



Western Power Distribution Connections Stakeholder Workshop

November 2020

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1 | INTRODUCTION

On 25 November 2020, Western Power Distribution (WPD) hosted a 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.

Because of Covid-19 restrictions, the workshop was hosted online. It consisted of short presentations given by WPD representatives, each followed by round-table discussions. In addition, stakeholders were asked to vote in an online poll on a number of propositions.

WPD instructed EQ Communications, a specialist stakeholder engagement consultancy, to independently facilitate the workshops and to take notes of the comments made by stakeholders. Every effort has been made to faithfully record the feedback given. In order to encourage candour and open debate, comments have not been ascribed to individuals. Instead, notes have been made of the type of organisation each stakeholder represents.

The full presentation can be found here with the agenda for the day on slide 11:
<https://www.westernpower.co.uk/downloads-view-reciteme/238447>

2 | EXECUTIVE SUMMARY

PARTICIPANTS

- 53 stakeholders participated in the workshop, representing 45 organisations.
- 19% of participants represented local authorities and 17% described themselves as energy consultants. 21% of stakeholders identified as 'other'. The majority of these were renewables developers.
- 33% of attendees who filled out a feedback form told us that they found the workshop to be 'very interesting' with 58% opting for 'interesting'.
- Most stakeholders participated because they were interested in hearing more about how WPD could support them in connecting low carbon technologies (LCTs) to the electricity network and how processes could be improved.

WORKSHOP ONE: WPD'S CONNECTIONS STRATEGY: A PLAN FOR RIIO-ED2

- Stakeholders were asked to vote in an online poll from 1 – 5 on six draft Connections outputs according to how they perceived WPD's level of ambition to be in ED2, with 1 representing 'do a lot less' through to 5 representing 'do a lot more', with 3 representing 'about right'. In every case the average score in the poll was above 3, meaning that they thought WPD should go further than planned.
- The highest-scoring output in the online poll was the output: **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**, scoring on average 3.69 / 5.
- Anything that could be done to improve the availability and accessibility of information was widely supported as it was acknowledged that the Connections process was highly complex, which may disadvantage smaller developers.
- The second highest-scoring output was: **We will 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)**. This scored on average 3.53 / 5. It was added that more should be done to explain to stakeholders and end customers how DNOs and IDNOs interact, as this was confusing and made it hard to compare costs.
- Stakeholders broadly endorsed all of the outputs discussed and could see how they had been derived from previous feedback. It was, however, felt that many of these outputs would benefit from having more measurable timeframes, costs of value to customers, for example.

WORKSHOP TWO: DIGITALISATION & DATA

- Stakeholders supported WPD's aspiration to demonstrate leadership in publishing network data, with relevant data presumed open and promoting its availability to customers. It was commented that there were a number of metrics that could be used to demonstrate this, beyond simply viewing how many people were accessing this data. Examples included how much money this saved customers, or how easy they found it to access or interpret the data.
- It was accepted that different types of stakeholder preferred different levels of detail with regard to data. Stakeholders were asked in an online poll to state the type of data that they most valued. The most useful for stakeholders at the workshops was API – pulling data to inform wider decisions. This scored 7.8 / 10. However, this was closely followed by high-level visual data, which scored 7.48 / 10.
- Many stakeholders wanted WPD to publish more real-time data and asked for more granularity of data, where possible, as this helped them to plan. The example of heat maps was given as this provided stakeholders with an understanding of where there is capacity on the network.

WORKSHOP THREE: SUPPORTING THE TRANSITION TO NET ZERO (LOW CARBON TECHNOLOGIES, INCLUDING EVS AND HEAT PUMPS)

- In addition to new EV and heat pump Connections, stakeholders were of the view that WPD should prioritise community energy projects, helping those who wished to participate in these projects to connect to the network.
- In terms of WPD's EV strategy, it was felt that the company should prioritise on-street charging. When asked to vote on this, 53% thought this should be WPD's area of focus.
- In terms of WPD's heat pump strategy, it was felt that WPD should prioritise new housing developments. 46% of these felt this should be an area of focus for the company, followed by 39% who were of the view that WPD should focus on off-gas grid properties. It was also felt that WPD should do more to educate customers on the benefits of heat pumps, as there is currently a lack of knowledge about them which is hindering their uptake.

WORKSHOP FOUR: STRATEGIC INVESTMENT DURING ED2

- Whilst stakeholders were of the view that engagement with local authorities was important as a way of informing future investment, it was not necessarily thought that this engagement provided a highly certain view. When asked to vote in the online poll, 40% of stakeholders either disagreed or strongly disagreed that this engagement will provide a highly certain view, with the most prevalent answer being 'neutral' with 42% of votes.
- It was suggested that this engagement should be broadened beyond just local authorities to include LEPS, housing and commercial developers, and strategic landowners.
- Stakeholders were broadly of the view that WPD should invest ahead of need to accommodate new developments and new LCTs as long as there was a degree of certainty that these developments would go ahead.
- Whilst there was support for socialising costs to accommodate LCTs, it was felt that it would be unfair if this disproportionately impacted customers in fuel poverty.

3 | OUR PLAN FOR THE FUTURE: BUILDING TOWARDS RIIO-ED2

Richard Allcock, Stakeholder Engagement Manager, introduced the workshop, giving stakeholders some background and context.

Richard outlined WPD's approach to producing its Business Plan. He explained that the purpose of the workshop is to round off the co-creation stage of the programme of engagement which has informed WPD's draft Business Plan outputs. He went on to talk stakeholders through WPD's future programme of engagement which would include an opportunity, in the new year, to negotiate specific output levels, performance targets, and expenditure as well as to co-create key strategies to set out how WPD will deliver the outputs stakeholders want. Then, from March 2021 onwards there would be opportunities to refine and agree specific output levels, performance targets and expenditure.

After the introductory presentation from Richard, Tim Hughes, Connections Policy Manager at WPD, introduced the session on WPD's Connections Strategy, after which stakeholders were asked to introduce themselves and state their reason for participating in the workshop before moving on to a discussion relating to WPD's Connections outputs.

Stakeholders came from a range of backgrounds. The most well-represented group at the workshop was local authority officers and councillors. These stakeholders participated for a number of reasons. Firstly, they were concerned with the growth agenda, specifically the growth in housing and commercial developments in their areas and how this could be accommodated given the likely uptake in Low Carbon Technologies (LCTs). Many cited the fact that their local authorities had declared a climate emergency and, as a result, had very challenging targets to achieve Net Zero. They were eager to learn how renewables and other LCTs such as electric vehicles (EVs) and heat pumps could be accommodated.

In addition, there were a number of renewables developers and Connections customers in attendance. These participants ranged from those representing large companies with a good deal of experience of the Connections process to those representing smaller developers and community energy groups. As well as hearing about WPD's plans and proposed Business Plan outputs, these stakeholders were interested to talk about how the Connections process could be improved to make it quicker and easier to connect to the electricity network.

1. WHAT IS YOUR NAME, ORGANISATION, AND KEY AREAS OF INTEREST?

“I’m currently focusing on solar and hybrid schemes. I’m also a director of a small community energy cooperative.” **Developer**

“I’m a sustainability officer. We have a renewables investment strategy and are looking for how best to reach our 2030 zero carbon target. We’ll need to have a mass upgrade to the grid before we can start building the infrastructure to meet that target.” **Local authority**

“I’m the head of a business unit that deals with microgrid solutions. I’m interested in the entire Connections process, and in terms of what your provisions will be for dealing with flexibility and the transition to becoming a system operator in the future and what that means for active networks in terms of your strategies for dealing with Connections across the patch.” **Business customer**

“We’re an ICP and I’m interested in the Connections process and how we can make it slicker. Your ICE plans are an area of interest for me.” **Connections provider**

“We are developing a geothermal power plant and are hoping to bring 3.15 MW online at the end of 2021, then develop future plants from there. I’m interested in new Connections.” **Storage and renewables provider / installer**

“I’m from an engineering consultancy. I work on behalf of large developers to buy up land and build industrial estates. I liaise with WPD on getting power for these.” **Energy consultant**

“I’m the founder and CEO of a low carbon biofuels developer and service provider. We’re just bringing our product to market now.” **Storage and renewables provider / installer**

“I’m a farmer and we use 100% renewables.” **Business customer**

“I’m from a renewable energy developer. We try to develop generation schemes in all of your patches. They’re typically 33KV Connections and anything above 10 megawatts.” **Developer**

“I work for developers generally developing large estates and putting new warehouses in, so I work a lot with WPD in setting up those very large Connections.” **Business Customer**

“I work as a street lighting engineer and I’m very heavily involved in car charging networks, so anything around that network.” **Energy Consultant**

“I’m a parish councillor with the environmental portfolio. I’m coming to this event with a community perspective in mind, as we want to put in place a large number of Connections and want to know how WPD could help. My main areas of interest are EV charging points, heat pumps and community solar projects.” **Parish / community council**

“I’m a farmer in Cornwall and run my farm purely on renewable energy. I’m interested in car charging, grid capacity and battery storage for power cut emergency.” **Business customer**

“I’m the senior low carbon investment officer at a local authority and I’m tasked with delivering renewables throughout Cornwall.” **Local authority**

“I’m at the Energy Systems Catapult, my area of interest is EV uptake and charging.” **Energy consultant**

4 | WORKSHOP ONE: WPD'S CONNECTIONS STRATEGY – A PLAN FOR RIIO-ED2

Tim Hughes, Connections Policy Manager at WPD, introduced the session on WPD's Connections Strategy, outlining the company's methodology of consultation for the next price control period (RIIO-ED2) which will run from 2023 to 2028.

Tim introduced the new Connections Strategy mechanism, explaining that the company would be judged by its performance on three high-level principles and associated Baseline Standards. He then talked stakeholders through the specific outputs WPD was proposing. Tim explained how stakeholder feedback had informed these outputs. Stakeholders were then asked whether they thought WPD had interpreted stakeholder feedback correctly, whether there was anything missing and whether there were any specific initiatives they wanted WPD to deliver. They were also asked to suggest any ways for WPD to measure their performance and delivery.

The first output discussed was: *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.* Stakeholders broadly felt that WPD could go further with regard to this output. When asked to vote on it, it was the highest-ranked in this priority area, scoring 3.69 / 5.

It was commented that the information provided on the WPD website was highly complex and somewhat onerous, with lots of forms to be filled out. It was felt that this could be overwhelming for some, particularly less experienced Connections customers. On a specific point, it was noted that when applying for a new heat pump it is not clear from the outset that Connections customers are required to fill out an EA form first. There was, however, praise for the information given by members of staff at WPD. In terms of any specific measurable targets that could be put against this output, it was commented that perhaps some research could be undertaken to understand how easy the information is to comprehend.

The second output discussed at the workshop was: *We will improve clarity concerning the availability of flexible Connections and promote access to deliver more efficient network utilisation.* Stakeholders felt that these proposed improvements would be helpful for stakeholders and that this was something that had been suggested in the past. When stakeholders were asked to vote on this output, it produced an average score of 3.52 / 5, indicating that this was an area where stakeholders felt WPD could go a little further than planned. In terms of specific initiatives that could be included under this output, it was commented that Connections surgeries could happen more quickly, as there are other DNOs who give a five-day offer of a surgery, which it was felt was something WPD should seek to emulate.

The third output discussed in the workshop was: *We will 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).* Stakeholders felt that these proposed improvements to cross-border working practices seemed like an appropriate output and could recognise how this had been derived from prior stakeholder engagement. It was suggested that engagement with end consumers would be a welcome addition to this output, as would more communication with other relevant parties.

It was commented that more clarity on pricing would be helpful as many customers have little knowledge of how costs differ between DNOs and IDNOs, or indeed the relationships between the two, which makes it hard to make a fair comparison. When stakeholders were asked to vote on this output in the online poll, from 1 – 5, the average score was 3.53 / 5, 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.

The fourth output stakeholders discussed was: *We will develop tailored processes for meeting different customer group needs from initial application stage to final connection and energisation.* Stakeholders were broadly supportive of having tailored processes for different customer groups at all stages of the Connections process. It was acknowledged that some Connections customers are not as well-versed as others, which can place them at a disadvantage. The example was given of one-off Connections customers who were looking to connect an individual development, such as a new factory. These people were clearly not going to be as up-to-speed as those working for companies specialising in Connections. It was felt that smaller customers should be given more support as they were being asked to dedicate a lot of resource to the process before they reached the point where they were given an offer. It was added that simplicity was key and that WPD should aim to avoid the use of initialisms and acronyms as this counted against those people who were not experts in the field. When asked to vote on this output in the online poll the average score was 3.27, 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.

