response to what stakeholders think WPD needs to prioritise next in terms of their heat pump strategy, 46% of votes were in favour of new housing developments, 39% were of off-gas grid properties, 11% were of retrofitting existing properties with gas boilers and the remaining 4% were not sure (E077).

14.53 In response to what stakeholders think WPD needs to prioritise next in terms of their heat pump strategy, stakeholders expressed that most houses in the UK have the insulation capacity for heat pumps and that financial structures to facilitate this scale of change are unclear. It was also believed that there is a long way to go in respect to innovation, to support future initiatives (E077).

14.54 Stakeholders felt that when customers talk about capacity needs, they always overestimate what they actually end up using, whereas WPD has the necessary information to discuss with them and adjust their stated capacity needs. Some stakeholders thought that the answer lies in local-based networks, where local groups are responsible for their own generation and capacities, as well as on microgrids (E077).

14.55 Stakeholders addressed multiple issues related to heat pumps, such as the cost, noting that social housing providers will be keener to use these sorts of technology, whereas for your residential developers, cost is an indicative factor. The issue of long-term maintenance was also brought up, with examples of failed heat-pumps or badly maintained, which were then abandoned or ripped out and replaced with a different system. Lastly it was felt that heat pumps can be very onerous for the network, so maybe there needs to be a system of green for the least onerous and red for the most onerous (E077).

## Retrofits

14.56 Stakeholders were interested to electrify not only new builds but also retrofit old properties, which tend to be the most energy inefficient. A stakeholder noted that they have received a government grant support due to Covid-19 that makes that possible (E046). Some have faced serious challenges, including buildings that are listed (E043), current delays with contractors (on furlough) (E046),

14.57 361 Community Energy is looking at retrofit rather than generation, which is challenging and are asking WPD to help them navigate the complex system. Communication and talking at events like the workshops, for example, so that WPD can get a strategic view over the next ten years, and they can develop their plan alongside WPD's (E046).

## Renewable energy and battery storage

14.58 Stakeholders noted that it is interesting to see how the use of renewable energy will grow in the near future, given the impact that Covid-19 has had on reducing CO2 emissions (E043). Local authorities gave details of their plans for future generation (E043, E044, E045, E046, E047, E069).

14.59 Support communities to install low carbon technologies such as community solar panels or community wind turbines' came 8th out of 24 initiatives for household customers, and 5th out of 24 for non-household customers, and although ranked as 8th overall among households, it ranked 2nd by SEG AB (Higher & intermediate managerial, administrative, professional occupations), 8th by SEG C1C2 (Supervisory, clerical & junior managerial, administrative, professional occupations and skilled manual occupations), and 13th by SEG DE (Semi-skilled & unskilled manual occupations, Unemployed and lowest grade occupations). By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £1.19, or 0.21% of the total increase to Support communities to install low carbon technologies such as community solar panels or community wind turbines (E061).

14.60 A joint approach was much praised, not only between local authorities, communities, and local groups but also with WPD and providers (E046, E047). That was particularly useful to resolve capacity and grid issues and setting up a plan to export energy as well (E043). Stakeholders developing solar farms were interested in seeking advice from WPD on their project (E044).

14.61 Of the 15 South West authorities that discussed WPD's projections for local plans during the DFES, most authorities, 11, did not make any comments relevant to solar and wind generation, with 2 of them not having any targets. The remaining 4 discussed their plans with one saying they do not have dates at this time, another one referring to their local plan numbers, another being in the process of establishing best locations for potential solar energy plants, and another one discussing numbers and details. In terms of battery storage, similarly 13 authorities either did not make comments or did not have relevant figures. From the remaining two, one was interested in battery storage but is in early stages and discussed gaining funding, and the other one referred to their local plan report for numbers. In terms of other generation, only three authorities appeared to have a plan or have done some work on this with an example being geothermal systems (E069).

14.62 Of the 7 South Wales authorities that discussed WPD's projections for local plans during the DFES, one referred to their plan for figures in terms of all renewable technologies as well as storage, while one did not put forward any comments or figures of their own. From the remaining five, one commented directly on the numbers, noting that DFES projections appear to be a realistic estimate of the future growth of the technologies and the other four discussed their current and future plans. In terms of Solar generation, it was noted that grid constraints make the cost of connecting new PV problematic and often requires export limitation (E069).

14.63 Of the 19 East Midlands authorities that discussed WPD's projections for local plans during the DFES, 16 had no planned or confirmed solar generation plans, with the remaining 3 either agreeing with WPD's projections or discussing small-scale PV installations and EV charging, large solar projects and their policies. In terms of wind generation, one authority referred to local push back due to visual issues restricting them to only small-scale projects, one discussed their local study, and two more referred to documents about their energy plans, and gave details on their projected numbers, with the remaining 15 either not having plans in place or not making any comments. In terms of other generation and battery storage, the little feedback

received included that battery storage is very much encouraged in policy, the gone green view is best, one authority commenting that uptake is slow but increasing as battery technology and cost improves, plans for V2G, and local community generation, and energy from waste. One authority noted that in their scenarios, battery storage shows the highest relative compound annual growth on the supply side. 17 and 13 authorities respectively did not make any comments or had no or limited plans in place (E069).

14.64 Of the 15 West Midlands authorities that discussed WPD's projections for local plans during the DFES, 12 either did not have plans for solar generation or did not make a comment, with two referring to grid constraints. One authority mentioned that their main solar site is not going to connect to WPD's network but there might be an opportunity for collaboration, and the other two favoured the 'gone green' scenarios (E069).

## Ensure capacity there for local generation to achieve net zero

14.65 Capacity was a widespread issue, particularly where green technologies were involved (E043, E044, E045, E046). Stakeholders urged WPD to take a long-term approach by providing enough capacity to meet demand over the next ten years, rather than only considering local authorities' immediate needs, and support them with the green recovery by meeting the additional capacity required for renewable generation (E043, E045).

14.66 Numerous stakeholders gave examples of their projects being rejected or stalled due to capacity issues (E044, E045) and urged WPD to think more in terms of local supply models in relation to Net Zero and innovation (E043, E046).

14.67 A number of local authorities planned to use low-carbon technologies in new developments as part of their net zero ambitions, and some were keen to discuss the impact of grid constraints and restrictions on these projects and explore how future capacity needs could be met (E045).

14.68 There was agreement that stakeholders looking to connect LCTs require regular engagement, particularly in terms of network availability, and stakeholders once again raised the need for increased capacity to host community energy projects (E045).

14.69 In terms of willingness to pay, 'Provide more charging points and greater network capacity to ensure all customers can switch to electric vehicles when they are ready to do so' came 20th out of 24 initiatives for household customers, and 17th out of 24 for non-household customers. Although was ranked as 20th overall among households, it ranked 8th by SEG AB (Higher & intermediate managerial, administrative, professional occupations), 20th by SEG C1C2 (Supervisory, clerical & junior managerial, administrative, professional occupations and skilled manual occupations), and 23rd by SEG DE (Semi-skilled & unskilled manual occupations, Unemployed and lowest grade occupations). By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £0.67, or 0.12% of the total increase to Provide more charging points and greater network capacity to ensure all customers can switch to electric vehicles when they are ready to do so.

14.70 Relating to the question in the wider context of net zero, apart from making connections for ev & hp, what areas does WPD still need to address, a Parish / community council explained that their major issue is connectivity and putting energy into the grid, while the network is slow to expand but needs to grow rapidly in order to accommodate new LCTs (E077).

14.71 There was a lot of support for mapping capacity, helping to strategically position EV charging points. There were questions about incorporation of LV and HV lines into the maps, which would be useful for planning (E045, E047). It was pointed out that the 'hydrogen route-map for Wales' will be a key output of the Hydrogen Development plan in Wales, which will inform and filter through into relevant public, private and industry objectives within the wider energy mix in Wales (E057).

14.72 The issue of having a big strain on the network due to electrification was further discussed by stakeholders, who pointed out that the process feels like a race for customers to use capacity (E077). A business customer supported that that the cables that WPD is putting in the ground will not be sufficient to carry the power required to cope with LCTs (E077).

### Help local communities to achieve their net zero carbon emissions targets

14.73 Stakeholders agreed that community energy has a significant role to play in meeting energy targets and need to be actively supported by WPD (E043, E045, E046). It was pointed out however, that the decreased load in buildings as a result of Covid-19 can make the investment case for carbon reduction and community energy schemes quite difficult (E043).

14.74 Relating to the question in the wider context of net zero, apart from making connections for ev & hp, what areas does WPD still need to address; an energy consultant favoured community energy connection, prioritising them over those of national developers, noting that the work that is going on in Southern Wales could be huge (E077).

14.75 Relating to the question in the wider context of net zero, apart from making connections for ev & hp, what areas does WPD still need to address, a Storage and renewables provider / installer said that funding for community projects needs to be considered. WPD could be a facilitator and enabler in this way in order to accelerate Net Zero (E077).

### Ensure rural communities don't lose out

14.76 Given that some customers and areas risk being excluded from the benefits of the Net Zero transition, several attendees called on WPD to ensure a just transition that avoids inequality (E043). It was also noted that increased capacity would help to bolster the rural areas' economies by providing charging points for tourists visiting the east coast, for example(E044).

14.77 Several stakeholders reported that electric buses and lorries were not viable solutions, particularly in rural areas. Car park charging or hub charging seemed to play a role in a number of plans (E046).

14.78 An energy consultant stated that there is concern from NFU that rural areas will be left behind for EV and will be keen to engage in a positive way (E065).

14.79 An energy consultant advised that information regarding converting to heat pumps and new transformers is the kind that rural groups will be incredibly keen to hear however, concern will remain over rural businesses, e.g. farm shops, pubs etc, with a perception they will be disadvantaged (E065).

### Educating and helping others

14.80 It was thought that education will solve the issue of public readiness (E045). Stakeholders expressed demand for WPD to support organisations by helping them understand the opportunities offered by Low Carbon Technologies (E043). The low-carbon project officer for a council, who is creating the net zero project for the borough, was keen to learn more and to find out how WPD can support them in this process and how they could collaborate in future (E045).

14.81 Several councils were keen to learn from other organisations and take a collaborative approach, ensuring that their climate strategy encompasses other bodies such as emergency services (E045).

14.82 An EV charging point manufacturer suggested that WPD should engage with landowners for EV charging and charging hubs. If a new substation is needed, engaging with landowners in those areas would be good (E045).

14.83 One Council is driven by government legislation and building regulations. As an influencer, they need extra encouragement through legislation to take up heat pumps, for example (E045).