The next output discussed at the workshop was: **We will engage with local authorities and local enterprise partnerships to understand their requirements for strategic investment in terms of changes in demand or network use.** There was broad support for this output, which had been suggested at previous workshops. It was added that WPD should ensure that it engaged with county councils as well as district, borough and unitary authorities, as counties may not be engaged with on planning (housing and commercial) but were responsible for highways and needed to coordinate street works with other utilities. Stakeholders felt that street works officers were often not engaged with as early as they could be, which made their jobs more difficult. It was added that timescales were becoming tighter for many Connections, with more and more low carbon technologies connecting to the grid and this was compounded in some local authorities as they were looking to decarbonise at a fast pace.

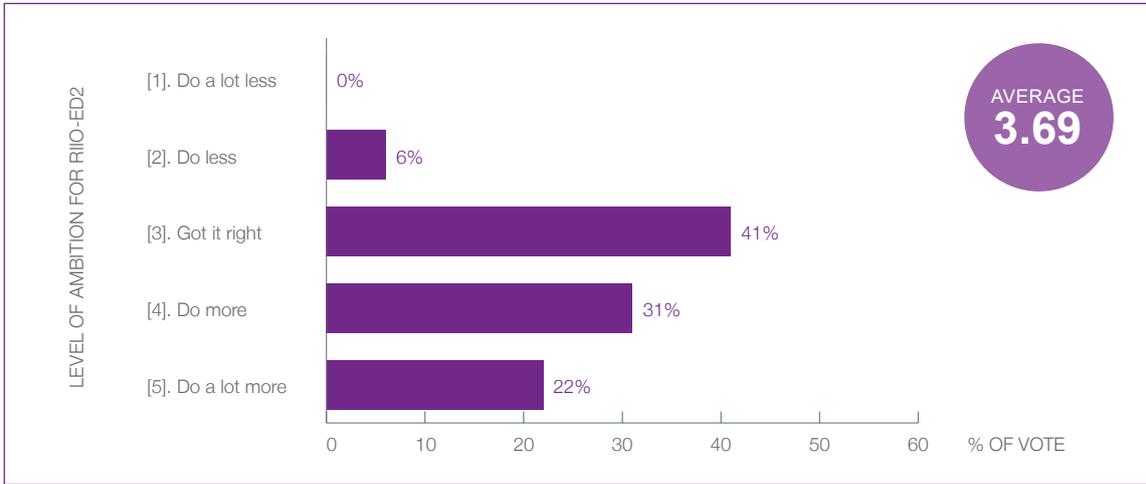
The final output discussed by stakeholders was: **We will develop processes to improve management of capacity allocation to mitigate against the underutilisation of capacity in constrained areas.** There was agreement that WPD had interpreted stakeholder feedback correctly, although it was noted that this output was quite high-level and would benefit from more detail. It was also felt that it would benefit from having some specific detail about what WPD proposed to do to improve its processes.

In terms of specific suggestions, stakeholders asked for more information to be given on where capacity existed in the network. It was added that this information should be accessible and easy to interpret so it didn't favour larger developers over those who had less experience or resource. When asked what specific measures or targets should be included, stakeholders said that they would like to see more information on timelines, with clear milestones in place to give them greater certainty.

Some stakeholders felt that there should be more flexibility around milestones and deadlines and that WPD should engage more with them so that developers did not lose their place in the connection queue for reasons beyond their control. There was some frustration expressed by certain stakeholders that developers had to go through a number of stages and invest a good deal of time and resource before they were in a position to find out what their connection would cost. It was felt that this disadvantaged smaller developers who had less resource. After the discussions, stakeholders were asked to vote on this output in an online poll from 1 to 5, with 1 representing 'do a lot less' through to 5 representing 'do a lot more'. If they thought this output felt about right, they could of course vote 3. In the poll, 55% of stakeholders opted for 3 / 5, although over one third (34%) opted for 4 (do more), or 5 (do a lot more). The average score in the poll vote was 3.24 / 5, which indicated that WPD had got this broadly right but could go a little further.

At the end of the discussion, stakeholders were asked whether they think WPD's proposed outputs meet the requirements of the high-level Connection Principles and associated Baseline Standards. It was commented that Baseline Standards were needed to ensure that there was a rigorous process in place to keep the Connections process moving so that customers looking to connect were not impacted by delays elsewhere. There was broad acknowledgment that WPD did have to follow certain requirements to make the process fair for all.

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



1. HAVE WE INTERPRETED STAKEHOLDER FEEDBACK CORRECTLY? IS ANYTHING MISSING FROM THE OUTPUTS PROPOSED?

Outputs to improve the availability of information were generally supported by stakeholders and this is a recurring theme at Connections workshops.

2. WHAT SPECIFIC INITIATIVES DO YOU WANT US DELIVER IN ASSOCIATION WITH EACH OUTPUT AND HOW MIGHT WE MEASURE AGAINST PERFORMANCE AND DELIVERY?

“I guess from our point of view there’s always things we can do better. I think the processes at WPD are equivalent if not better in certain areas. The working relationships they have with Connections providers in my experience is generally very good, and the work they’ve done over recent years to get that where it is. I think the proposals that come out from ICE will be interesting but think you do a pretty good job about being fair and open in the Connections process.”

Connections provider

“I don’t think you’re missing anything and the fact we can pay for new Connections on Visa is great. Otherwise, we were looking at 6-8 weeks of lead time. It’s not a strategic point so much as a practical one, but that has been very useful.”

Utility

“I think that while the information provided is presented clearly on the website, it can be overwhelming. What I have found helpful is that the WPD team has been very useful by giving us good and personalised responses as we find our way through the maze with so many categories and forms. On the general output side, our interest in the medium term is the distribution of available capacity no longer being used. We took over an existing connection from a landfill site which we’ve used for renewables, for example.”

Storage and renewables provider / installer

“The legal process is part of the journey and we already have a protocol. At the outset, that information has to not just deal with how to apply for a connection, but how to achieve it throughout the life of that particular application, i.e. the engineering, programming, and the legal aspects, so that everything is concluded.”

Business customer

“Just looking at the way the output is worded, saying that people can easily comprehend the process is a bit vague. Maybe something about how you’d measure that comprehension would make it a bit clearer. Maybe something along the lines of just asking them how well they’ve been able to comprehend.”

Energy consultant

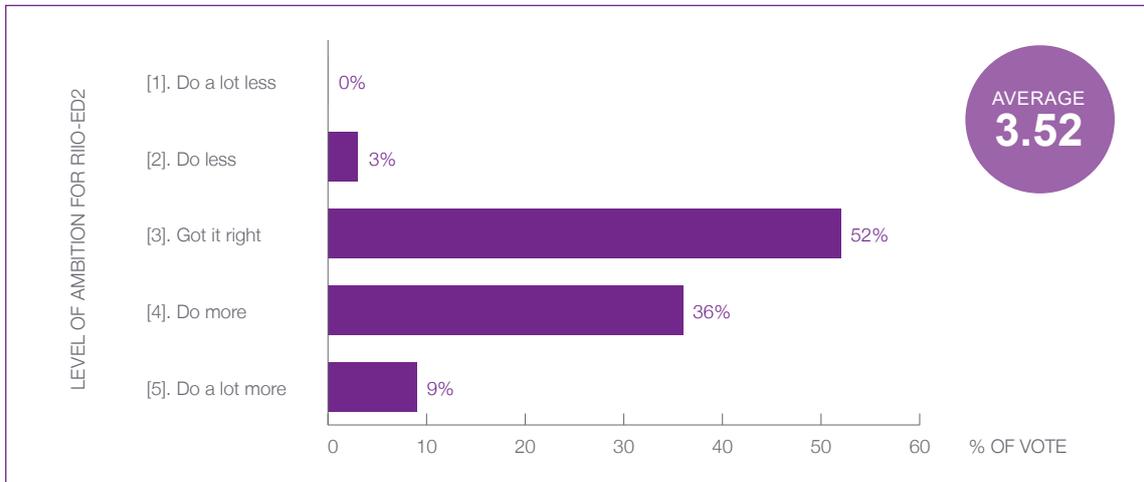
“It all looks like a sensible approach to me. It helps that everything is so simple. For many people doing this process it’s their first time, so just making sure that everything is simple to understand for them. I like the map on your website to show capacity and I think that’s a really smart move.”

Local authority

“I note that on your application forms, when somebody puts down if they want a heat pump, it doesn’t say anything about the fact you’ve got to complete the EA heat pump form first.”

Energy consultant

WE WILL IMPROVE CLARITY CONCERNING THE AVAILABILITY OF FLEXIBLE CONNECTIONS AND PROMOTE ACCESS TO DELIVER MORE EFFICIENT NETWORK UTILISATION



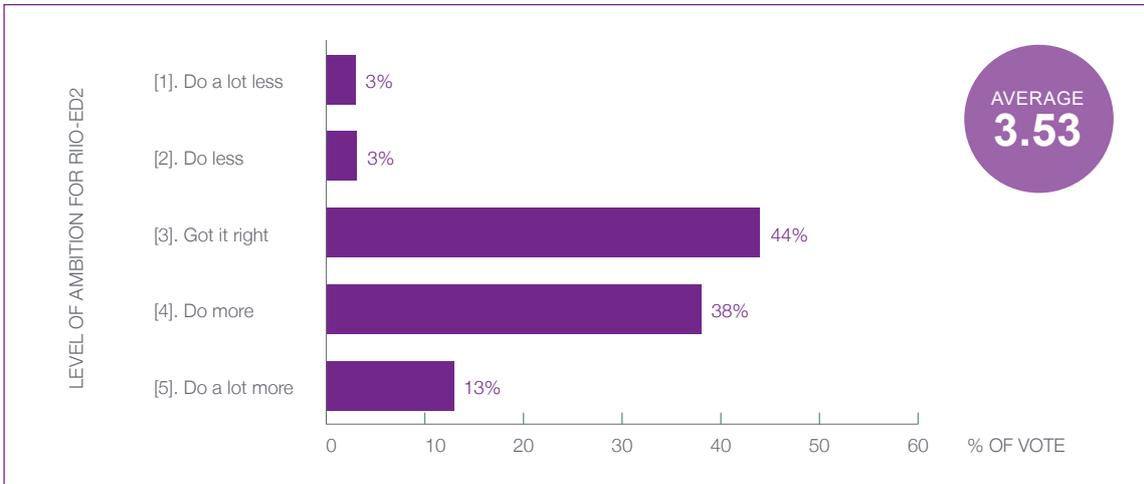
1. HAVE WE INTERPRETED STAKEHOLDER FEEDBACK CORRECTLY?

“I have asked for more clarity on this before. In my experience you still have to ask for specific flexibility offers. Are they going to be volunteered up as the most suitable consideration given the type of generation that you’re looking at?” **Local authority**

2. IS ANYTHING MISSING FROM THE OUTPUTS, ARE THERE ANY SPECIFIC INITIATIVES YOU WANT US TO DELIVER AND HOW MIGHT WE MEASURE THESE AGAINST PERFORMANCE AND DELIVERY?

“I think connection surgeries could happen a bit quicker. UKPN offer a 5-day promise on connection applications that WPD could look to emulate.” **Developer**

WE WILL 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)



1. HAVE WE INTERPRETED STAKEHOLDER FEEDBACK CORRECTLY?

“Close collaboration with Connections providers and DNOs is crucial. I can understand how this is an output.” **Utility**

2. IS ANYTHING MISSING FROM THE OUTPUTS, ARE THERE ANY SPECIFIC INITIATIVES YOU WANT US TO DELIVER AND HOW MIGHT WE MEASURE THESE AGAINST PERFORMANCE AND DELIVERY?