# Sub-topic: Supply-demand forecasting

**What we heard in early 2020:**

Stakeholders were very conscious of the monumental changes which will occur on the network in the near future, and strongly recommend that WPD adopt a policy of investing ahead of need. This was seen as critical due to the speed of new technology uptake and how this may exceed WPD's ability to reinforce the grid. It was recommended that WPD coordinate and collaborate with planning authorities and developers to ensure new developments are built with net-zero compliance in mind.

Lobbying the government for changes in technology deployment targets and incentives was seen as an important step for gradual uptake of technology rather than a rapid demand change – such as an increase in electric heating when new houses cannot be connected to the gas network after 2025. Investment was seen as a crucial element to balancing future supply-demand, but it was highlighted that investment should be transformative and not just to reinforce the network. Stakeholders believed that more investment in the present would reduce the cost of net-zero significantly in the future. However, this does have to be balanced with affordability for customers.

## Summary of Phase 3 feedback

15.1 Supply-demand forecasting was seen as a pressing matter due to the changes of energy profiles brought upon by the Covid-19 pandemic. Energy usage was seen to have shifted from business use to personal use as people were working from home, which creates an excess of electricity demand. Moreover, electrification was once again raised as a point to plan ahead for, with stakeholders stressing the need to future-proof the network to maintain reliability. Stakeholders were also very keen to see the excess demand being met through flexibility with initiatives.

15.2 A total of **96** pieces of feedback were collected for supply-demand forecasting during phase 3 engagement, which adds to the **127** pieces collected during phase 2, and further **9** pieces collected during phase 1.

## Detailed feedback

### Feedback for Supply-demand forecasting can be divided into three themes:

- Demand-supply balancing
- Future-proof the network and investment ahead of need
- Flexibility and local generation to address demand

### Demand-supply balancing

#### Balance demand and generation

15.4 Stakeholders expressed their concern for the future given that energy consumption profiles have changed due to Covid-19. A business stakeholder asked if WPD have factored in any modelling about energy use now there are so many offices moving to home-working (E060). An elderly stakeholder from Birmingham and Tipton brought attention to the fact that their age group do not go out any more so rely on tech and communication, which changes the profile of when power is being used (E045). University energy consumption fell by 40% during lockdown, now at around 10% lower than normal, said a stakeholder from Somerset, Mendip, and Bristol (E046).

15.5 In terms of customers' willingness to pay, 'Pay customers to use less electricity at peak times' came 11th out of 24 initiatives for household customers, and 9th out of 24 for non-household customers. Although it was ranked as 11th overall among households, ranked, there were significant differences across demographics as it ranked 19th by Sector: Educ, Health, Govt, and 6th by Sector: Other. It also ranked 12th by East Midlands, 13th by South Wales, and 5th by West Midlands. By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £1.10, or 0.19% of the total increase to Pay customers to use less electricity at peak times (E061).

#### Availability and supply

15.6 It was felt that the societal impacts of Covid-19, such as increased homeworking and lower levels of commuting, would have a knock-on effect on energy use and ultimately impact growth plans. For example, homes would require more energy, there may be less demand for EV chargers in car parks and carpooling would have additional safety implications (E045). Stakeholders also experienced disruptions in plans to have renewables support offices and big buildings, as those where not needed anymore (E043).

15.7 An organisation asked about Ofgem removing 55% of the Totex from National Grid ET and if that worried WPD with respect to reliability of supply (E060).

#### Extra demand

15.8 Stakeholders pointed that the drive towards decarbonisation and electrification would increase demand (E046), and even more so as a result of Covid-19 (E045, E046). They would like to know more detailed information about how WPD plans to expand its local networks so that they could plan around it (E046).

15.9 There was a suggestion by stakeholder to monitor the prices of EVs, heat pumps and batteries. If there is increased demand as a result of a price drop there will be a big

change in electricity demand which is important from a planning point of view (E044). Spontaneous priorities from the Youth Community Measures of Success Research included that WPD needs to be using technology and data to forecast peak demand and that WPD should know the energy consumed by customers and by them in their buildings (E078).

15.10 A port authority reports that during the Covid-19 lockdown, 85% of the country's energy was coming through their port. Therefore, they need to ensure that their growth plans are suitably supported (E045).

## Future-proof the network and investment ahead of need

### Future-proof the network to maintain reliability in the face of increased demand (EVs and heat pumps)

15.11 Stakeholders agreed that future-proofing the network is essential to be able to support the green energy and all net-zero targets (E043, E044, E046). Given the impact of constraints and grid capacity on housing and growth plans, stakeholders urged WPD to set out a strong business case for investment ahead of need to Ofgem (E043).

15.12 In terms of willingness to pay, 'Future proof the network by ensuring any work done doesn't need replacing before 2050' came 13th out of 24 initiatives for household customers, and 12th out of 24 for non-household customers. Although it ranked 13th overall among households, there were significant differences across demographics, as it ranked 17th by women, and 9th by men, 20th by the 18-29 age group, 15th by the 30-59 age group, and 9th by the 60+ age group. It also ranked 5th by SEG AB (Higher & intermediate managerial, administrative, professional occupations), and 15th by both SEG C1C2 (Supervisory, clerical & junior managerial, administrative, professional occupations and skilled manual occupations), and SEG DE (Semi-skilled & unskilled manual occupations, Unemployed and lowest grade occupations), and ranked 18th by South West, but 11th by West Midlands (E061). By breaking down the mean WTP for the full package of improvements, we can estimate that customers are willing to pay £0.92, or 0.16% of the total increase to Future proof the network by ensuring any work done does not need replacing before 2050 (E061).

15.13 Several wanted to see KPIs included within this output to enable WPD to measure their performance – including a phased approach with timings through the ED2 Business Plan period (E074).

15.14 Many stakeholders expressed concern that the network capacity is not available in the South West or in South Wales to support the connection of low carbon technologies, with particular reference to the connection of renewable generation and electric vehicle charge points. Comments included that developers have to go through a long and expensive planning process, so they need to know the capacity is there (E072, E073).

15.15 Stakeholders focused on WPD's difficulty in getting distributed energy onto the network and felt it was a challenge for WPD to manage a lot of a similar types of generator coming online at the same time (E072, E073).

15.16 Several stakeholders raised the opportunity of increasing solar PV generation by domestic customers, with one asking WPD to lobby the government to remove the solar PV limit. Battery storage was also expected as all renewables are dependent on weather and other conditions (E072).

15.17 A number of stakeholders suggested various financial incentives to encourage the take-up of low carbon technologies, including a grant for domestic EV charge points or a renewable energy tariff. One stakeholder urged WPD to improve the legal process to facilitate speedier connections and another wanted local authorities to have more information on network constraints (E072). Another noted that the ability to talk directly to a WPD representative to get informal advice was critical to be able to facilitate low carbon technologies to connect (E073).

## Flexibility and local generation to address demand

15.18 Stakeholders agreed that WPD has a role of finding the opportunities, in terms of community energy groups, to support the imbalance between generation and consumption and to show that such projects are viable (E043, E044). A business stakeholder would also be interested in discussions around the potential for future generation, more about self-generation to balance demand and reducing the impact on the network. At the moment They are managing that process at a development-level scale, but they suggest bi-annual update with WPD (E044).

15.19 Stakeholders were very supportive of local generation, especially powered by renewables to address the currently increased and future demand (E044). A stakeholder urged WPD to help project owners to find funding pots for new schemes, as they need more funding for community energy projects (E044, E046).

# High-level topic: Enabling factors

# Sub-topic: Collaboration & whole system approach

**What we heard in early 2020:**

Collaboration was discussed in all the workshops in a whole range of different contexts. Stakeholders noted the importance of utilising WPD's partners, both inside and outside the electricity industry in order to provide the best service to their customers. Planning, both in the context of new housing developments and in the context of low-carbon energy plans were discussed extensively and were the two most important subjects under this topic area.

First, stakeholders believed that WPD should be more involved in crafting planning regulations and planning applications due to the effect they will have on future network demand and the new electricity operated technologies that will be integrated into new buildings. WPD also have a crucial role to play in helping other organisation to develop their low carbon plans for the future. It was noted that most organisation are now constructing net-zero plans, but they do not always align which can be counterproductive and will waste resources.

Alternatively, WPD should facilitate the discussion on this subject between all partner organisations and also establish complete transparency about their strategy and future scenarios. This was especially important around heat, transport and connections. Other topics discussed was the need for WPD to be a leader in this collaboration process, for it to lobby the government and Ofgem for policies around decarbonisation, and for WPD to establish partnerships with a whole range of organisations to ensure all voices are heard and everyone can work together.

## Summary of Phase 3 feedback

16.1 Stakeholders supported the proactive and open discussions allowed for by the DFES and stressed that engagement and collaboration is key to creating local and accurate future energy scenarios. Collaboration and frequent engagement were thought of as the driving factor for a whole systems approach, so that WPD and local authorities are up to date on council plans and there is transparency between them. There was also support for collaboration between DNOs as well as within the industry and for easy and accessible sharing of data with interested parties. Local authorities gave specific details on further stakeholders suggested for engagement as well as on data sharing for a whole system approach, which have been summarised in a table.

16.2 A total of **250** pieces of feedback was collected for the collaboration and whole systems approach during phase 3 engagement, which adds to the **258** pieced collected during phase 2, and further **25** pieces collected during phase 1.