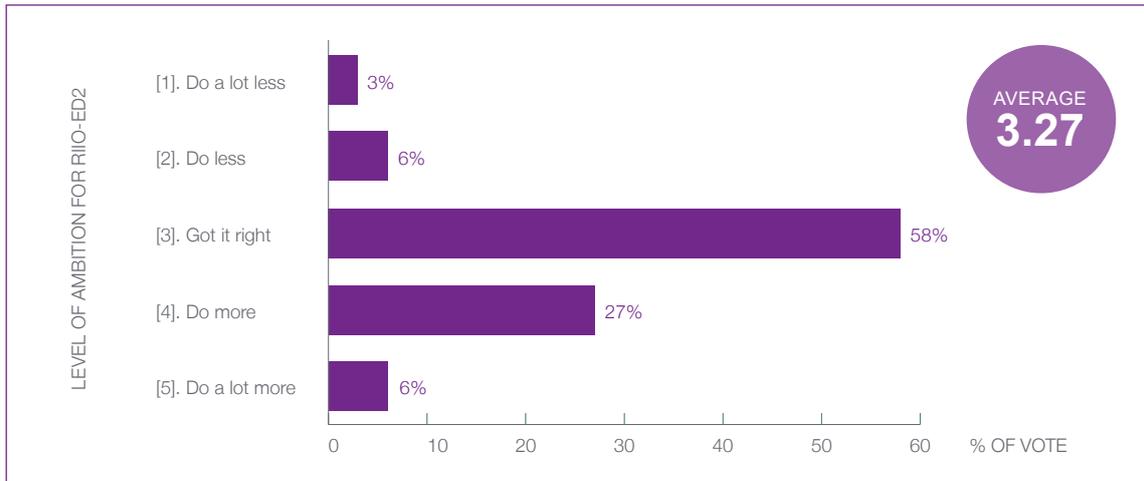
“Engagement with end consumers at the beginning of processes would be helpful.”
Storage and renewables provider / installer

“It seems to be unique to WPD in the way that WPD provide their communication solution that most generation Connections need. It doesn’t feel to me like much of the communication solution is made available to competition. WPD appear to have a sister company that seems to cling on to doing most of that work. It appears to be very expensive work when they’re doing it.” **Developer**

“Sometimes customers struggle to understand the whole network ownership, especially the IDNO interface. They understand they can go to a Connections provider but not necessarily understand the IDNO possibilities of the network and what that means to them.” **Connections provider**

“In terms of the Connections business, if we are handing the network back to WPD it’s full charge for connection effectively, it’s the cost of the work. If we’re handing over to an IDNO, we get return on asset value on that, and I don’t think the customers fully understand that when they’re comparing prices.” **Connections provider**

WE WILL DEVELOP TAILORED PROCESSES FOR MEETING DIFFERENT CUSTOMER GROUP NEEDS FROM INITIAL APPLICATION STAGE TO FINAL CONNECTION AND ENERGISATION



1. HAVE WE INTERPRETED STAKEHOLDER FEEDBACK CORRECTLY?

Stakeholders did not comment on whether WPD has interpreted stakeholder feedback correctly. However, the need to develop tailored processes for different customers was broadly welcomed in the discussions and this is certainly something that has been suggested at previous engagement events.

2. IS ANYTHING MISSING FROM THE OUTPUTS, ARE THERE ANY SPECIFIC INITIATIVES YOU WANT US TO DELIVER AND HOW MIGHT WE MEASURE THESE AGAINST PERFORMANCE AND DELIVERY?

“I do a lot with Connections and it is quite difficult for us because we work on behalf of developers and they work on behalf of investors. We find it very difficult to get up-front information, the response is ‘put in the application and we’ll give you a quote’, but that’s not what I’m looking for at that stage. What I need more is the conceptual information about what the potential capacity is.” **Business Customer**

“I think it follows on naturally from the previous one in the sense that customers should be offered flexible Connections. I know that the norm at the minute is that you get a firm, fixed connection and then you would look at reinforcement if it was necessary. But it would be good for customers to get some insight into what was possible so that they may be able to constrain their connection.” **Energy consultant**

“If you put a bold link in each of your quotation emails, I think that would be useful, because those of us who are looking for those high-capacity services would find the information about this very useful.” **Business Customer**

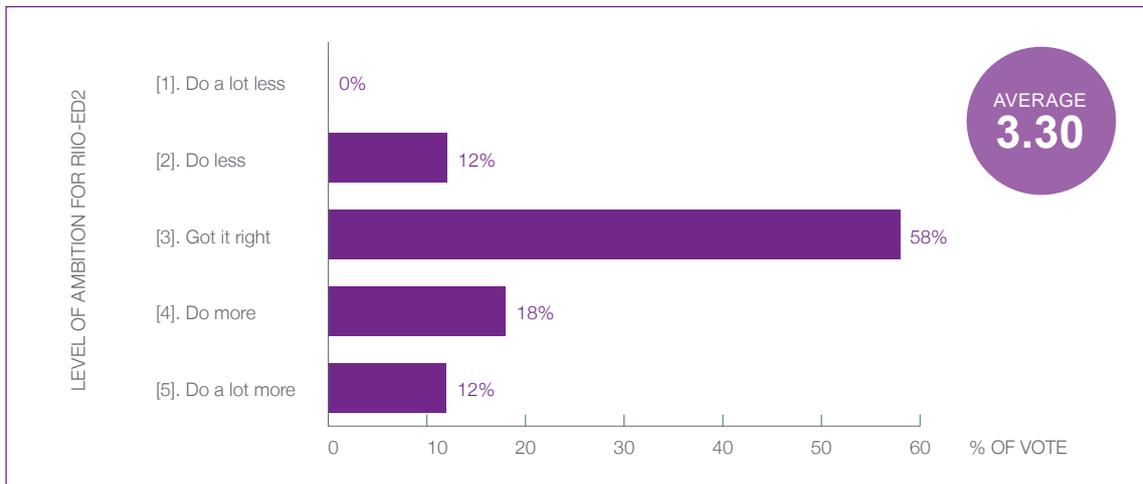
“I think it would be good to have a clear way of logging your interest in something quite early. Although this is encouraged, when you actually get in touch with the strategic planners, they say you have to make a connection application and spend the time to look at details. This is fine but you can only make an application when you are far through the process. There should be a logged informal dialogue on things that can then lead into an application. An ongoing portal of advice and conversation would be great.” **Local authority**

“Simplicity is the key idea here. Customers need to be given information in a simple manner.” **Parish / community council**

“The likes of WPD and ourselves fully understand the Connections journey as that’s our day job, whereas some of the customers are significant developers that do electricity Connections periodically. Or it might be that you’re a business that’s building a new factory and you’re choosing to do that work yourself, and it’s just a minefield to some people. I think understanding that asset ownership piece might help people in terms of the Connections journey anyway.” **Connections provider**

“I think that the problem arises with the complexity of the whole energy structure. People don’t understand how it works and what WPD actually does, particularly as DNOs are inclined to heavily use acronyms. You need to make sure that you strive to be simple and clear when discussing capacity allocation.” **Parish / community council**

WE WILL ENGAGE WITH LOCAL AUTHORITIES AND LOCAL ENTERPRISE PARTNERSHIPS TO UNDERSTAND THEIR REQUIREMENTS FOR STRATEGIC INVESTMENT IN TERMS OF CHANGES IN DEMAND OR NETWORK USE



1. HAVE WE INTERPRETED STAKEHOLDER FEEDBACK CORRECTLY?

Stakeholders were broadly supportive of this output, which had been suggested previously.

2. IS ANYTHING MISSING FROM THE OUTPUTS, ARE THERE ANY SPECIFIC INITIATIVES YOU WANT US TO DELIVER AND HOW MIGHT WE MEASURE THESE AGAINST PERFORMANCE AND DELIVERY?

“I also think that there is a lack of available information about the fact that a connection may be required in an area and if you’re looking at this from a street works point of view we’re probably the last people to know that the connection is going to be done. So, if we’re looking at highway resurfacing, or sharing road space to make roadworks more useful and less disruptive, we’re often the last to know that a connection is going to be required by a customer of yours.” **Local authority**

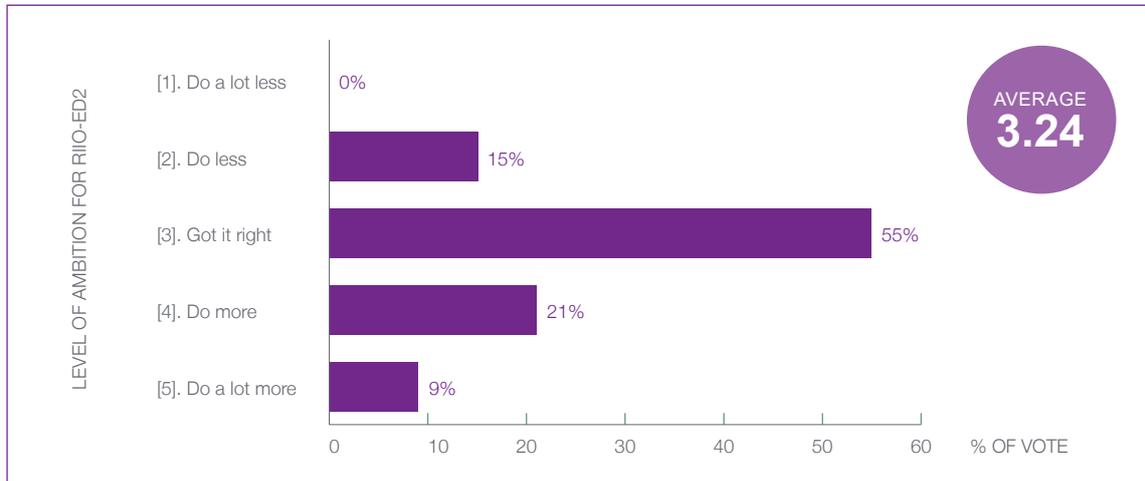
“I think the timescales were an issue in my previous role, which was in a WPD area. We were installing EV charge points and I think the timescales that DNOs work to are becoming much more compressed by low carbon technologies. They want quite high-capacity Connections in short order timescales. It does need to be improved so that the indications of when they can have the Connections are accurate and provided quickly. The price that was offered by WPD was only held for 30 days and we were working with local authorities that took longer than that to make a decision.” **Energy consultant**

“I’m not sure about a target because it is very difficult and will vary from area to area, but I do think the street works team is the last to know that something is going to happen, and it’s just joining that together. Somehow, we don’t seem to be very 21st Century with the systems that are available today, and things like Street Manager maybe will help with this in the future, with forward planning information being more readily available than it was before.” **Local authority**

“Across WPD’s region you’ve got a number of different local authorities. A number of them have made commitments to decarbonise our electricity, so some sort of action plan to align with the requirements of particular local authorities. In Cornwall we’ve declared 2030, other people are slightly less ambitious and we’ve got the overall government target of 2050. There’s easily measurable metrics that can be aligned to that.” **Local authority**

WE WILL DEVELOP PROCESSES TO IMPROVE MANAGEMENT OF CAPACITY ALLOCATION TO MITIGATE AGAINST THE UNDERUTILISATION OF CAPACITY IN CONSTRAINED AREAS

When asked to vote on this output in the online poll, 55% of stakeholders felt that WPD had got it right, 21% felt WPD should do more and 9% felt WPD should do a lot more.



1. HAVE WE INTERPRETED STAKEHOLDER FEEDBACK CORRECTLY?

“It looks pretty good to me. Obviously, they’re very high-level commitments but otherwise they’re quite well-answered” **Energy consultant**

“I’m more involved with the water sector but I am interested in how you operate in the energy sector. It’s interesting how you’ve used stakeholder engagement to get these outputs because we just speak to customers when making our plans.” **Utility**

2. IS ANYTHING MISSING FROM THE OUTPUTS, ARE THERE ANY SPECIFIC INITIATIVES YOU WANT US TO DELIVER AND HOW MIGHT WE MEASURE THESE AGAINST PERFORMANCE AND DELIVERY?

“It might be useful to outline how you plan on improving the outputs you’ve proposed.” **Energy consultant**

“The potential is there for strain on the grid. I know there is uncertainty at a high level in WPD. People say they will look into each and every case but, on the ground, managers seem to be bound by quite strict rules.” **Local authority**

“You need to show that we won’t lose the connection if a period of time expires. Giving definite time period allocations to customers would be helpful.” **Utility**

“I think that speed of response is important. A lot of people connecting now are not familiar with the process and need an indication quite quickly of what the anticipated cost is going to be so that they can make a decision on whether to proceed.” **Energy consultant**

“In Leicestershire, the LEP had mapped grid constraints and made these publicly available. This is really important for providing a solution with constraint localities. You should make this information available and coordinate that with LA strategic planning.” **Storage and renewables provider / installer**

“I had a very good experience with the connection process. The frustration I had was that people went out and locked up all of the Connections and potential capacity. In the areas surrounding substations you’ve got big developers locking up the capacity and forcing the landowners to go through them as an intermediary.” **Community energy group**

“In terms of availability of information and its accuracy, I would like it as that could somehow feature.” **Developer**

“There’s always going to be a problem sharing out capacity. It’s hard to know how to address this.”

Storage and renewables provider / installer

“There are milestones that need to be met in Connections offers. If we don’t build that solar park or can’t prove that we’re making real steps towards it, WPD are allowed to take that connection away from us. If you’re building a big solar park that will take years and years.” **Developer**

“I think the timescales that WPD work to and achieve at the moment are absolutely fine. My point was regarding the output and developing the Connections process, it’s getting more difficult for us, certain processes are a dark art really.” **Business Customer**

“Perhaps an annual or biannual engagement with the local authorities and perhaps cross-reference that in the planning system. Perhaps there’s a timeframe that if you haven’t submitted something to the planning authority within two years then you’re going to have that taken off you.” **Local authority**

3. DO YOU THINK OUR PROPOSED OUTPUTS MEET THE REQUIREMENTS OF THE HIGH-LEVEL CONNECTION PRINCIPLES AND ASSOCIATED BASELINE STANDARDS?

“I think we’re getting to a point where the relationship and the amount we rely on each other is at about the right level. I think we get to a point where we’ve got to add some rigour and process to make sure the whole network doesn’t suffer at the principle of a commercial gain for a connection. I don’t think there’s much further we can go with that Connections process without breaking it in some sense.”

Connections provider

“With regard to 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’), it’s effectively saying that slow-moving projects are at risk of being ‘cul-de-sac’ed’ if they’re at risk of impacting on customers. It’s a far more ruthless, rigorous, and less tolerant approach being applied for projects that aren’t moving forward. It looks to me like a potentially significant standard to that principle, in that you’re not tolerating delays to other potential customers.”

Business customer

“The proof will be in the pudding. I think you need to have a clear mechanism so that when someone comes across a challenge or solution in the Connections process, they can give feedback as and when it arises. You could be more focused in collecting that customer feedback.” **Utility**

5 | WORKSHOP TWO: DIGITALISATION & DATA

Jonathan Berry, DSO Digitalisation and Data Manager, outlined the steps necessary for a transition to a digitalised energy system, and how WPD's approach around open data supported this. Jonathan detailed WPD's progress thus far, including real-time monitoring of Time-Series Data Store information and the launching of a single point of access for data across their network.

Jonathan then outlined WPD's proposed roadmap towards the availability of self-serve data, explained what datasets were being prioritised, and what outputs WPD were proposing in this area. Stakeholders were then asked how this network data should be provided, how WPD's progress in the area should be measured, and what best practice they had seen from the industry as a whole.

In terms of metrics that could be attributed to ensure that WPD demonstrates leadership, it was suggested that cost savings could be used to show value for customers. It was added that this could tie in with insight gained on how data had freed up capacity, removed bottlenecks in the Connections process or helped reduce planners' workloads. Stakeholders didn't necessarily agree with metrics being applied based simply on number of hits or interactions on the WPD website because most people were unaware that much of this information is available. It was, however, commented that research could be undertaken based on how useful this information is for them and how relevant it is. It was added that this could be done by adding a short survey as part of the application process and that the data derived from this could be used to drive improvements.

WPD was praised for its MPAN search function which was seen to be sector-leading. The company was also praised for the information it gives to a software provider it works with to make the data accessible for others.

As a rule, it was acknowledged that different types of customer required different levels of information. For some, a simple traffic light display of capacity and constraints would be helpful to simplify planning, as would block graphs or infographics that are easy to interpret at a glance. However, others preferred raw data provided in spreadsheets. Stakeholders were broadly supportive of publishing data in API format so other parties could use it, including in conjunction with software provided by other companies. The point was made that API was useful as it showed real-time data which was particularly useful for some, whereas high-level data was simply a record of something in the past which was not helpful for everyone. Many stakeholders cited the need for geovisual data to be presented in the form of heat maps so that they could easily see constraints and capacity on a map. Stakeholders were asked to vote on what type of data they preferred in an online poll. When asked to vote on how useful API data was, one third voted for 10 / 10. This was the highest-ranked of all, with an average of 7.8 / 10. Raw data was also helpful for many stakeholders. It scored on average 7 / 10, with 45% of stakeholders voting eight or more out of ten. Many others, however, said they preferred high-level visual data. This averaged 7.48 / 10 with 59% voting eight or more out of ten.

It was commented that WPD could support certain customers by educating them on how data could be useful for them as some of the data the company provided was not clear for everyone. It was also felt that the data shared by WPD should be standardised and aligned with other DNOs / DSOs so that fair comparisons could be made. It was added that this should be a role for the regulator, as it was not necessarily clear what constituted 'industry-leading' at present and this could be open to interpretation.

Many stakeholders clearly wanted as much granularity as possible, so they could plan accordingly. It was also stressed that this data needed to be accurate, as there were examples of Connections customers being told that there was no capacity in certain areas before finding out that there was. It was, however, acknowledged that this may be a resource issue rather than a technical one as stakeholders stressed the need for there to be adequate planner capacity in order to provide up-to-date data.

It was also noted that WPD provided an app, based on power usage and carbon intensity at different times of the day, which was helpful to customers. However, it was felt that the company could do more to promote it as many people did not know of its existence.

In terms of examples of best practice from elsewhere, UKPN was praised for the prompt service it provided for Connections customers. Northern Powergrid (NPG) was also singled out for providing the details of individual system planners on their heat maps, which was particularly useful. NPG also had a map-based self-service Connections tool which allowed customers to zoom in on individual assets, which was helpful. It was also noted that UKPN was developing a way of displaying committed capacity. The example was also given of a specific project on the likely uptake of EV charging which an energy consultant was involved in, alongside SP Energy Networks. This was seen as something WPD should take note of.

1. WHAT METRICS CAN WE ATTRIBUTE TO THESE OUTPUTS TO ENSURE THAT WE DEMONSTRATE LEADERSHIP IN THIS AREA?

“Clearly this is a big issue. If you were looking for a high-level metric, I would be looking at some way of measuring the value created. One of the things on people’s minds is the fact that we all pay for the network and we all pay for reinforcement. Measuring these two things against each other could be a good way of determining value.” **Energy consultant**

“I think this looks good. I think metrics about how many customers there are. Where we find the bottleneck at the moment is in getting quotes and getting them delivered. There’s a massive lag whilst waiting for someone to get back to you. One metric for measuring its effectiveness is to look at what questions are bottlenecking the process. Some kind of metric around how stretched WPD planners are would be a good route to change.” **Local authority**

“If it’s a 700kW transformer and there’s 400 available, if someone wants to put 300 onto it that makes 100 available. It’s taking those areas where people want to be inputting energy into the system and looking at how you can amalgamate that data into something useful.” **Community energy group**

“I think it’s a mistake to look at numbers of hits or interactions in the early days because until people know it’s there, they won’t use it. There will be a latency so you might think you’re not doing a good job when actually people just don’t know about it. The amount of data visible will be the driver. If you put it there, people will come.” **Utility**

“I’d echo that last point. A measure of success is how well WPD market it. People will only come if they know about it.” **Energy consultant**

“With Net Zero, you could have metrics for carbon emission reductions achieved by the solutions.” **Storage and renewables provider / installer**

“If you can measure against the different types of people accessing and using the data and why they’re using it, that would be helpful. Data needs to be relevant to the people accessing it. You should ask people what they’re using data for if possible.” **Storage and renewables provider / installer**

“What are the timescales for data availability? It would be good to have timetables in place for data availability. This would be very useful in terms of delivery.” **Academic institution**

“You should look to provide a citation list or index. If the data has been cited by public policy, who has been doing this? It would be good to track this downstream and see what policy is being informed. Whoever is using the data must be using it for something.” **Storage and renewables provider / installer**

“The data needs to be clearly understood and appropriate for those accessing it.” **Storage and renewables provider / installer**

“I think the access to the data is very easy to demonstrate but it’s the quality of the data as well. There’s an issue across all DNOs because they go back 80-90 years and we’ve only been digitalising for the last 30 years. Quite a lot of data has been fixed up and generated from hand-drawn scans and all sorts. The quality of the data is a measure of how successful they are in this.” **Energy consultant**

“You can also do some quantitative data on how much of the network is covered.” **Energy consultant**

“They should have a process to improve it as well, so that when there’s feedback, it’s corrected as the single source of the truth. Whatever they use as their base repository for data should be actively maintained based on active work.” **Energy consultant**

“Presumably, you’d be able to count who’s accessing the data? But maybe if someone is submitting an application, you just add a question to the form, ‘which of this information did you use before making this application?’” **Developer**

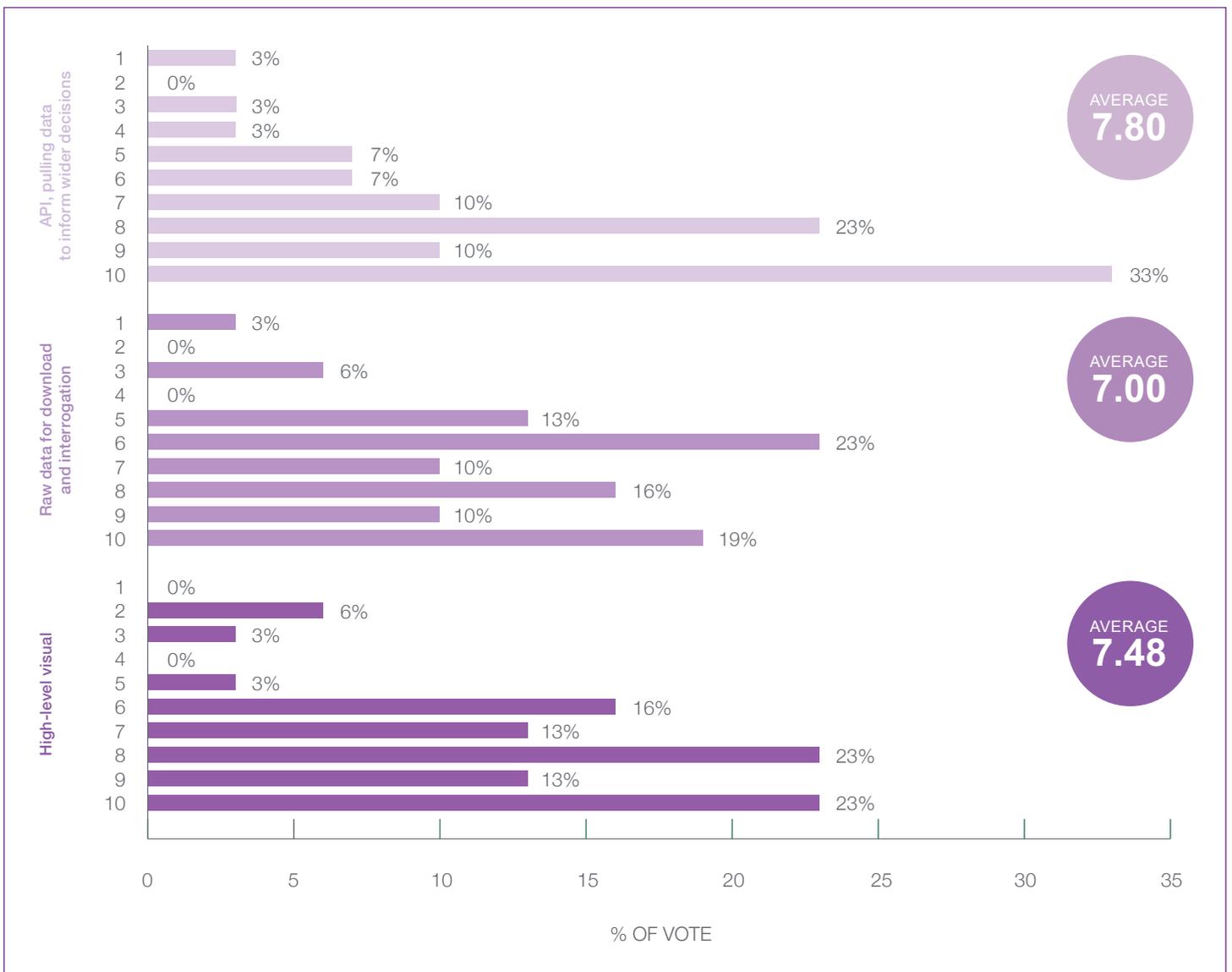
“We have a vested interest because we’re developing tools that use the DNO data. We’re also making that data available through some Connections tools. I’m aware of the issues with the data, which are not unique to WPD. It’s the history of the way the industry has evolved.” **Energy consultant**

“WPD are extremely clear to us how we need to make the data that we gather in the field accessible to others. I don’t have any experience of using this data but that’s my experience. WPD has a clear understanding of using this data and how it should be shared, which I don’t see elsewhere.” **Storage and Renewables Provider / Installer**

“I used the data for WPD that I feel is appropriate to me and I do find them industry-leading - the one function I use is the MPAN search facility and it definitely seems to be industry-leading. I can’t relate to other usage of data and I have some major concerns about capacity, especially with people adding EVs to their network, so it comes with a caveat. If I look at the MPAN search facility with SSEN, I’ve asked SSEN to model it on the WPD one and they’ve made theirs very similar to yours. Those who don’t work across borders wouldn’t know that there is a better one.” **Energy consultant**