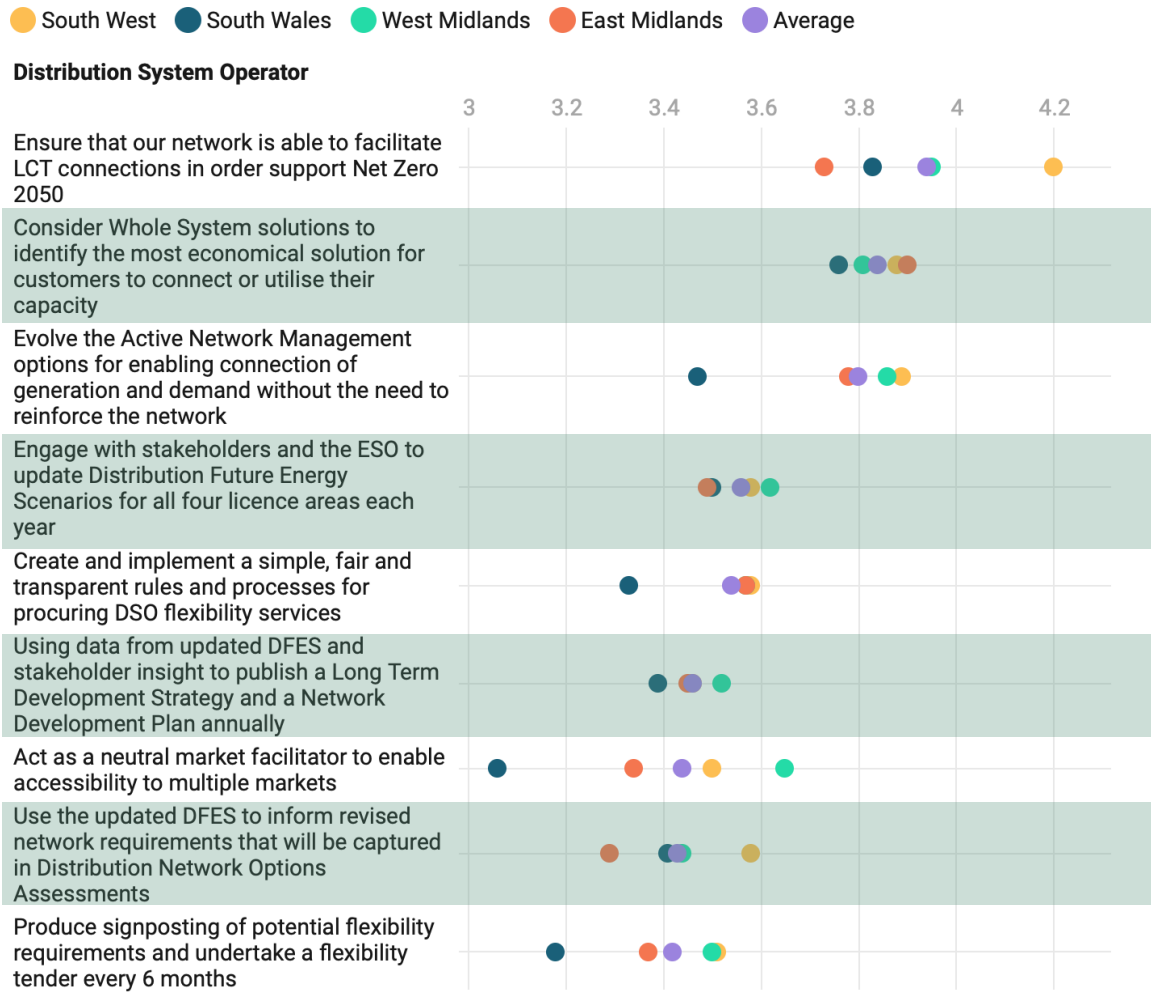


Figure 29: Distributed System Operator outputs as voted for in the November workshops

*Also includes Network flexibility commitments, but the relevant Collaboration and whole systems approach outputs have been highlighted in green.

For each output, stakeholders were asked whether WPD had got the right level of ambition, answering on a scale of 1 to 5 whether they should 'do a lot less' (1) through to 'do a lot more' (5). The online polling results are displayed per region and as an average out of 5.

| Proposed DSO and Community Measures/Performance target | Result |
|---|---|
| Engagement with stakeholders on an annual basis to create refreshed Future Energy Scenarios | Acceptable |

Figure 30: Proposed DSO and Net-zero and Community Measures from the Measures of Success research workshop, where stakeholders were asked to review the draft Business Plan outputs of the top priority areas they identified and comment on whether the ambition should increase/stay the same/decrease.

## Detailed feedback

**Feedback for Collaboration and whole systems approach can be divided into three themes:**

- Uptake of localised WPD future energy scenarios
- Planning
- Partnerships and collaboration

### Uptate of localised WPD future energy scenarios

**Outputs and DFES feedback**

16.3 Stakeholders approved of the proactive and open discussions allowed for by DFES and the focus on local information however, councils in general pushed for more and earlier engagement with local authorities, community energy groups, housing associations, schools, the national parks (E043, E044, E045, E046, E047, E078), and residents (E044). Some stakeholders felt that WPD could improve its DFES engagement by considering growth linked to electric transport and heating, rather than focusing on growth linked to developments (E046).

16.4 A business stakeholder advised WPD to take example from transmission and gas ED2 draft determinations where proposed investments were disallowed as their business case was not strong enough. Since funding is hugely constrained and Ofgem will not allow investment ahead of need, WPD must build a strong business case (E043)

16.5 Stakeholders gave several suggestions as to how the company could go further to support the growth agenda, for example, by taking into consideration the impact of new planning regulations, as detailed in the recent government white paper, and demand for new technologies on existing plans and future growth, as well as adopting an ‘open-door’ approach when engaging with councils on available capacity (E069). It was also suggested to learn from other countries with similar typography and geography (E045).

16.6 It was felt that WPD could do plenty to support organisations in the green recovery, such as improving communication around funding opportunities and local network plans, engaging with actors in the low carbon economy and local authorities, and educating consumers (E046).

16.7 Survey results revealed that almost half of respondents would describe their experience of DFES engagement with WPD as ‘good’, and no respondents expressed a negative opinion (E043, E044), although in another survey the largest proportion of respondents described their experience of DFES engagement as ‘neutral’ (59%). However, stakeholders were in favour of the bottom-up localised approach allowed for by DFES (E045).

16.8 The measure regarding “Engagement with stakeholders on an annual basis to create refreshed Future Energy Scenarios” was seen as acceptable and positive but further related questions were how regular, what will be the outcome of the future energy scenarios and how will this benefit customers (E071).

16.9 The output to “Engage with stakeholders and the ESO to update Distribution Future Energy Scenarios for all four licence areas each year” ranked joint fourth highest for this priority area in South West, with 3.58 / 5 (E072), and ranked third highest under this priority area in South Wales, just below the baseline average (3.5 / 5), with 61%

feeling it was the right level of ambition (E073).

16.10 The above output ranked below the baseline average with 3.49 / 5 in the East Midlands (E074), while in the West Midlands, 52% of those who voted were of the view that this represented the right level of ambition in ED2, with the remainder voting for WPD to go further than planned (E075).

16.11 It was felt that engagement and collaboration with relevant actors is vitally important to help WPD to plan and produce their DFES. Suggestions of stakeholders to engage with included local authorities as well as community energy groups (E075).

16.12 The "Using data from updated DFES and stakeholder insight to publish a Long-Term Development Strategy and a Network Development Plan annually" output ranked the lowest in this priority area in the South West, with 72% confirming the level of ambition was right. One LA stakeholder confirmed the importance of using data from Local Plans but cautioned that WPD will need to remain flexible, as often the Local Plan timeframe extends beyond the end of RIIO-ED2 (E072). In South Wales, it scored just below the baseline average with 3.39 / 5 – 67% felt that the level of ambition here was right (E073).

16.13 In the East Midlands, the above output ranked below the baseline average at 3.45 / 5, with 60% confirming that WPD had the right level of ambition (E074), while in the West Midlands, it was broadly endorsed by stakeholders in the online poll, with 52% thinking this output represented the right level of ambition and 43% voting for WPD to go further than planned in ED2 (E075).

16.14 One stakeholder sought to understand the granularity of the data that would be published in the development strategy and annual network plan. Another expressed some concern that WPD has to rely on the provision of data from other organisations. Several stakeholders supported this output on the basis that local authorities and other organisations need longer-term projections to be able to help them plan (E074).

16.15 The output to "Use the updated DFES to inform revised network requirements that will be captured in Distribution Network Options Assessments" ranked joint fourth highest for this priority area in the South West, with 3.58 / 5 (E072). In the East Midlands, 71% of stakeholders felt the level of ambition was right, with an average of 3.41 / 5 (E073). It also ranked joint lowest for this priority area in the East Midlands, with 3.3 / 5 – well below the baseline average, and in the West Midlands, 59% of stakeholders voted that it represents the right level of ambition, with 34% voting for WPD to go even further (E074, E075). It was commented by a business customer that regular reviews and updates of the DFES are required as technology is moving at a rapid pace resulting in more exacting time frames (E075).

## Planning

### Engage in council and strategic planning process

16.16 Stakeholders proposed that WPD should be looking to engage with local authorities at an earlier stage, particularly during phases when planning applications, plot-allocation schemes and structural plans are being drawn up. This will show WPD where areas of growth will be earlier on and ensure that power can be supplied to these developments (E043, E044, E046, E048). Several Welsh Government and local authority representatives confirmed that they were interested in engaging with WPD more on their growth plans, which included new housing, the development of the enterprise

zone, commercial projects, a solar farm and transport planning (E043, E045), and seek the company's input from a policy and planning perspective (E043).

16.17 Some stakeholders suggested WPD should engage more frequently, at the very least annually but as and when new technologies come forward, too (E044, E046), as well as to engage with planning committees who develop 10-year plans, they would give the best scenarios regarding future developments (E045). WPD was advised to tailor its communication to different audiences, given that renewable project planners, housing developers and local residents have different needs and levels of understanding (E046).

16.18 A stakeholder from the Welsh Assembly said there is tremendous pressure from Downing Street to use a whole system approach and using LA planning is the only way forward to provide an evidence base. The Welsh Governments pressing Ofgem to take more notice of LA energy planning. The stakeholder feels it is important to rely on DFES and LA planning (E060).

16.19 Welsh Government representatives stressed the importance of joint planning between gas and electricity and highlighted the need for communication and collaboration across industries (E043). The Youth Community Measures of Success Research revealed that WPD needs to work with builders to make sure properties have sustainable design (E078).

### Support local planning

16.20 WPD was seen as having a key role in supporting local growth plans, and at an organisational level, it was felt that the company should be future proofing and stockpiling if necessary (E043). It was agreed that it was important to prioritise planning and construction as lockdown eased, and WPD was called on to provide guidance to enable councils to return to long-term planning (E045).

16.21 There was a suggestion for WPD to be a statutory consultee for planning projects, as that would smooth things with the development process, if it could have the capacity to deal with the huge number of applications (E045). Some stakeholders also wanted WPD to be helping local bodies to secure assets, received grants and minimise housing costs (E045, E046).

16.22 For large development sites in particular, stakeholders expressed interest to have high level assistance and input from WPD in identifying strategic requirements such as broad cost estimates, funding routes and delivery timescales. This work is helpful to the Council but also aids WPD in forward planning and understanding likely revenue streams associated with development sites (E069).

## Partnerships and collaboration

### Wider engagement

16.23 There was overwhelming support for WPD to engage with a wider range of organisations, such as community energy groups, businesses, landlord forums, LEPs, residents and the climate change hub. In addition, the company was advised to collaborate with other DNOs to ensure consistent cross-border engagement (E043, E044, E045 E046, E063, E069).

16.24 WPD was advised to collaborate with other agencies such Severn Trent Water, which is doing some positive programmes for aspects like biodiversity, the Environment

Agency around flood defences (E045), and the Welsh Hydrogen Reference Group (HRG), which will provide a focus group for key stakeholders seeking to support the development of hydrogen for energy applications in Wales. It will provide a forum to engage with the Welsh Government on the needs and opportunities in Wales in the hydrogen sector support the development of the narrative and pathway for Welsh Hydrogen (E057).