“I don’t know exactly what you’re recording at the minute because I don’t know the data that’s being worked on. But for example, Net Zero and carbon reporting. If that’s going to be made available, then the calculation methodologies need to be clear. That doesn’t just apply to carbon, there’s probably other services it can be applied to.” **Business customer**

2. HOW DO YOU WANT THIS DATA PRESENTED TO YOU?



“How aligned is the digitalisation and the data you’re going to put out there with the other DSOs and DNOs in the country? Have you spoken about the different types of data you’re going to put out there, and is it going to align so someone could do a national assessment?” **Local authority**

“First of all, the provision of information is grand provided the people who are receiving the information are qualified to interpret it correctly. There is a big issue with that, so it needs to go in hand with education. The other issue is that this is running very parallel with the transition to a DSO. For me this is exactly what a DSO should be doing, but the regulator doesn’t seem to agree with this. In terms of being industry-leading, it could be, but it depends on whether this is the way that the regulator decides that people should be doing it.” **Energy consultant**

“I used the EV mapping when planning charge points. Interestingly, it hasn’t correlated with reality and maybe that’s because the data on EV mapping is quite high-level at the moment. We were being told connectivity was constrained in a certain area but when we put in an application, the impact it had on an individual connection is not what we thought it would be. It would certainly be really helpful to be able to query with quite a high level of granularity, very specific to areas. In reality, I think the capacity of the strategic planners to do this is not there. It’s not that they’re unwilling to, but the issue is the time or level of data available on a day-to-day basis. The general answer you get unless you are putting in a connection request is that they can’t tell us the information unless they have done a detailed network study in that area.” **Local authority**

“I like the idea of API data being made available at lower voltages but accept that it is an ever-harder challenge. One avenue that we have discussed is using smart data where we don’t have LV visibility. That will give us some basis for making Connections evaluations and decisions.” **Utility**

“I can’t stress how important having adequate planner capacity is. There’s a red, amber, green map which is useful and accessible. One of the tools that WPD have provided that I really like is a little app that helps consumers know their carbon intensity and what time to use their power. I think some kind of promotion or advertisement of this app could be a fantastic resource to get control of the grid.” **Local authority**

“I would like to see it as an API. In the South West we’re already using Elexon and we use APIs from other energy companies. I certainly see this high-level stuff as useful, as we can use it internally in PowerPoints, but if there’s an API there we can build an interface and use it.” **Utility**

“Maybe less so as raw data because I’m more interested in the current situation. High-level data shows what’s already happened, whereas API shows what is happening now. The section here looks useful to give a flavour of what’s going on.” **Utility**

“I’d support a graph like that, but you could have a facility where the user can choose the format in which the data is presented and say: ‘I want a graph’ or ‘I want a pie chart’. Whatever suits their needs the best.” **Storage and renewables provider / installer**

“From a research point of view, it doesn’t matter whether there’s an API or not. Raw data may even be preferable. It all depends on who the data users are. What is the frequency of data available? Is it per 15 minutes or per hour? We would prefer every 5 minutes or even shorter periods from a research perspective.” **Academic institution**

“You should have a geospatial map. Where are these installations? If I’m a project developer I want to know where these facilities are. You could incorporate a heat map into this as well.” **Storage and renewables provider / installer**

“The high-level data gives you an overview. That geovisual thing is very important. As a developer you can look for the potential to connect LCTs. The data is good but is at an early stage.” **Storage and renewables provider / installer**

“This is a good starting point, but we need to drill down from that. We’d want area-specific data from WPD” **Utility**

“You should provide clickable areas to access the information that stakeholders require.” **Storage and renewables provider / installer**

“I think I am a bit out of my depth in this meeting. I suppose for us, the data you provide on the capacity we can take as we look to get rid of gas in our buildings is really important. We have export limitation on one of our sites so it would be good to understand whether WPD’s side of things will allow us to do this.” **Academic institution**

“For the most common category of end users, the API is useful. It is what would be used by software developers to produce high-level visuals. There’s probably a category of people, ICPs, IDNOs, that would be interested in downloading spreadsheets to analyse. The majority of people would want to have some infographic that would give them a very quick indication of what they wanted to find. To see what flexibility options they have and what kinds of costs there are. It would be the software developers using the API that would produce that output.”

Energy consultant

“There’s an awful lot more people that use Google Maps as a parallel. So, if you could see where the substations are and whether they’re at amber, green etc. you’d be more likely to connect. That would be more interesting than having to use an API. It opens it up to be available to anybody to use.”

Energy consultant

“In that bar chart on the right, what does that actually tell you? Are any of those areas, East Midlands, for instance, that full up? Can it take any more? It’s not really that useful, I don’t think.”

Developer

“It seems to me that the approach is the right one. You provide different levels of data depending on who your audience is, and for a lot of people the high-level infographic stuff is all they’re looking for. For others, they’ll need to interrogate it more closely. With our connection work, we provide information on the legal process and that’s done in a high-level infographic way, to give people an overview. That’s what a lot of people want, I think.”

Business customer

“I think the danger of data is that you need people to be asking the right questions. Sometimes people have skewed what they are asking and so get a different result. I think it is difficult and you will have niche people like highway authorities who are interested in specific things but not necessarily what is available from WPD. Sometimes looking as a domestic customer you don’t realise you can go to a third party and get connection done elsewhere. The information about competition needs to be readily available. From a road works point of view, how much excavation is going to be required to build a network suitable for EV charging at home and omitting carbon-fuelled homes. We are going to need a lot of work on the reinforcement of local areas to make sure the network is resilient to cope.”

Local authority

“The generation graph is incredibly complex, but the accepted connection one is very simple. It would be better to have the generation data presented as a block graph. This links back to the idea of simple messaging about Connections so that everyone understands.”

Parish / community council

“More thought needs to be put into the target audiences for graphs that display information about Connections. If they are for a general audience, they would need to be simple so that everyone understands them.”

Parish / community council

“Block graphs and pie charts would be the best options for displaying information about Connections.”

Parish / community council

3. WHAT ARE OTHERS DOING IN THIS AREA IN TERMS OF BEST PRACTICE?

“If you go to the front end of UKPN and ask for a connection they’ll provide it within 5 days.”

Developer

“Re-convening discussions at regular intervals is really important. People have to have a sense of partnership with the DNO.” **Energy consultant**

“Northern Powergrid have the individual system planner contact information on their heat maps, this stops the bottleneck caused by everyone trying to get connected to the right person at the front end of the company.” **Developer**

“We have developed a self-serve Connections tool for Northern Powergrid, which is public. It’s map-based. You can zoom in to the level of the individual assets and then connect to a cable and it will give you an indicative price of the connection.”

Energy consultant

“We’re developing a project which involves transport as well, so you can see where EV uptake will be. It’s a project called Charge.” **Energy consultant**

“We do use the Ordnance Survey API because it’s map-based. I know that the Ordnance surveys have datasets for the water companies, so there must be some experience from a similar set of asset management problems from other industries.”

Energy consultant

“I think around this data piece of thinking, one of the reasons why WPD has been successful at it is that they accepted some time ago that the role of the DNO and the systems around the DNO had to change, nothing is sacrosanct. In the past all these different systems would have been kept a secret and WPD said that this is not OK. They were also very aware of the danger of cyber-attacks, and so they set about finding a way of balancing these two aspects. APIs are a way of doing that, where you let data go in and out, but you do it through a secure gateway.”

Storage and renewables provider / installer

“UKPN is looking to display its committed capacity and available capacity for Connections, so that all of our internal teams can understand the wider Connections picture.” **Utility**

“All of us DNOs need to strive towards making Connections information more accessible and getting it out to large numbers of people.” **Utility**

“A good long-term aspiration would be setting up some kind of an online platform with mapping of cables and assets. That way, customers would be able to self-serve and work out whether their scheme would be suitable.” **Utility**

“The big utilities such as National Grid and Scottish Power are doing a lot. You should work with them.” **Business customer**

6 | WORKSHOP THREE: SUPPORTING THE TRANSITION TO NET ZERO (LOW CARBON TECHNOLOGIES, INCLUDING EVS, HEAT PUMPS)

Paul Jewell, DSO Development Manager, began by outlining the challenges to network capacity posed by electric vehicles (EVs), heat pumps, and the increase in low carbon technologies (LCTs).

Paul described the changes that WPD had made based on stakeholder feedback from its last distribution price control period (RIIO-ED1), including the discontinuation of smallest cable sizes, the upgrading of assets in areas expected to become LCT hotspots, and the mandating of three-phase service cables. Stakeholders were then asked for their priorities for WPD's EV and heat pump strategies, and whether WPD had areas outside of Connections to address.

In addition to new EV and heat pump Connections, there was notable support for WPD to help communities looking to generate their own energy. Some stakeholders were of the view that community energy projects should have their Connections to the grid prioritised over commercial developers, while others suggested direct funding, technical assistance, or greater standardisation to encourage them to connect to the network. It was also added that WPD should look at the most cost-effective solution for communities, which could involve generating energy from waste or even adopting a whole systems approach using other energy vectors such as biomass.

There was acceptance that the electricity network needs to be reinforced quickly in order to accommodate LCTs, but it was felt that this needs to be done in a sustainable and fair way that doesn't lead to a race to use all available network capacity and then penalise the next customer who comes along. It was also commented that customers should be incentivised for being greener and more environmentally aware. To address this, some proposed introducing tariffs for network users that were accommodating the growth in LCTs.

Stakeholders were of the view that WPD should prioritise on-street charging as part of the company's EV strategy. This was shown in the online poll, where 53% held that this should be the company's area of focus. Stakeholders' second preference was for supermarket charging (17%) while office car parks for employees and tourist hubs were their joint-third preference (both 13%). Furthermore, some stakeholders were of the view that a quicker rollout of fast-charging points could allay range anxiety amongst users and encourage the uptake of EVs including in rural areas where users were clearly worried about the practicalities of charging them. Stakeholders sought greater clarity on who would be paying for new EV Connections. Those representing local authorities were clearly concerned that the cost of new Connections would be passed onto them and it was added that network upgrades should be paid for in a way that was fair and that didn't waste customers' money, the implication being that less affluent customers who cannot afford to buy a new EV shouldn't be disproportionately impacted. Stakeholders argued that WPD should try to use its influence to affect regulations hampering EV uptake, while others argued that a greater provision of information, such as cost heat maps, would allow for better decision-making at the local government level.

Stakeholders were of the view that new housing developments ought to be WPD's highest area of priority concerning heat pumps, receiving 46% of the vote. It was added in the discussion that new developments represent the 'low-hanging fruit' in terms of rolling out this technology. This was closely followed by off-gas grid properties at 39% as, clearly, these people are paying more for their energy at present. Comparatively few stakeholders opted for prioritising retrofitting existing properties with gas boilers, at 11%. It was added by one stakeholder that many existing properties aren't suited to heat pumps because of their poor insulation.

Stakeholders were primarily concerned that a lack of customer appetite for new heat pumps would hamper their uptake and felt WPD could play a role in informing the public about their benefits.

1. IN THE WIDER CONTEXT OF NET ZERO, APART FROM MAKING CONNECTIONS FOR EV & HP, WHAT AREAS DO WE STILL NEED TO ADDRESS?

“Community energy covers a multitude of things. It covers a mega solar park or a tiny rooftop solar panel. The important thing for me is that we have smarter networks operating in a more dynamic way.”

Developer

“Life cycle analysis is something to think about. I know you’re heavily invested in heat pumps, but are there other technologies that can provide renewable heat? I know there’s biomass for example. This could be used to give you a very good indication as to whether you’re making the best investments.”

Storage and renewables provider / installer

“A quicker route that’s been missed is the local circular economy. Electricity is being supplied to organisations that generate a lot of waste. This waste can be utilised in a circular economy to generate materials and energy. You should look to provide mapping for this. A lot of waste is under-utilised. You need the resource availability and the technology to make use of this resource. You could have a distributed model for power generation and distribution. WPD can become a facilitator in this way.”

Storage and renewables provider / installer

“Funding for community projects needs to be considered. You can be a facilitator and enabler in this way in order to accelerate Net Zero.”

Storage and renewables provider / installer

“All of Net Zero really points towards electrification at the moment. There is going to be a big strain on the network as there will be lots of new Connections. At the moment, the way it’s modelled is that the customer pays for the new connection for what they require. So, it’s sort of a race to use capacity. If you get to the point that you’ve used the last of the available capacity, the next person that comes could have a huge bill.”

Energy consultant

“More works need to be done on tariffs and encouraging greener behaviour. The question is if you want to have the more damaging effect then you can, but you’ll have to pay.”

Energy consultant

“I’m not sure how WPD could address this, but the range of different Connections types offered by 12 or so companies. If there was a way of standardising the types of Connections, that would be great for consumers and community schemes.”

Parish / community council

“Our major issue is connectivity and putting energy into the grid. The network is slow to expand but needs to grow rapidly in order to accommodate new LCTs.”

Parish / community council

“I don’t think that the cables that WPD is putting in the ground will be sufficient to carry the power required to cope with LCTs.”

Business customer

“Having to wait for demand before investing in the network is not appropriate. We don’t have a great deal of time to change our habits and need to invest now.”

Business customer

“There’s nothing in there about reducing the carbon footprint or the embedded carbon of WPD’s operations. Everything from changing the concrete tower bases to the types of vehicles they use.”

Business customer

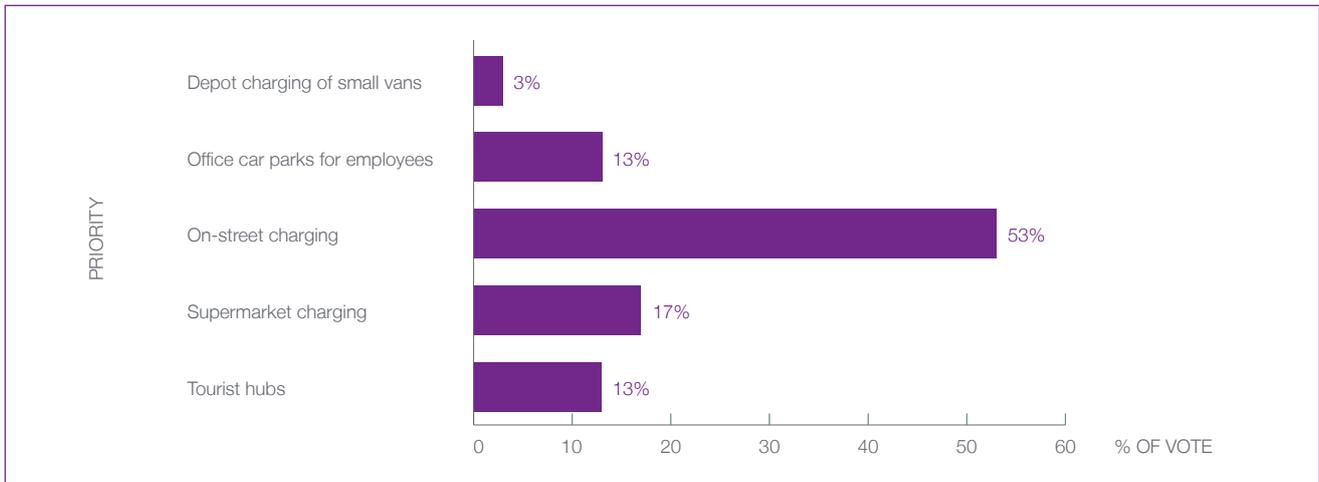
“It would be great to see some community energy Connections prioritised over those of national developers. The work that’s going on in Southern Wales could be huge. Great to see those kinds of projects promoted.”

Energy consultant

“As an industry there needs to be more funding and more political support. It needs to be everybody, the transmission companies as well as the DNOs. There’s got to be a long-scale funding regime, it needs to be a lot more holistic and well thought-out.”

Business customer

2. WHAT DO YOU THINK WE NEED TO PRIORITISE NEXT IN TERMS OF OUR ELECTRIC VEHICLE STRATEGY?



“I don’t believe Paul said anything about on-street charging points during the main presentation. Further development in this area is definitely required. Back to the figure of how many car park chargers you’re looking at, do you have that to hand? We’re looking at 3.2 million cars in the South West. Whether there will be that many EVs by 2030 is another question, but what’s your capacity for this? It’s about your being able to meet that demand.” **Local authority**

“I’m not sure about what WPD could do, but it would be useful to try and help improve range anxiety amongst users.” **Parish / community council**

“Some charging points are very slow, so I would like to see a quicker roll-out of the fast-charging points.” **Parish / community council**

“What seems to be escaping us is that extra layer of innovation and technological development. Local communities don’t have the ability to view cost heat maps and understand what they can demand from their local authorities. How do we make these more transparent?” **Energy consultant**

“We need to talk more about socialised charge. If someone wanted to put in an EV charger you would pay for the on-street connection to the charger. Would this also apply to on-street chargers provided by the council? If not is there any scope to change this. Our big question is who is going to pay for that three-phase connection. The government can’t expect councils to meet zero carbon targets if we’re expected to finance on-street chargers ourselves.” **Local authority**

“Before we socialise cost or at least lobby for it we need to work out if that is the only option. We should make sure we look into whether these sorts of costs are completely necessary before we start putting in the hard work of getting those costs socialised.” **Energy consultant**

“Obviously, you guys see the usage, but we don’t unfortunately. When we’re planning, applying, and installing EV charging points, we don’t know what the diversity number is. With your housing project, for example, I’d be interested to see the results of that.” **Energy consultant**

“Proof of technologies that work for rapid EV charging in these remote areas should be your priority.” **Storage and renewables provider / installer**

“Tourism has to be considered, but it has to be after getting it to work for people’s day-to-day. Otherwise, people won’t buy EVs.” **Energy consultant**

“For WPD you need to have a full menu of options, at motorway service stations and outdoor retail you won’t have an issue with setting these things up but what about the domestic home? That’s the worry.” **Storage and renewables provider / installer**

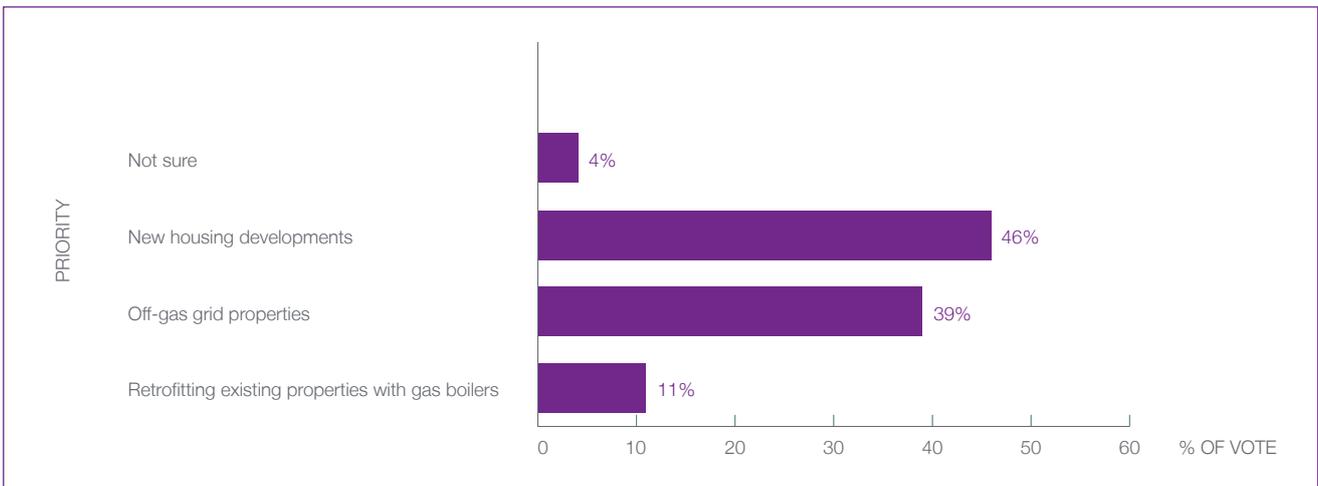
“Workplace charging will be incredibly important as well as supermarket charging. If we do this then we don’t have to have one at home. I don’t think these need to all be rapid charge points. The cases where charge points can be near to other buildings can really make use of these other buildings’ capacity.” **Local authority**

“I think that WPD should be promoting EV charging points and have the cabling in place to help people install chargers where they want. It should be working with councils in order to achieve this as quickly as possible.” **Parish / community council**

“I think 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 isn’t wasted.” **Utility**

“I think that there needs to be greater incentive for developers to innovate in relation to on-street parking, which must come from the government.” **Utility**

3. WHAT DO YOU THINK WE NEED TO PRIORITISE NEXT IN TERMS OF OUR HEAT PUMP STRATEGY?



“Having looked at heat pumps for years, I don’t think most houses in the UK have the insulation capacity for heat pumps. Without a certain standard of insulation, we’re going to be running these heat pumps incredibly hard in order to allow people the same level of comfort they get from their gas boiler.” **Community energy group**

“When customers talk about capacity needs, they always overestimate what they actually end up using. WPD have already got that information and I think they already have access to agreed supply capacity. Can they go back to customers and say: ‘you’re only using this amount of capacity, would you consider decreasing your stated capacity needs?’” **Energy consultant**

“It seems like the most sensible suggestion to focus on low-hanging fruit. It’s probably going to be something more for new housing developments rather than somewhere that it’s not going to be actually used.” **Business customer**

“It also comes back to how much they cost. All the schemes I know of are done by social housing providers mainly, who generally will be keener to use these sorts of technology. For your residential developers, it’s about how much it will add to the cost.” **Business customer**

“The financial structures to facilitate this scale of change are unclear.” **Local authority**

“We’ve been doing a lot of work in that area as well and our opinion is with the off-grid people, where they don’t have the gas Connections because they want to set up something they can use, as well as new builds. I would say it’s important to focus on where they will be more prevalent.” **Business customer**

“The way I see it, through the process of installing three-phase in houses for EVs, I’ve looked into it and most of the time the EV will charge when the heat pump isn’t on and vice versa. I think you can kill two birds with one stone, really. With PV and heat pumps, the heat pump will kick in early morning when the EV has finished charging. They sort of cancel each other out, so in that respect I feel a lot of the leg work has been done with EV.” **Energy consultant**

“It’s going to be mostly customer-driven so it’s quite difficult for WPD to drive that forwards there. The issue is 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”

Storage and Renewables Provider / Installer

“If you have distributed storage out on the network then you balance some of the problems. If every distribution station has a big old battery attached to it then when the heat pumps actually get powered up, then you should hopefully have the capacity already built-in. Perhaps what this is telling us is that there is still quite a lot of work to be done around innovation projects to start wrestling the things that WPD might need in the future to the ground, so do the work now ahead of the requirement. There is a lot of work to do around innovation.” **Energy Consultant**

“I think that the answer is not increasing the capacity of the current network hugely. Perhaps the answer lies in local-based networks, where local groups are responsible for their own generation and capacities. Microgrid strategies would help.”

Business customer

“About the heat pumps, all the ones that have been trialled have invariably failed or been badly maintained, then abandoned or ripped out and replaced with a different system. I’m not sure if it falls to WPD or not but it’s about the long-term maintenance, not just installing it in the first place.”

Business customer

“Maybe the first thing is to inform people more so that they know what the options are.”

Business customer

7 | WORKSHOP FOUR: STRATEGIC INVESTMENT DURING ED2

The final session of the day was introduced by Ben Godfrey, Network Strategy Manager. Ben began by providing an overview of feedback WPD had received to date on enabling Connections, and how the company uses its process of stakeholder engagement to ensure it has good alignment between local plans and its network investment.

Ben outlined WPD's Distribution Future Energy Scenarios (DFES) process, noting its benefit in supporting local decarbonisation and comparison against planned ambitions, and described their Enhanced Engagement Plan for the future. Stakeholders were then asked their views on the certainty of investment required and whether DNOs should be reactive or strategic when it comes to developing the network.