16.25 Local authorities in the South West suggested WPD should engage with stakeholders and groups that form part of their local energy plans and strategies, planning developers, communities, local energy development plan groups, while two of the 15 did not provide such details. Most stakeholders did not have any specific requests on data missing from current published data sets or further data to make commercial use of, and they thought that the existing data is very informative. Only one authority asked for data on innovation projects monitoring demand of profiles of domestic properties with low carbon technologies deployed (E069).

16.26 Authorities in South Wales suggested further local bodies and climate groups for engagement, as well as private organisations to enable a more joined up approach between the public and the private sector. In terms of WPD's current published data and anything missing that could be of commercial use to local authorities, an energy officer thought a list of MPANs or access to a database of MPANs would be useful for them, other stakeholders asked for Network "restriction" maps – GIS overlays showing restriction hot spots and where work is planned, and general and site-specific information with regards to the grid connection options. 5 out of the 7 authorities were not aware of the Data Hub or had not used it so did not provide any comments on data missing (E069).

16.27 In the East Midlands, 5 of the 19 authorities did not have any suggestions for engaging further stakeholders, while most of the remaining proposed a joined up approach with other councils and LEPs, DNOs, public bodies for infrastructure and planning, climate change groups, and government bodies. In terms of data missing from the Hub or further data that they would like to make commercial use of, 12 did not think anything was missing, while from the ones who did, data included records of connection requests and which organisations have purchased or reserved capacity, at substation level, expected connection costs, more contemporary local energy demand figures to understand impacts of events, seasonal trends etc in the city for both energy and carbon, capacity availability for both import and export, and how that can be managed effectively. Further data that stakeholders discussed were precise locations of HV and LV substations and their rated capacity, how WPD invest in the network and where the investment is taking place, to allow the councils to combine this with their future planning for development, policy and project development works including any major planned work, and data for determining CMZs (E069).

16.28 Local authorities in the West Midlands proposed further engagement with LEPs and combined authorities, neighbouring districts and councils and parish councils, universities, and community energy groups. Only 4 out of the 15 did not make any suggestions. In terms of data missing from the Hub or further data for commercial use, 10 authorities did not make any comments, while requests from the remaining 5 included data on areas of the local distribution network that have capacity for medium (1mW+) to large scale (10mW+) export for demand side response and load balancing, capacity availability, and input from WPD in identifying strategic infrastructure requirements such as broad; cost estimates, funding routes and delivery timescales (E069).

## Community energy groups

16.29 Many stakeholders, including the Welsh Government, believe local energy development is key and there needs to be a strong partnership between local authorities, government, and networks as they are all doing relevant things (E043, E045, E047). A stakeholder would like case studies to demonstrate how WPD have helped community energy groups. RIIO is to 2028 and the government is consulting on a zone-based system, which could mess up the model in terms of trying to predict council growth (E044).

16.30 Stakeholders suggested that community energy schemes should be showcased online to raise awareness and increase confidence (E044).

16.31 Stakeholders wanted to see WPD taking the role of a facilitator in providing a business template and an explicit endorsement for projects that have been successful to local authorities and community groups, to help deal with the uncertainty and technological risk (E045).

16.32 Stakeholders agreed that community groups were held back by factors such as variable costs and limited understanding of complex issues, such as constraints. With this in mind, it was felt that WPD could primarily support community energy groups by improving its communication, from demonstrating the potential of community projects to providing technical support and regulatory assistance further down the line, such as lobbying for policy change to tackle high connection costs (E043, E045, E046).

## Whole system

16.33 The output to consider "Whole System solutions to identify the most economical solution for customers to connect or utilise their capacity" was ranked third highest within this priority area with an average score of 3.88 / 5 in the South West, with 65% of stakeholders wanting to see WPD 'do more' or 'do a lot more' in this area (E072), while it ranked second highest for this priority area in South Wales, with a score above the average baseline – 3.76 / 5. Most stakeholders (59%) in fact wanted to see WPD 'do more' or 'do a lot more' in the area of whole systems (E073). This output also ranked highest for this priority area with 3.9 / 5. 70% wanted WPD to 'do more' or 'do a lot more' on whole systems, in the East Midlands (E074), while in the West Midlands, it was the third highest ranked output in this priority area in the online vote, scoring an average of 3.81 / 5, with 67% of stakeholders voting for WPD to go further than planned in ED2 (E075)

16.34 Stakeholders agreed that WPD should work with stakeholders, especially local authorities, in order to understand their development proposals and that the outcomes of this engagement ought to inform the company's future plans. One local authority stakeholder recognised the role that they might play given the opportunity to become energy traders in a whole system approach (E072, E074, E075).

16.35 Stakeholders supported that for Whole system solutions, WPD should engage more with domestic customers, investigating the possibility of incentivising them to further encourage the take-up of flexibility services, and include community energy schemes as well (E072, E075).

16.36 There was acknowledgement that a whole systems approach is needed to accommodate future energy demand, including EVs and heat, as it may be the case that the complete electrification of heat is not necessarily the right solution. It was felt that the regulator had an important role in facilitating this approach, ensuring that DFES take into consideration all energy vectors including green gas (E074, E075)

16.37 It was also felt that, due to concerns about the cost of installing an electric vehicle charge point, WPD needs to consider the bigger picture as part of an integrated approach to network planning (E074).

16.38 As part of a whole system approach, there wider support for WPD's data sharing practices, although some stakeholders were not aware of the Data Hub, but they still praised WPD for making data available and discussed what specific data sets they would like to be published (E069).

# Sub-topic: Innovation

**What we heard in early 2020:**

Innovation is a key part of improving WPD's operations in the future and helping DNOs to adapt to drastic changes in demand and supply patterns. Stakeholders discussed the importance of community energy projects as a base for innovation extensively, especially as it was felt that this could benefit a lot of people which would also help to share knowledge and information. Education was noted as a key barrier for community project success; however, it was also discussed as one of the potential major benefits from focusing innovation here. New technology deployment was also a well-covered topic with discussions in numerous workshops on WPD's role in the roll-out of smart meters, heat pumps, battery storage, inductive EV charging, and three-phase connections.

Stakeholders noted the key role that WPD plays in lobbying the government and working with suppliers to increase the clarity and range of tariffs available to consumers to improve involvement in flexibility services and reduce their costs. Finally, feedback noted that WPD should be proactive and lead the way with innovation in the sector through establishing a national innovation strategy, an innovation fund, as well as helping partner organisations to establish innovation strategies.

## Summary of Phase 3 feedback

17.1 There was praise for WPD's focus on innovation, seen to be unique across DNOs. The call for innovation ideas based on stakeholder engagement and feeding the learnings back to the business operations was highly supported, with further suggestions to include broader eligibility criteria and projects that will enable collaboration with councils and social housing providers. Community energy-specific innovation projects were seen as facilitators to overcome capacity issues and constraints, but that these should primarily support existing initiatives to make the most out of the existing progress community energy groups have made. Stakeholders also widely supported having a dedicated community engineer to ease communications and support communities in a tailored way.

17.2 Digitalisation and leadership in publishing data were also seen as central to a forward-looking approach, with extensive interest in the ideas portal and mapping services, although some stakeholders pointed out best practices implemented by other DNOs as learning points.

17.3 A total of **249** pieces of feedback were collected for innovation during phase 3 engagement, which adds to the **273** pieces collected during phase 2, and further **3** pieces collected during phase 1.

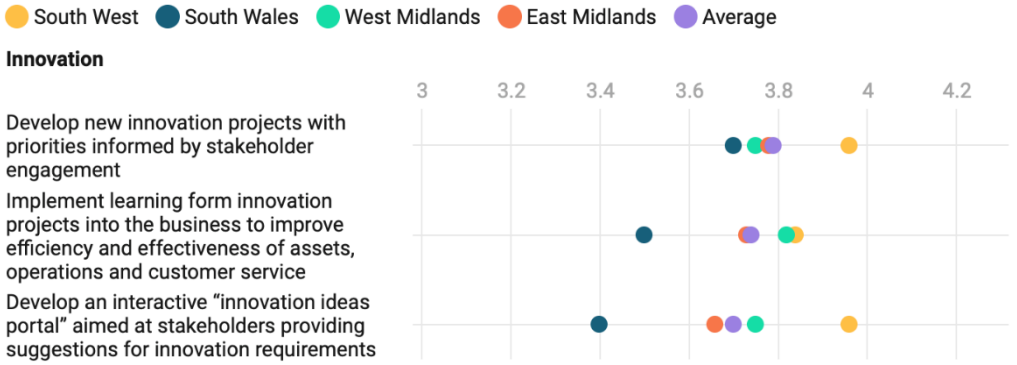


Figure 31: Innovation outputs as voted for in the November workshops

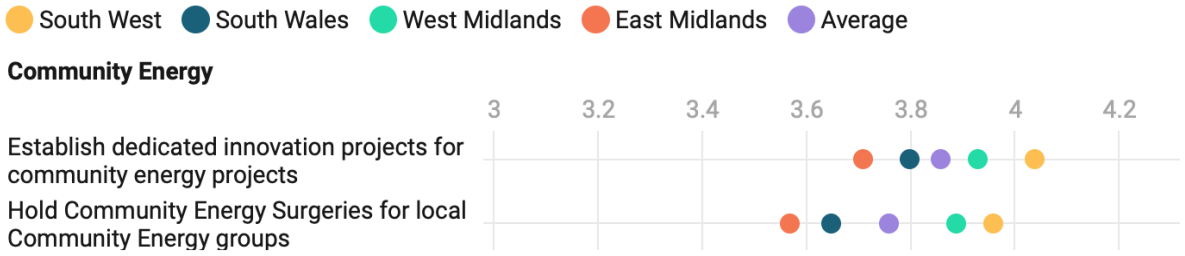


Figure 32: Community Energy outputs as voted for in the November workshops

For each output, stakeholders were asked whether WPD had got the right level of ambition, answering on a scale of 1 to 5 whether they should 'do a lot less' (1) through to 'do a lot more' (5). The online polling results are displayed per region and as an average out of 5.

| Proposed Innovation Measures/Performance target | Result |
|---|---|
| Our popular annual innovation project ideas call will continue throughout ED2 with priorities set through stakeholder engagement. Our team of dedicated innovators will also scope and propose projects along with colleagues across the business. | Acceptable |
| A new interactive "ideas portal" will be developed aimed at staff, third parties, communities and other stakeholders where suggestions for new projects can be made | Acceptable |
| Significance of Community Energy projects will be further enhanced, including the introduction of an annual call targeted especially at community groups and their representatives | Acceptable |
| Have a dedicated Community Engineer in each of our licence areas | Acceptable |

Figure 33: Proposed Innovation measures from the Measures of Success Research workshop, where stakeholders were asked to review the draft Business Plan outputs of the top priority areas they identified and comment on whether the ambition should increase/stay the same/decrease.

## Detailed feedback

**Feedback for innovation can be divided into five themes:**

- General
- Encourage research projects and innovation
- Support community energy projects
- Lobby government
- Digitalisation and data

### General

17.4 It was commented that innovation outputs are too technical, thus education and support is needed to make them accessible to a wider audience (E046).

17.5 Stakeholders praised WPD as being the best DNO for innovation and added that trying to speed up the process of innovation trials into business as usual is important as there is often fatigue at the end of them (E047). In general, there is a desire for WPD to be very future-focused, and ambitious – for the environment and the society (E071).

17.6 Surface feedback on Innovation/New Services was that it is part of the education piece, it is good to see flexibility incentives, and community ambassadors could reach out to local people. There were no missing measures identified (E071).

17.7 Stakeholders did not feel that Covid-19 would change emerging issues or priorities in relation to the priority area of Innovation, Digitalisation or Community Energy, except from prevent WPD staff from holding community energy surgeries in person (E072, E073, E074, E075).

### Encourage research projects and innovation

17.8 The company was advised to clearly communicate the scope of the annual call for innovation project ideas and potentially broaden project eligibility (E045). Stakeholders were also keen to learn from successful innovation projects within the region and further afield (E045).

17.9 In terms of the proposed Net zero and community measures, the “Our popular annual innovation project ideas call will continue throughout ED2 with priorities set through stakeholder engagement” and “Our team of dedicated innovators will also scope and propose projects along with colleagues across the business” were seen as acceptable and very welcome by stakeholders (E071, E078).

17.10 In terms of areas that were missing, several stakeholders made the point that the call for innovation projects needs to include projects that address properties, particularly those owned by landlords in the private rented sector. In that regard, they called for collaboration with councils and social housing providers (E046).

17.11 It was felt that WPD and other DNOs should adopt a leadership role to drive change, in addition to working with other utilities to develop innovative solutions (E045). Although, that requires more transparency and centralised information in order for stakeholders to be able to keep track of the different WPD innovation projects, as well as more support and signposting (E045, E047). Discussions with a LEP (energy steering group) revealed plans for the creation of an Energy Innovation Zone (EIZ) (E048).

17.12 The output to “Develop new innovation projects with priorities informed by stakeholder engagement” ranked joint highest in the online poll under Innovation, with an average score of 3.96 / 5 in the South West. 71% of stakeholders wanted to see WPD ‘do more’ or ‘do a lot more’ in this area (E072). Equally, it scored above the baseline average with 3.7 / 5 in South Wales, and 65% wanted to see WPD ‘do more’ or ‘do a lot more’ (E073). It ranked highest for this priority area with 3.75 / 5 in the East Midlands, with 58% wanted WPD to ‘do more’ or ‘do a lot more’ in this area (E074), while 55% of stakeholders in the West Midlands voted for WPD to go further than planned (E075).

17.13 One stakeholder put forward a proposed innovation project, to have more solar panels on top of business premises, setting as an example the business parks in Gloucester, which have the space to efficiently generate the electricity to be used locally (E072), while another asked whether any of the innovation funding would be ringfenced for Wales, as the Welsh Government wants the country to lead the way with emerging low carbon technologies (E073).

17.14 It was cautioned that innovation should not be done for its own sake or simply to attract funding from the regulator, and that projects need to be used in a way that does not leave the vulnerable or digitally excluded behind (E073, E075).

17.15 The output to “Implement learning from innovation projects into the business to improve efficiency and effectiveness of assets, operations and customer service” ranked marginally lower than the other two outputs in this area in the South West (3.84 / 5), the majority (54%) still wanted to see WPD commit to ‘do more’ or ‘do a lot more’ in this area (E072). However, the same output scored 0.04 below the baseline average with 3.5 / 5 in South Wales and most (60%) feeling the ambition was right (E073).

17.16 The above output ranked 3.73 / 5 in the East Midlands, with 56% wanting WPD to ‘do more’ or ‘do a lot more’ in this area (E074), while it was the highest ranked of all the outputs in this priority area in the West Midlands, with 66% of stakeholders voting 4 or 5 / 5 in the online poll (E075).

17.17 There was recognition that innovation did not necessarily just refer to technology or assets and that there are a number of ways that a new way of doing things can be rolled out, including ways to benefit customers in vulnerable situations (E075).

17.18 Stakeholders agreed that implementing the learning from innovation projects into business as usual was very important, although one stakeholder felt that this currently does not happen with some innovation projects, which damages confidence in the process. Therefore, others suggested having a nominated senior sponsor for each project to ensure the learnings are integrated into the business, as well as also shared, where possible, with other DNOs in the UK and abroad (E072, E074).

17.19 WPD’s own Electric Nation project was cited as an example of one innovation project which would inform the company’s approach to EV charging in the future, given the insight it derived into human behaviour (E075)

### Support community energy projects

17.20 Stakeholders appreciated that community energy groups feature heavily in the outputs and added that there is really innovative work within this type of set-up, and it can give communities ownership over their assets, enabling them to reap the benefits (E045, E043). However, it was noted that the groups continue to require help and support from WPD along all stages of the process, including supporting them to access the innovation fund, to ensure a competitive bidding process (E044, E046).

17.21 Community Energy groups, such as Energy Local that has helped local people to match their electricity use to local levels through information that they are given by the group, could help solve grid constraints. Energy Local uses smart meters, so if WPD could encourage further uptake of the second-generation smart meters, that would help them (E043).

17.22 In terms of the proposed Net zero and community measures, “Significance of Community Energy projects will be further enhanced, including the introduction of an annual call targeted especially at community groups and their representatives” was seen as acceptable and Community energy projects are welcomed and address some of the desire in the spontaneous stages for WPD to facilitate community generation (E071, E078).

17.23 In relation to the output to “Establish dedicated innovation projects for community energy projects”, a significant majority of stakeholders in the South West (73%) wanted to see WPD ‘do more’ or ‘do a lot more’ in this area. In fact, on average this output ranked fourth highest across the draft outputs in all priority areas, demonstrating the importance stakeholders placed on this topic (E072). Similarly, in South Wales, ranked first out of the two community energy outputs with 3.8 / 5 and fifth across all Business Plan outputs. Most stakeholders (65%) wanted WPD to stretch this target further (E073). In the East Midlands, this output ranked above the baseline average with 3.68 / 5, and 59% thought WPD should ‘do more’ or ‘do a lot more’ in this area (E074), while in the West Midlands, there was also a good deal of support, with almost two thirds (64%) voting that the company should go further than planned (E075).

17.24 Stakeholders cautioned that dedicated innovation should facilitate what community groups are already doing rather than taking the lead. Project suggestions included micro-grids, connecting wind turbines to storage heaters to support those in fuel poverty and the potential for battery storage (E072, E073).

17.25 WPD was praised for its existing work and progress in the area of innovation. It was however noted that this output needs to have more context, including a clear definition of what constitutes a community energy innovation project (E075).

17.26 Referring to this output, some stakeholders focused on the challenges energy community groups face, saying that DNOs need to take the risk with the infrastructure so that these communities can update their systems. It was also discussed that community energy comes in many different forms and that an education piece would help to get people engaged with the tools and information that already exists (E075).

17.27 The output to “Hold Community Energy Surgeries for local Community Energy groups” ranked highly at 3.96 / 5 in the South West, with 65% of stakeholders wanting to see WPD ‘do more’ or ‘do a lot more’ in this area (E072), while it received scored on average 3.89 / 5 in the West Midlands (E075), and a lower 3.65 / 5 on average, which is still above the baseline average in South Wales (E073). However, it ranked below the baseline average with 3.53 / 5 in the East Midlands (E074).

17.28 Stakeholders widely supported this output, as discussions at these surgeries can intelligently help to add capacity to the network and remove carbon from it. Requests included that that the outcomes from these surgeries are reported to ensure that they are continually refined and improved, that there are dedicated contacts assigned to community energy groups, and to ensure these are held in the locations that need them most (E072, E073).

17.29 The idea of educating communities on the benefits of community energy was widely supported as there is a currently lack of knowledge on what is available and the practicalities or the engineering side (E075).

17.30 Stakeholders also urged WPD to guide community groups along the way and set definable targets and signposting of milestones. It was felt that there could be a role for WPD in promoting community energy and 'selling' the benefits of it to the community (E075).

### Dedicated community engineer

17.31 There was consensus that a WPD community engineer would benefit community groups by providing local knowledge, and stakeholders advised the company to assign engineers with genuine local knowledge, raise awareness of the role and ensure that groups can easily connect with their local community engineer online (E043, E044, E045, E046, E047, E078) Others think WPD should have a dedicated member of staff working with community groups, as not everyone interested in grid connections is an engineer so having someone at the front end to do some handholding through the more formal processes would be beneficial (E043).

17.32 In terms of the proposed Net zero and community measures, "Have a dedicated Community Engineer in each of our licence areas" was seen as acceptable and welcome especially the idea of a Community Engineer who will advise and support people is well liked e.g. after installation of smart meters/charging points, helping people make greener or/and more energy efficient choices (E071).

17.33 In relation to community energy outputs, a local authority stakeholder found it difficult to find the right contact person for projects they are developing and delivering. Districts can be a good conduit for engagement, but a lot of community projects could benefit from a dedicated contact number or person (E072).

## Lobby government

17.34 WPD needed to engage regularly with a broad range of stakeholders to facilitate innovation and the net zero transition, including community groups, developers and housebuilders. Some felt that WPD should go further by committing to lobby government and creating specific roles within the company to engage with stakeholders on innovation (E044).

17.35 WPD needed to engage regularly with a broad range of stakeholders to facilitate innovation and the net zero transition, including community groups, developers and housebuilders. Some felt that WPD should go further by committing to lobby government and creating specific roles within the company to engage with stakeholders on innovation (E044).

## Digitalisation and data

### Digitalisation strategy

17.36 Stakeholders generally agreed with WPD's digitalisation strategy and the three underpinning elements (E068). Some stakeholders focused on potential threats, such as Flexr will opening access to authorized 3rd parties, and that Power Quality needs to be thought (E068). Others wanted to see the business milestones how the digitalisation will change the impacted WPD internal business process (E068).