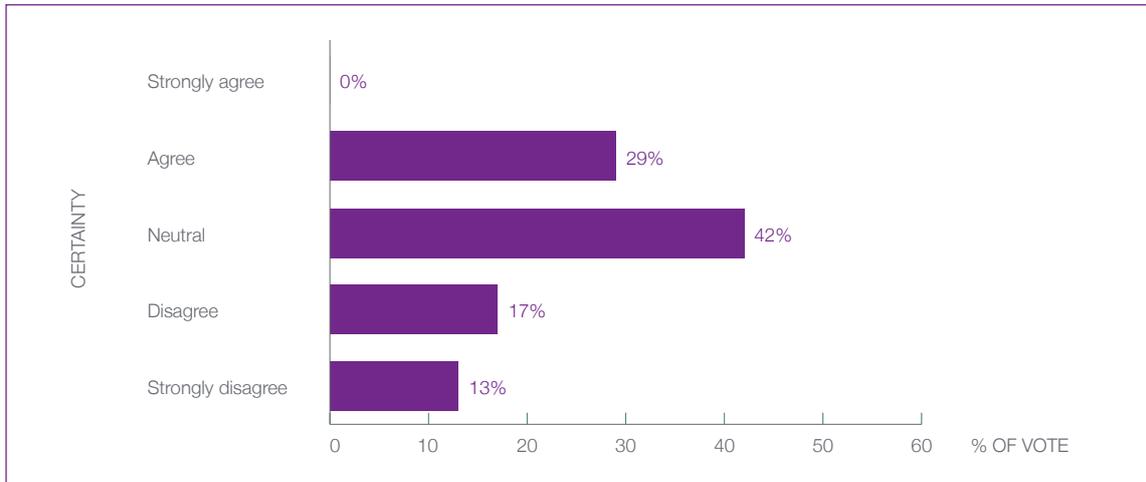
Stakeholders were of the view that engagement with local authorities was needed in order to provide a certain view of where investment is required. However, when asked to vote on whether the DFES engagement process will provide a highly certain view of investment required the most prevalent answer given was 'neutral', with more stakeholders 'disagreeing' or 'strongly disagreeing' than agreeing. No stakeholders 'strongly agreed'. It was acknowledged that there were always going to be some uncertainties as there would inevitably be things that hadn't been factored in. It was felt that engagement with local authorities could always go further in order to provide WPD with more insight into where investment was required. It was suggested that more parties could be brought into this engagement programme including LEPs, developers, and strategic landowners and that a new approach should be looked at where developers are encouraged to promote land through the planning process based on where there is capacity. It was even suggested that a dedicated body could be set up to act as an intermediary between DNOs and other relevant actors. To this end, it was commented that more engagement would generate more data, which could further aid planning. There was broad acceptance that Net Zero targets required immediate action, i.e. more investment coupled with a smarter approach. There was frustration that the way DNOs were funded precluded them from investing ahead of need, which could potentially hinder Net Zero aspirations.

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.

When discussing the merits of strategic investment, some stakeholders were very much of the view that DNOs should be encouraged to invest ahead of need. It was commented that the company shouldn't be rewarded for reinforcing the network if the assets are not made use of, but it was felt that this could be addressed as long as a business case was made to the regulator and some certainty could be provided based on need. Notwithstanding this, it was felt by some that a certain level of risk should be tolerated, given the gravity of the situation and the fact that Net Zero targets should not be hindered by network capacity.

The discussions quickly turned to how costs could be applied fairly. Whilst there was some support for socialising costs, it was noted that this would disproportionately impact domestic customers living in fuel poverty and would be hard to calculate based solely on commercial customers. It was however acknowledged there are certain development sites that will never be brought forward through the planning system because of the cost to reinforce them, so socialising costs for this reinforcement could help unlock them which could indirectly benefit less affluent customers.

1. DO YOU AGREE THAT OUR DFES ENGAGEMENT PROCESS WILL PROVIDE A HIGHLY CERTAIN VIEW OF INVESTMENT REQUIRED?



“I hope so. It’s been great. I have felt that WPD have been reaching out to us quite a lot and increasing my literacy of the grid and how everything works which is brilliant. We need to take it to the next level where we combine the infrastructure and planning developments. We know that if planning is sorted and grid is sorted then the investment will come. I would appreciate being able to have a session with WPD where you can sign off on our needs to help us get our investment. We need to be able to present proposals with more certainty.” **Local authority**

“We need renewables in our area to get to Net Zero and they’re being blocked because of the upgrades. Is there another level of engagement where we can combine land-use planning and upgrade planning to be able to get more certainty?” **Local authority**

“Joined-up planning infrastructure could work very well for some of the more together local authorities who are able to operate in that way. Some local authorities would find this difficult to implement.” **Utility**

“Could we combine the planning process by creating a separate body that works as an intermediary between the local authorities, planners and DNOs? Something like that could work to give a bit more certainty and fairness over Connections. A well-equipped intermediary entity could take an overview of all the pieces that need to be in place to be certain of development investment.” **Energy consultant**

“It looks good to me, but I’m not actively involved in those areas so I’m speaking out of turn to a certain extent.” **Utility**

“With GBS LEP and the steering group I sit on, I’m not sure you’ve got a presence on there and that would be very useful. Future energy has to be low carbon so you should have a seat at the table.” **Storage and renewables provider / installer**

“In Leicester and Leicestershire Enterprise Partnership there was a consultation. There was a discussion around large industrial users that can afford to invest in going off-grid. There’s then a way of recouping connection fees when you come on to grid networks. You could look to use the cost of getting on-grid to offset the cost of people going off-grid. That could be a useful mechanism, freeing up existing capacity in tandem with new Connections.” **Storage and renewables provider / installer**

“If the whole planet has to halve CO2 output by 2030, we need to do it in 2-3 years. This means that the plans are wholly inadequate and need to be increased 5-fold to ensure the network is capable of carrying electricity for all applications and heating in particular. Heating will triple or quadruple demand. Once we stop using oil, gas, and coal for heating, it will increase network demand enormously. Investment needs to take place much earlier to meet targets.” **Business customer**

“I don’t think I can give a certain view of the future. They are quite broad-ranging scenarios. It’s a very broad range of plausible outcomes rather than a prediction of the future. It’s better than nothing but won’t give the answer.” **Energy consultant**

“The more data you have, the better it’s going to be.” **Energy consultant**

“I can’t think there would be any commercial sensitivity as to what people’s future energy needs are likely to be. There shouldn’t be any difficulty in obtaining the data if people know. I don’t know whether there’s a case for WPD assisting the businesses and local authorities in understanding what their future energy demand might be and providing them some tools to do that.”

Energy consultant

“The difference between energy and power is that there’s probably capacity in the existing network to deliver more energy, but it’s constrained by peak power. Using flexibility and the times of the day when there is less demand is something that we need to look at, to optimise the existing use of the network.”

Energy consultant

“Seems like you’ve asked sensible questions that are well-targeted to allow you to get the answers that will inform your business decisions. It seems like a cunning plan well-executed so it should provide high levels of certainty.”

Storage and renewables provider / installer

“From my perspective I think the risk that WPD is taking is that with any segmentation there are people within the boundary and just outside the boundary and that could just be the other side of the road. With any segmentation there are winners and losers, but I can’t think of any better way of doing it. Typically, some of the standards that Ofgem put in place for people to follow, if you’re one customer in a specific place or customers then you get different treatment.”

Energy consultant

“There’s a huge will for the shackles to come off but spending ahead of need causes nervousness. There needs to be more coordination at a local level to harness the need amongst communities.” **Utility**

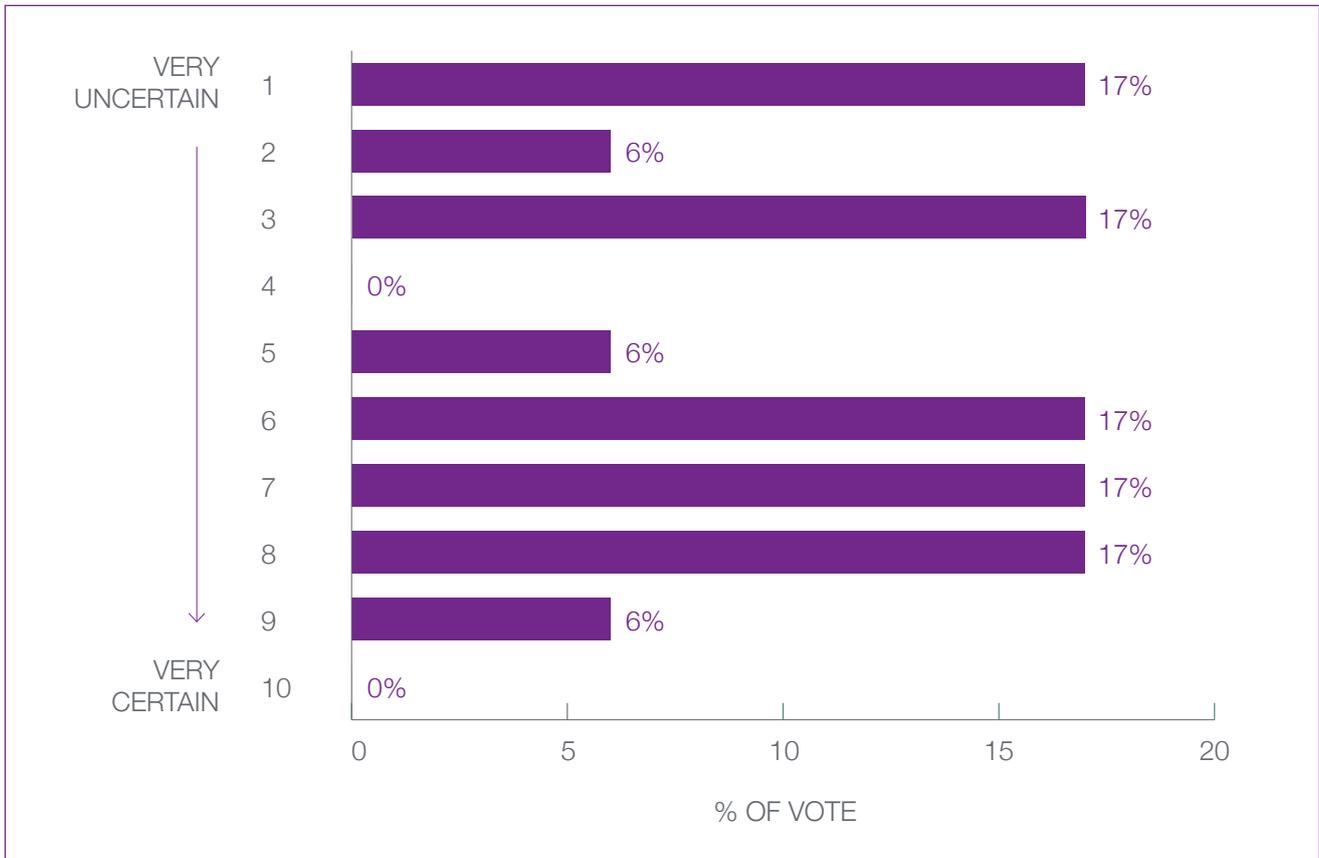
“In order to get a certain view of the investment required, it would be useful to get a feel for the extra capacity for an area and where it would be needed elsewhere, so two-way conversations with local authorities would help, as we would feel more certain about growth and have a generally clearer picture about growth.” **Utility**

“It can’t be that accurate because it’s a prediction into the future. What’s key is to keep that process going throughout the whole term to make sure it’s constantly under review.” **Local authority**

“Cornwall has declared a climate emergency, with an ambition to get to Net Zero by 2030. What does that really mean? Nobody actually knows. Something that has been applied more recently is this target of having 100% of Cornwall’s power generated by renewable sources and I’m sure this hasn’t been relayed to WPD and that could be incredibly critical to some of WPD’s choices if that’s what they know their local authority is doing. On the back of Boris’s comments about the UK becoming the Saudi Arabia for offshore wind, and the Celtic Sea having a huge resource for offshore wind and ambitions to roll out perhaps 100 megawatts by 2030 and three gigawatts shortly after, I think WPD are going to be a key stakeholder in that if it lands in England. If that gets rolled out, it changes everybody’s strategic thinking.” **Local authority**

“WPD have traditionally been focused on onshore generation. It might be worth setting up something called the marine cluster, looking at how we might bring on board a significant amount of offshore wind. It may just be worth touching base with that particular group.” **Local authority**

2. HOW CERTAIN ARE YOU ABOUT THE SIZE AND QUANTITY OF CONNECTIONS YOU ARE GOING TO NEED? TO WHAT EXTENT CAN WE RELY ON THEM?