7.73. Stakeholders noted that more real time, or near real time dynamic data are missing from the high priority use cases presented and urged WPD to focus on improving

existing data quality, and where there are gaps – e.g. infrastructure real time telemetry, invest unplugging those gaps quickly (E068).

17.37 Shedding light on what others are doing in the area of Digitalisation and Data in terms of best practice, stakeholders made reference to other big utilities and DNOs, such as suggesting that WPD should work with them (E077).

17.38 Allegedly, a developer noted that UKPN is looking to display its committed capacity and available capacity for Connections, so that internal teams can understand the wider Connections picture. NPg was mentioned for having the individual system planner contact information on their heat maps, as well as a self-serve Connections tool allowing customers to zoom in to the level of the individual assets and then get an indicative price of the connection (E077).

17.39 One stakeholder also mentioned they use the Ordnance Survey API because its map based. The surveys have datasets for water companies, so they suggested gaining experience from a similar set of asset management problems from other industries (E077).

17.40 As a result, stakeholders wanted WPD to strive towards making Connections information more accessible and getting it out to large numbers of people, setting up some kind of an online platform with mapping of cables and assets, to allow customers to self-serve and work out whether their scheme would be suitable (E077)

17.41 Stakeholders also mentioned the need for re-convening discussions at regular intervals so that people have a sense of partnership with the DNO (E077).

17.42 An energy consultant informed WPD that they are developing a project which involves transport as well, enabling to see data on where EV uptake will be; a project called Charge (E077).

## Leadership in publishing data

17.43 Referring to the Demonstrate leadership in publishing network data, with relevant data presumed open, and promote its availability to customers output, stakeholders in the South West scored this 3.86 / 5, and 50 % saying they wanted WPD to ‘do more’ or ‘do a lot more’ (E072), and likewise in the East Midlands two of the three stakeholders voted 5 / 5 and one voted 4 / 5, wanting a higher level of ambition (E074). In the West Midlands, this output scored an average of 3.6 / 5 (E075).

17.44 On the one hand, a stakeholder supported the term ‘relevant data’ included in this output as it was felt WPD needs to ensure it does not publish all data as some of it would present a serious security risk, while on the other hand, another requested granular data that goes down to substation or even switchgear level (E044, E072, E073).

17.45 Stakeholders cited the National Grid as an example of leadership in this area. For WPD, it was supported that collaborating with other energy networks, including through the Energy Networks Association (ENA), and distributed generators were ways in which this leadership could be demonstrated (E073, E074, E075).

17.46 Several stakeholders stated that having plentiful data enabled them to establish better business cases for unlocking opportunities in the sector. It was also commented that data on constraints is helpful, as is historic data on demand and generation which can inform stakeholders’ future plans, with one stakeholder requesting forward guidance

on future supply and demand to be able to establish where to locate batteries (E073, E075).

17.47 In relation to the output of "Developing the API interface and data availability under API", the majority of stakeholders in the South West (83%) felt it was the right ambition, although one stakeholder wanted to see WPD to a lot more (E072). In the East Midlands, two of the three stakeholders voted 5 / 5 in terms of what they thought WPD's level of ambition against this output should be in ED2, with the one other stakeholder in the surgery opting for 4 / 5 (E074). Lastly, in the West Midlands, it scored the highest of the two for this priority area with an average of 3.8 / 5 (E075).

17.48 Stakeholders supported this output as it was commented that the development of the API interface would be helpful for distributed generation stakeholders as it would enable them to share data swiftly and efficiently, with one also having used National Grid's API (E072, E074, E075).

17.49 Regarding digitalisation, a utility stakeholder was pleased to hear that the automated power restoration system is working already. Better data is essential for helping to run the grid. Working with WPD and their radio engineers, we have covered 800 remote substations, but you want to go to 200,000 (E072).

17.50 In response to what metrics WPD can attribute to the outputs to ensure that we demonstrate leadership in the area of Digitalisation and Data, stakeholders proposed measuring the value created by measuring the cost of the network to costumers against the cost of reinforcement (E077).

17.51 Some stakeholders thought it is a mistake to look at numbers of hits or interactions in the early days because there will be a latency. A measure of success of digital initiatives is how well WPD market them so that people get to know about them (E077).

17.52 An energy consultant praised WPD for its MPAN search facility being industry-leading and noted that they have even advised SSEN to model theirs on the WPD one, so they are very positive about WPD's data although they have concerns about capacity, especially when EVs will be added to the network. Another stakeholder made a similar point, saying that WPD has a clear understanding of using this data and how it should be shared, which they cannot find elsewhere (E077).

17.53 Other metrics proposed by stakeholders included how many customers there are, to alleviate the bottleneck of getting quotes, and which questions are bottlenecking the process to indicated how stretched WPD planners are (E077).

17.54 With Net Zero, Stakeholders would also like to see WPD have metrics for carbon emission reductions achieved by the solutions, data on how much of the network is covered (E077).

17.55 Other stakeholders suggested to measure against the different types of people accessing and using the data and why, and to provide a citation list or index to track this downstream and see what policy is being informed, as well as to have timetables in place for data availability (E077).

17.56 It was noted that there is an issue across all DNOs with the quality of the data because they go back 80-90 years when data was not digitalised, so it has been fixed up and generated from hand-drawn scans (E077).

17.57 An energy consultant said that WPD should also have a process for maintenance and improvement, by incorporating feedback, based on active work (E077).

17.58 In response to how do stakeholders want the self-serve data presented to them, stakeholders voted most highly, with a score of 7.80 / 10, for the option of API, pulling data to inform wider decisions, while second, with a score of 7.48 / 10, was the option of high-level visual presentation, and last was the option of raw data for download and interrogation, with a score of 7 / 10 (E077).

17.59 In response to how do stakeholders want the self-serve data presented to them, some stakeholders wondered if the data is aligned with other DSOs and DNOs in the country so that a national assessment can take place(E077).

17.60 Stakeholders agreed that presentation of data goes hand in hand with interpretation and knowledge, so that should be supported through education. This runs parallel to what a DSO should be doing (E077).

17.61 Stakeholders focused on the level of granularity of the data, requesting updated local information, especially in terms of capacity and connectivity, as well as geospatial maps. They also supported making API data available at lower voltages and using smart data where there is no LV visibility. One stakeholder indicated that Block graphs and pie charts would be the best options for displaying information about Connections (E077).

## The 'Ideas Portal'

17.62 Stakeholders felt that the company's new ideas portal could help to establish a cohesive approach to energy planning, facilitate communication between public and private bodies and promote shared learning (E043, E044, E046). One stakeholder said it should be more accessible on a wider level. Others need to be able to make comments on project ideas, meaning that stakeholders can build on each other's ideas (E046). As a measure, its creation was seen as acceptable (E071), while the youth audience at the Youth Community Measures of Success Research thought that the ideas portal and dedicated innovators are good initiatives that demonstrate WPD commitment to this, as this will allow people to express their opinions and ideas on how the company should grow, this is also great as it allows the company to get new ideas to expand and give people somewhere to allow them to be heard (E078).

17.63 The 'ideas portal' was also very highly regarded and voted for across most regional workshops, scoring joint top with 3.96 / 5 in the South West (E072), 3.65 / 5 – above the baseline average in the East Midlands (E074), and having 61% of in the West Midlands voting for WPD to go further than planned in ED2 (E075). However, it ranked lowest out of the Innovation outputs with 3.4 / 5 in South Wales, reflecting that stakeholders felt it demonstrated the right level of ambition (E073)

17.64 Stakeholders would want the ideas portal to facilitate collaboration between stakeholders and organisations, such as IDNOs and DNOs, both in terms of idea generation as a usual tool for getting more people involved and helping encourage codesign and codeveloping of projects, as well as disseminating the learnings from innovation projects (E072, E073, E075).

17.65 It was noted that UKPN have a similar ideas portal, but it is about stakeholders suggesting technology that already exists. So, it was suggested WPD could amend this to include existing technology, as well as to capture problems as well as solutions - with one stakeholder suggesting WPD should set out some areas in which they were facing challenges to help generate ideas (E074).

17.66 Stakeholders also wanted this output to have more detail put against it and the point was made that the portal could lead to the establishment of an ideas forum (E075).

# Appendix 1 – Willingness to Pay report results

## Affordability

| Which one of the following statements best describes your / organisation`s situation with paying your energy bill? | Total (%) |
|---|---|
| I/we pay our energy bills without any difficulties | 61 |
| I/we pay our energy bills, but it is a struggle from time to time | 24 |
| I/we pay our energy bills, but it is a constant struggle | 7 |
| I/we sometimes fall behind with our energy bills | 7 |
| I am/we are having real financial problems and often fall behind with our energy bills | 1 |
| Don`t know | 6 |

Figure 34: Willingness to Pay report results on affordability

| Which of the following best describes the impact of Covid-19 on your total household income? | Total (%) |
|---|---|
| Our household income has significantly decreased as a result of Covid-19 | 10 |
| Our household income has slightly decreased as a result of Covid-19 | 26 |
| Our household income has not changed as a result of Covid-19 | 56 |
| Our household income has slightly increased as a result of Covid-19 | 5 |
| Our household income has significantly increased as a result of Covid-19 | 0 |
| Don't know | 3 |

Figure 35: Willingness to Pay report results on affordability and the impact of Covid-19 on Income

## Electricity in the home

| Do you have an energy smart meter at home? | Total (%) |
|---|---|
| Yes | 46 |
| No | 52 |
| Don't know | 2 |

Figure 36: Willingness to Pay report results on smart meters

| Have you experienced a power cut in your home / business in the last 12 months? Please include any planned maintenance work, or an unplanned power cut | Total (%) |
|---|---|
| Yes | 33 |
| No | 56 |
| Don't know | 11 |

Figure 37: Willingness to Pay report results on power cuts

| Do you currently have any of the following low carbon technologies in your home? | Total (%) |
|---|---|
| LED lighting | 47 |
| Smart plugs | 10 |
| Smart heating system | 9 |
| Solar panels | 5 |
| EV | 4 |
| Heat pumps | 2 |
| Other | 1 |
| None of the above | 46 |

Figure 38: Willingness to Pay report results on Low Carbon Technology adoption

## Initiatives

| Household | | Non-household | |
|---|---|---|---|
| Rank | Attribute | Rank | Attribute |
| 1 | Protect people who can't afford to adequately heat their homes from being disadvantaged in the future | 1 | 'Identify and help people who can't afford to adequately heat their homes |
| 2 | Identify and help people who can't afford to adequately heat their homes | 2 | Protect customers' data from potential cyber attacks |
| 3 | Protect customers' data from potential cyber attacks | 3 | Protect people who can't afford to adequately heat their homes from being disadvantaged in the future |
| 4 | Provide proactive support and information to vulnerable customers during power cuts | 4 | Provide proactive support and information to vulnerable customers during power cuts |
| 5 | Improve the identification of customers potentially vulnerable during a power cut | 5 | Support communities to install low carbon technologies such as community solar panels or community wind turbines |
| 6 | Provide support and information to vulnerable customers to help them be more resilient to potential power cuts | 6 | Reduce the number of environmentally harmful leaks of greenhouse gases/oils from WPD's equipment |
| 7 | Reduce the number of environmentally harmful leaks of greenhouse gases/oils from WPD's equipment | 7 | Provide support and information to vulnerable customers to help them be more resilient to potential power cuts |
| 8 | Support communities to install low carbon technologies such as community solar panels or community wind turbines | 8 | Improve the identification of customers potentially vulnerable during a power cut |
| 9 | Ensure vulnerable customers only have to register once for all utility companies | 9 | Pay customers to use less electricity at peak times |
| 10 | Protect WPD's electricity network against cyber attacks | 10 | Reduce the number of unplanned power cuts |
| 11 | Pay customers to use less electricity at peak times | 11 | Working with local communities to achieve net zero carbon emissions targets |
| 12 | Reduce the number of unplanned power cuts | 12 | Future proof the network by ensuring any work done doesn't need replacing before 2050 |

| | | | |
|---|---|---|---|
| 13 | Future proof the network by ensuring any work done doesn't need replacing before 2050 | 13 | Ensure vulnerable customers only have to register once for all utility companies |
| 14 | Proactively provide affected customers with relevant updates during power cuts | 14 | Protect WPD's electricity network against cyber attacks |
| 15 | Working with local communities to achieve net zero carbon emissions targets | 15 | Reduce the average length of time of power cuts |
| 16 | Reduce the number of customers who have 12 or more power cuts over 3 years | 16 | Proactively provide affected customers with relevant updates during power cuts |
| 17 | Reduce the average length of time of power cuts | 17 | Provide more charging points and greater network capacity to ensure all customers can switch to electric vehicles when they are ready to do so |
| 18 | Reduce the carbon emissions from WPD's transport fleet | 18 | Reduce the number of customers who have 12 or more power cuts over 3 years |
| 19 | Improve the quality of supply by reducing flickers and dips | 19 | Reduce the carbon emissions from WPD's transport fleet |
| 20 | Provide more charging points and greater network capacity to ensure all customers can switch to electric vehicles when they are ready to do so | 20 | Improve the quality of supply by reducing flickers and dips |
| 21 | Communicate the benefits/costs of low carbon technologies to help customers switch | 21 | Communicate the benefits/costs of low carbon technologies to help customers switch |
| 22 | Help local authorities and communities switch to electric vehicles on a mass scale | 22 | Make WPD's offices and local depots carbon neutral by 2050 |
| 23 | Make WPD's offices and local depots carbon neutral by 2050 | 23 | Help local authorities and communities switch to electric vehicles on a mass scale |
| 24 | Encourage people into a career in engineering and increase the diversity of WPD's workforce | 24 | Encourage people into a career in engineering and increase the diversity of WPD's workforce |

Figure 39: Willingness to Pay report rankings of initiatives for household and non-household participants

| Attribute Description | Mean WTP as % of annual electricity bill | Mean WTP at average annual electricity bill (£) |
|---|---|---|
| Protect people who can't afford to adequately heat their homes from being disadvantaged in the future | 0.35 | 2.00 |
| Identify and help people who can't afford to adequately heat their homes | 0.33 | 1.91 |
| Protect customers' data from potential cyber attacks | 0.26 | 1.50 |
| Provide proactive support and information to vulnerable customers during power cuts | 0.25 | 1.41 |
| Improve the identification of customers potentially vulnerable during a power cut | 0.24 | 1.38 |
| Provide support and information to vulnerable customers to help them be more resilient to potential power cuts | 0.24 | 1.38 |
| Reduce the number of environmentally harmful leaks of greenhouse gases/oils from WPD's equipment | 0.22 | 1.26 |

| | | |
|---|---|---|
| Support communities to install low carbon technologies such as community solar panels or community wind turbines | 0.21 | 1.19 |
| Ensure vulnerable customers only have to register once for all utility companies | 0.20 | 1.15 |
| Protect WPD's electricity network against cyber attacks | 0.20 | 1.13 |
| Pay customers to use less electricity at peak times | 0.19 | 1.10 |
| Reduce the number of unplanned power cuts | 0.17 | 0.99 |
| Future proof the network by ensuring any work done doesn't need replacing before 2050 | 0.16 | 0.92 |
| Proactively provide affected customers with relevant updates during power cuts | 0.16 | 0.90 |
| Working with local communities to achieve net zero carbon emissions targets | 0.15 | 0.88 |
| Reduce the number of customers who have 12 or more power cuts over 3 years | 0.15 | 0.85 |
| Reduce the average length of time of power cuts | 0.14 | 0.81 |
| Reduce the carbon emissions from WPD's transport fleet | 0.14 | 0.79 |
| Improve the quality of supply by reducing flickers and dips | 0.12 | 0.71 |
| Provide more charging points and greater network capacity to ensure all customers can switch to electric vehicles when they are ready to do so | 0.12 | 0.67 |
| Communicate the benefits/costs of low carbon technologies to help customers switch | 0.11 | 0.64 |
| Help local authorities and communities switch to electric vehicles on a mass scale | 0.09 | 0.53 |
| Make WPD's offices and local depots carbon neutral by 2050 | 0.09 | 0.53 |
| Encourage people into a career in engineering and increase the diversity of WPD's workforce | 0.08 | 0.48 |

Figure 40: Mean Willingness to Pay for individual service initiative

## Socio-economic groups

| Social Grade | Description |
|---|---|
| AB | Higher & intermediate managerial, administrative, professional occupations |
| C1 | Supervisory, clerical & junior managerial, administrative, professional occupations |
| C2 | Skilled manual occupations |
| DE | Semi-skilled & unskilled manual occupations, Unemployed and lowest grade occupations |

Figure 41: Socio-economic groups as referred to in the WTP report

## Appendix 2 – All engagement sources

| Date | Stage | Event | Event Code | Description | Delivery partner | Top 5 segments engaged (% of total event) | Attendees |
|---|---|---|---|---|---|---|---|
| Sep-20 | Phase 3 - Defining Outputs | Local Investment Workshops South Wales | E043 | A series of two online qualitative workshops to gather feedback from stakeholders across the company's South Wales region. 34 stakeholders attended the two South Wales workshops, representing 27 organisations. | EQ Communications | 1) Local authorities (35%)<br>2) Government (29%)<br>3) Charities (9%)<br>4) Other (9%)<br>5) 5) Connections providers (6%) | 34 |
| Sep-20 | Phase 3 - Defining Outputs | Local Investment Workshops East Midlands | E044 | A series of three online workshops to gather feedback from stakeholders across the company's East Midlands region. A total of 61 stakeholders attended the three East Midlands workshops, representing 38 organisations. | EQ Communications | 1) Local authorities (82%)<br>2) Academic institutions (3%)<br>3) Utilities (2%)<br>4) Environmental groups (2%)<br>5) Community energy groups (2%) | 61 |
| Sep-20 | Phase 3 - Defining Outputs | Local Investment Workshops West Midlands | E045 | A series of three online workshops to gather feedback from its stakeholders across the company's West Midlands region. A total of 46 stakeholders attended the three West Midlands workshops, representing 29 organisations. | EQ Communications | 1) Local authorities (83%)<br>2) Other (7%)<br>3) Domestic customers (2%)<br>4) Electric vehicle charge point manufacturers and installers (2%)<br>5) Energy Consultant (2%) | 46 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Sep-20 | Phase 3 - Defining Outputs | Local Investment Workshops South West | E046 | A series of three online workshops to gather feedback from its stakeholders across the company's South West region. A total of 65 stakeholders attended the three South West workshops, representing 36 organisations. | EQ Communications | 1) Local authorities (71%)<br>2) Non-governmental organisations (12%)<br>3) Academic institutions (6%)<br>4) Storage / renewables providers and installers (3%)<br>5) Local enterprise partnerships (3%) | 65 |
| Sep-20 | Phase 3 - Defining Outputs | Social Obligations Workshop | E047 | WPD held an online workshop to discuss its social obligations programme with stakeholders. 57 stakeholders representing 48 different organisations attended the online workshop. | EQ Communications | 1) Non-governmental organisations (23%)<br>2) Charities (23%)<br>3) Local authorities (16%)<br>4) Utilities (12%)<br>5) Community energy groups (11%) | 57 |
| Jul-20 | Phase 3 - Defining Outputs | Engagement with a LEP – (Energy Steering Group) | E048 | Engagement form completed by a West Midlands LEP - Energy Steering Group. 7 stakeholders in attendance. | WPD | 1) Local authorities (43%)<br>2) Other (29%)<br>3) Government (14%)<br>4) Utilities (14%) | 7 |
| Aug-20 | Phase 3 - Defining Outputs | Staff session virtual Lunch and Learn with a Trade Association | E049 | Virtual Lunch and Learn session with approximately 10 staff from a Trade association. This event has been recorded although there was not sufficient feedback generated and therefore has not contributed to the main body of the report. | WPD | 1) Trade associations (100%) | 10 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Oct-20 | Phase 3 - Defining Outputs | WPD costumer panel on the Business Plan | E050 | Virtual panel with sub-group set up to review and feedback on WPD Business Plan commitments summary report. Included meeting and email feedback.<br>This event has been recorded although there was not sufficient feedback generated and therefore has not contributed to the main body of the report. | WPD | 1) Consumer interest bodies (100%) | 3 |
| Oct-20 | Phase 3 - Defining Outputs | PSR Data share with Water virtual workshop | E051 | Virtual workshop attended by 12 DNOs and 2 industry body stakeholders on Data share with Water. | WPD | 1) Utilities (86%)<br>2) Non-governmental organisations (14%) | 14 |
| Sep-20 | Phase 3 - Defining Outputs | CIC Rural Vulnerability Research Panel meeting | E052 | Virtual workshop/research panel attended by 10 stakeholders to discuss and attempt to progress the research project brief. | WPD | 1) Utilities (60%)<br>2) Government (40%) | 10 |
| Sep-20 | Phase 3 - Defining Outputs | Call between WPD and a local authority | E053 | Call between WPD and an authority in the West Midlands to discuss the local meetings with other authorities. | WPD | 1) Local authorities (100%) | 3 |
| July-Aug-20 | Phase 3 - Defining Outputs | Distribution Charging Methodology Forum | E054 | Distribution Charging Methodology Forum, a Distribution Charging event held monthly, where key issues in the charging area are discussed. The event was help virtually via teleconference with approximately 22 | WPD | 1) Utilities (76%)<br>2) IDNO (14%)<br>3) Other (9%)<br>4) Energy consultant (5%) | 22 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | stakeholders.<br>This event has been recorded although there was not sufficient feedback generated and therefore has not contributed to the main body of the report. | | | |
| Jul-20 | Phase 3 - Defining Outputs | Flexibility Webinar | E055 | Heating and Flexibility webinar with an organisation on their updated Flexibility in GB report. 127 stakeholders were present.<br>This event has been recorded although there was not sufficient feedback generated and therefore has not contributed to the main body of the report. | WPD | 1) Other (100%) | 127 |
| Oct-20 | Phase 3 - Defining Outputs | Data share talks with a Water company | E056 | Talks to discuss a Water company's move to SPI as a legal basis for sharing and whether a two-way data share trial can begin as soon as possible. | WPD | 1) Utilities (80%)<br>2) Other (20%) | 5 |
| Jul-20 | Phase 3 - Defining Outputs | Hydrogen Development in Wales webinar | E057 | Kick-off meeting with a government group in Wales | WPD | 1) Other (93%)<br>2) Energy consultants (3%)<br>3) Government (3%) | 86 |

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|---|---|---|---|---|---|---|---|
| Jul-20 | Phase 3 - Defining Outputs | Working with a DNO to Shape Our Plans Roundtable | E058 | Virtual roundtable in the form of a webinar attended by 69 stakeholders. The objectives of the session were for a DNO to seek feedback on their business priorities, and understand how we would be involved across priority areas in their plans. Also to share their insights from conversations with stakeholders to date, and what they have learned. Finally share their future engagement plans, and give an opportunity to influence them, and understand critical factors for engagement success as part of and beyond the business planning process.<br>This event has been recorded although there was not sufficient feedback generated and therefore has not contributed to the main body of the report. | WPD | 1) Utilities (3%)<br>2) Other (87%) | 69 |
| Jul-20 | Phase 3 - Defining Outputs | Smart Electric Vehicle Charging with the Customer in mind webinar | E059 | The Smart Electric Vehicle Charging with the Customer in mind webinar, attended by 64 stakeholders, had the objective to discuss the challenges associated with smart charging and to have an understanding of how widespread the service was. Also to have an | WPD | 1) Other (94%)<br>2) Energy Consultant (3%)<br>3) Utilities (2%)<br>4) Flexibility service provider (2%) | 64 |

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|---|---|---|---|---|---|---|---|
| | | | | appreciation of a study conducted for Electric Vehicles. | | | |
| Sep-20 | Phase 3 - Defining Outputs | WPD Customer Collaboration panel | E060 | The virtual customer collaboration panel event facilitated discussions between WPD and 10 stakeholders from various segments, including government, local authorities, LEPs consumer interest bodies, energy consultants, charities, and academic institutions. | WPD | 1) Local authorities (20%)<br>2) Government (10%)<br>3) Charities (10%)<br>4) Local Enterprise Partnerships (10%)<br>5) Academic institutions (10%) | 10 |
| Oct-20 | Phase 3 - Defining Outputs | WPD Distribution RIIO-ED2 WTP | E061 | Programme of research focused on obtaining customer willingness-to-pay (WTP) values for potential service improvements/initiatives, to be used to inform the content of WPD's ED2 business plan. Accent and PJM Economics were commissioned. | Accent | 1) Domestic customers (83%)<br>2) Business customers (17%) | 1,188 |
| Sep-Oct-20 | Phase 3 - Defining Outputs | WPD Engagement Hub The future is Electric - | E062 | Quick poll responses on WPD's engagement hub as part of the Superfast Electricity consultation. | WPD | 1) Other (100%) | 38 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | quick poll responses | | | | | |
| Oct-20 | Phase 3 - Defining Outputs | Superfast Electricity Consultation Responses website submissions | E063 | This document summarises the consultation responses to the proposal to make three phase service cables our standard service cable for all new connections. Our consultation generated 18 responses. | WPD | 1) Domestic customers (28%)<br>2) Local authorities (28%)<br>3) Utilities (22%)<br>4) Energy Consultant (11%)<br>5) Developers (6%) | 18 |
| Oct-20 | Phase 3 - Defining Outputs | CCSG virtual meeting feedback form (summary) | E064 | Connections Customer Steering Group (CCSG) engagement form.<br>This is a summary report, and although recorded it has not contributed to the main body of the report to avoid repetition. The feedback it summarises have been assigned to their original source event. | WPD | n/a | n/a |
| Oct-20 | Phase 3 - Defining Outputs | CCSG virtual meeting minutes | E065 | The virtual meeting over Zoom was conducted to engage with the major connections stakeholder's expert panel, on our connections process, whilst endorsing our ICE incentive and to feedback on the evolving connections process, procedures and developments. | WPD | 1) Other (36%)<br>2) Utilities (18%)<br>3) Flexibility service provider (9%)<br>4) Storage / renewables providers and installers (9%)<br>5) Electric vehicle manufacturers (9%) | 11 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Aug-20 | Phase 3 - Defining Outputs | Utility company Superfast Electricity Consultation response | E066 | A Utility company's feedback on Superfast Electricity The Future of Service Cables Consultation July 2019 | WPD | 1) Utilities (100%) | 3 |
| Aug-20 | Phase 3 - Defining Outputs | Business stakeholder's Superfast Electricity Consultation response | E067 | Business stakeholder's feedback on Superfast Electricity The Future of Service Cables Consultation July 2020 | WPD | 1) Other (100%) | 1 |
| Sep-Nov-20 | Phase 3 - Defining Outputs | Digitalisation strategy & action plan consultation survey responses - WPD Engagement Hub | E068 | Survey responses of the Digitalisation strategy & action plan consultation on WPD's Engagement Hub from 30th August 2019 to 2nd November 2020. | WPD | 1) Energy Consultant (50%)<br>2) Other (50%) | 2 |
| Oct-20 | Phase 3 - Defining Outputs | Local Authority Distribution Future Energy Scenarios (DFES) | E069 | Distribution Future Energy Scenarios consultation with local authorities across all license areas. Stakeholders (local authorities) were asked to give feedback primarily on their development and technology plans.<br>The detailed feedback from the DFES engagement is available from WPD engagement team by request. | WPD | 1) Local authorities (100%) | 102 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Nov-20 | Phase 3 - Defining Outputs | Local authority stakeholder ULEV Strategy | E070 | Discussion and advice regarding the process needed to roll out an EV strategy with a local authority stakeholder. | WPD | 1) Local authorities (100%) | 2 |
| Nov-20 | Phase 3 - Defining Outputs | Measures of Success Research Qualitative Insights | E071 | Three staged, stretched engagement project provided customers with the opportunity to understand WPD responsibilities/challenges and immerse themselves in measures and outputs. | Accent | 1) Domestic customers (81%)<br>2) Business customers (19%) | 68 |
| Nov-20 | Phase 3 - Defining Outputs | WPD ED2 November Workshops South West Report | E072 | Regional virtual stakeholder workshop in the South West to elicit feedback from stakeholders on WPD's draft outputs for its Business Plan for the next price control period, RIIO-ED2, which runs from 2023–2028. | EQ Communications | 1) Local authorities (29%)<br>2) Other (17%)<br>3) Utilities (15%)<br>4) Parish councils (7%)<br>5) Developers (5%) | 59 |
| Nov-20 | Phase 3 - Defining Outputs | WPD ED2 November Workshops South Wales Report | E073 | Regional virtual stakeholder workshop in South Wales to elicit feedback from stakeholders on WPD's draft outputs for its Business Plan for the next price control period, RIIO-ED2, which runs from 2023–2028. | EQ Communications | 1) Other (34%)<br>2) Local authorities (20%)<br>3) Domestic customers (9%)<br>4) Developers (6%)<br>5) Utilities (6%) | 35 |

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| Nov-20 | Phase 3 - Defining Outputs | WPD ED2 November Workshops East Midlands Report | E074 | Regional virtual stakeholder workshop in the East Midlands to elicit feedback from stakeholders on WPD's draft outputs for its Business Plan for the next price control period, RIIO-ED2, which runs from 2023–2028. | EQ Communications | 1) Local authorities (36%)<br>2) Other (15%)<br>3) Business customers (6%)<br>4) Utilities (6%)<br>5) Domestic customers (5%) | 66 |
| Nov-20 | Phase 3 - Defining Outputs | WPD ED2 November Workshops West Midlands Report | E075 | Regional virtual stakeholder workshop in the West Midlands to elicit feedback from stakeholders on WPD's draft outputs for its Business Plan for the next price control period, RIIO-ED2, which runs from 2023–2028. | EQ Communications | 1) Local authorities (23%)<br>2) Other (16%)<br>3) Domestic customers (8%)<br>4) Energy consultant (8%)<br>5) Parish councils (5%) | 62 |
| Nov-20 | Phase 3 - Defining Outputs | WPD ED2 November Workshops Summary report | E076 | The summary document contains information from all four regional workshops delivered in November 2020, in the company's South West, South Wales, West Midlands, and East Midlands licence areas. The purpose of these workshops was to round off the co-creation stage of WPD's programme of engagement in support of its RIIO-ED2 Business Plan. Stakeholders were asked to comment on feedback that had been given in the previous round of workshop and to give their feedback on the draft outputs | EQ Communications | n/a | n/a |

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| | | | | WPD has produced as a result. In addition, they were asked to comment on whether they though WPD's priorities had changed as a result of the Covid-19 pandemic.<br>This is a summary report, and although recorded it has not contributed to the main body of the report to avoid repetition. The feedback it summarises have been assigned to their original source event. | | | |
| Nov-20 | Phase 3 - Defining Outputs | WPD Connections Stakeholder Workshop | E077 | Connections stakeholder workshop to seek feedback from stakeholders on the following topics: WPD's Connections Strategy; Digitalisation & data; Supporting the transition to Net Zero; and Strategic investment during ED2. | EQ Communications | 1) Other (23%)<br>2) Local authorities (19%)<br>3) Energy consultant (11%)<br>4) Developers (8%)<br>5) Utilities (85) | 53 |
| Dec-20 | Phase 3 - Defining Outputs | Youth Community Measures of Success Research Qualitative Insights | E078 | Research to explore the Business Outputs from a 'future customer' perspective. In the absence of face to face possibilities, step by step research journey undertaken via Zoom and LiveMinds to replicate the core customer research. The 18 participants, from the South West, South Wales and the Midlands, comprised of Sixth form | Accent | 1) Future customers (100%) | 18 |

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| | | | | students, university students, and graduates/1st jobbers. | | | |