“I think in the early days of distributed generation we didn’t have as much certainty as we do now. Cornwall was the first place in which National Grid realised the scale of community energy that could be connected to the grid.” **Developer**

“I think we are only at a planning stage of making sure we have the infrastructure in the buildings even. I haven’t tried to get the information from WPD yet to be able to tell you whether it is available or not.” **Academic institution**

“Not at all certain is the answer! As far as we’re concerned, whether it’s land prices, rental incomes, or the state of the economy, pretty much everything has an impact on whether developers buy land. It’s impossible to predict. That said, I’d guess that demand is going to go up, with shopping centres and estates becoming larger and increases in online purchases. We can’t build big warehouses fast enough for demand, so I can only see demand going up, along with the Connections that come with it.” **Energy consultant**

“The government announcement on Net Zero will 100% have a massive impact on Connections in my opinion.” **Energy consultant**

“I think the government announcement on Net Zero is going to bring the timescales forward. Change of policy is likely to change the profile. In terms of resourcing within WPD, the teams, if they were anticipating it over a 5-year period and then it becomes a 3-year period, they’re going to need a bigger team.” **Energy consultant**

“I talked to our planner about doing charging in local car parks a few years ago but I wasn’t really able to give numbers. I am still not that able to, but now we have a secure charge point provider and they have estimates for what the need is likely to be. The problem we have is people like me who are enthusiastic but not experts, making our best guesses and refining them. This is why I think the dialogue with WPD is really important because it is all new, so we are all guessing and refining.” **Local authority**

“I think certainty is impossible to achieve but the actual approach of going to talk directly to people rather than just relying on what plans are on the websites is valuable. Sessions like this are very good too. I have got to feedback a lot of my personal experiences through things like this, so I think WPD are making a really good effort.” **Local authority**

“I think it would be great to be able to feedback information in an easy way. Maybe more of an ongoing casual conversation that is logged. Whoever tips something over into the main substation seems to have costs but all the people up to that point seem to have got it free so it would be good to address this. Also, an application we put in doesn't have the policies to support it as there is a time constraint. Is there a way to build this into future applications?” **Local authority**

“In essence, yes, we do feel certain about the size and quantity of the Connections that we will need, as we can use past data. We have quite a technical team that works with data themselves and we can look at previous trends to help us forecast what is ahead. This helps us plan work more effectively.” **Major Connections customer**

“Of course, on occasion, it can be difficult for us to ascertain the size and quantity of Connections for our clients, as they don't know exactly what they want, or their budget varies. This uncertainty does pose challenges.” **Major Connections customer**

“Certainty is almost impossible with this government. They change their mind on energy policy as often as they change their Brexit secretary.” **Developer**

3. FOR ED2, SHOULD DNOS DEVELOP THE NETWORK STRATEGICALLY (LEADING CONNECTIONS VOLUMES) OR REACTIVELY (LAGGING VOLUMES)?

“It's a very difficult one to quantify. When I apply for big loads, in an ideal world it'd be great for WPD to always say yes, we have capacity. That said, I'm not sure if a proactive approach is the best use of resources or whether reactive is best. I'm a bit torn on this to be honest.” **Energy consultant**

“In rural areas, strategic planning is a bit trickier. If you lay cables and it doesn't go ahead then it's much more difficult. Perhaps planning would be easier in urban areas. However, this isn't my area of expertise I'm afraid.” **Storage and renewables provider / installer**

“Socialising the cost of the connection from mains to property goes back to the question of how much things should be socialised or paid for by individuals. Personally, I think socialising costs is a good thing, but I appreciate that not everyone holds that view. In the South West it would be wrong to load costs onto people who are already in fuel poverty.” **Utility**

“I think socialising costs in the domestic market is great, but it wouldn't work for the commercial market.” **Energy consultant**

“Could all commercial customers contribute to the cost in the same way that we all contribute to road costs? I appreciate that this discussion becomes quite political very quickly.” **Utility**

“Brownfield and some greenfield sites never get developed because of the cost of reinforcement. If socialised, it would bring a lot of 'zombie' sites back into the game, which can only be a good thing.” **Energy consultant**

“As you're doing, a lot of DNOs will have to look at how energy is supplied. Rather than being reactive, you need to be thinking long-term about what you're doing.” **Storage and renewables provider / installer**

“We need to take a proactive approach on a city-level. Planning should adjust strategy and policy flexibly. Government normally does 10-year rolling planning, but next year's planning will be different to this year. You can't predict where demand will come from.” **Academic institution**

“You could look at a future scenario where we don't use office blocks anymore.” **Energy consultant**

“Historically the ability to not invest ahead of need has been a problem. It's about making sure that they're not rewarded for reinforcing where it wasn't needed. The only way I can think of doing that is making a reasonable business case to put forward to Ofgem, so if it turns out to be wrong, at least it was reviewed.” **Energy consultant**

“I think you’d have to have a strategy for your strategy, to see in what locations demand is creeping up. Working from there you can see where you need to reinforce the demand in certain areas.”

Energy consultant

“My personal view, because I’m interested in low carbon anyway, is that we should tolerate a reasonable risk in terms of investment, because I think it would be a bad outcome if decarbonisation was hindered by the inability of the network to accommodate it.” **Developer**

“I think this must be one of the most difficult times ever to try and predict the future. After the last 9 months, we don’t really know what is going to happen in terms of property development. Housing is quite buoyant at the moment with the stamp duty holiday and so on. Come next year, we don’t know is going to happen to various types of businesses. It’s an extremely difficult time to be trying to plan for future need.” **Business customer**

“I know that one of the projects we dealt with which was for Nottingham City Council, because it took them a long time to come to a decision, the cost of the connection went up by an order of magnitude because the capacity was consumed.”

Energy consultant

“I think it’s an easy question. I think it needs to be ahead. The current regulations are to be reactive but what happens then is that the quoted lead times can be up to a year. With the current uptake for electric vehicles and other technologies you’re going to be overwhelmed otherwise”. **Business customer**

“By doing it reactively you only spend the money where you need to spend the money, but if you do it strategically you then have the benefit exactly when it’s ready. Money is cheap at the moment, so I think the best way is to be strategic now before inflation causes things to become more expensive in the future, but you have to be careful.”

Storage and renewables provider / installer

“I can see the need for being reactive because you don’t want to spend money where you don’t have to, but at the same time you don’t want to see lead times spiral out of control if all you’re doing is reacting to them. I would expect WPD to identify those key areas and invest the money ahead of time there, as well as reacting to any urgent needs when they crop up.”

Business customer

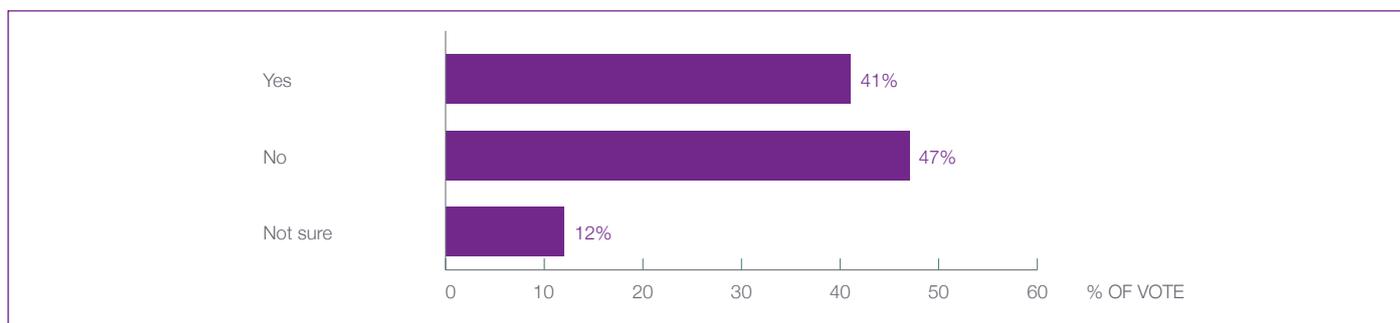
“It’s a difficult one to balance, due to the types of Connections required. For example, EV charging Connections have a different impact on the grid to streetlight Connections, so we can’t approach this in a purely binary way.” **Major Connections customer**

“I think that you can afford to develop the network strategically for EV charging points. However, you need to have a clear picture about what you are planning to do 5, 6, 7 years ahead, so that you can roll out your vision effectively.” **Utility**

“However, for other aspects, you need to be reactive and push yourself beyond the strategic visionary stuff. You need to be able to react very quickly so that you can still deliver effective network performance for customers.” **Utility**

“In order to achieve this balanced approach, you need to have all-encompassing and granular discussions with local authorities that touch on more than just EVs and go into housing, heating and more.” **Utility**

4. IF YOU ARE A CONNECTIONS CUSTOMER, DO YOU EXPECT DELAYS TO THE VOLUMES OF INDUSTRIAL / COMMERCIAL / DOMESTIC DEVELOPMENTS YOU ARE PREDICTING AS A RESULT OF COVID-19?



“I think that we will have people who can’t work from home increasing. We hopefully have actually a lot more home working opportunities and more remote meetings. I would normally be travelling to a meeting like this or not attending. I find it a lot easier to engage through this platform and that illustrates a lot of how difficult it is to plan with 100% certainty.”

Local authority

“If a vaccine works and things have a potential to go back to normal, I imagine the university will go back to some kind of normal. We will need staff on campus and expect our students to come back too. The only reduced capacity might be admin staff working from home more often. I don’t think this will reduce the need to heat buildings and charge vehicles.”

Academic institution

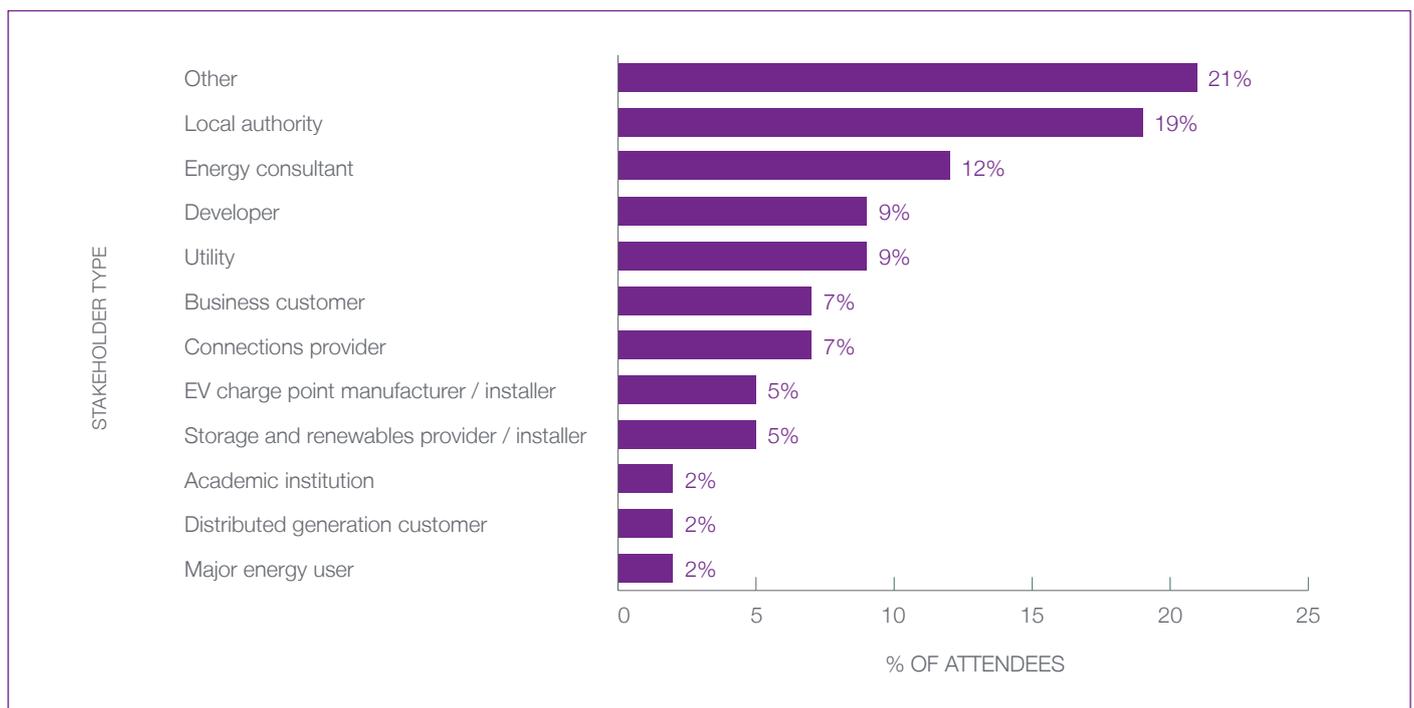
“On the generation side we’re looking to connect 3MW next year and then 5 sites of up to 5MW. This project has taken us nearly 10 years. We looked into applying for a connection 10 years ago and we’re only just proceeding with it now. We simply can’t say when it’s going to be. There are so many variables and delays, be it delays to investment or technical problems. We just never know. It could be 3, 4 or 5 years before our planned projects. As for the impact of Covid, we were supposed to do crucial testing in March, so we’ve lost 3 months there. During the second lockdown, we were supposed to have specialists coming over from Europe, so they can’t come over now and there are delays there. Also, we have equipment coming from different regions of the UK and from Europe. Covid has complicated all the communications and transport of both equipment and people. You can’t build a warehouse on Zoom! Of course, we’re all in same boat and it’s exceptional circumstances. Hopefully, the situation will improve next year and the year after.”

Storage and renewables provider / installer

8 | APPENDIX 1: ATTENDEES

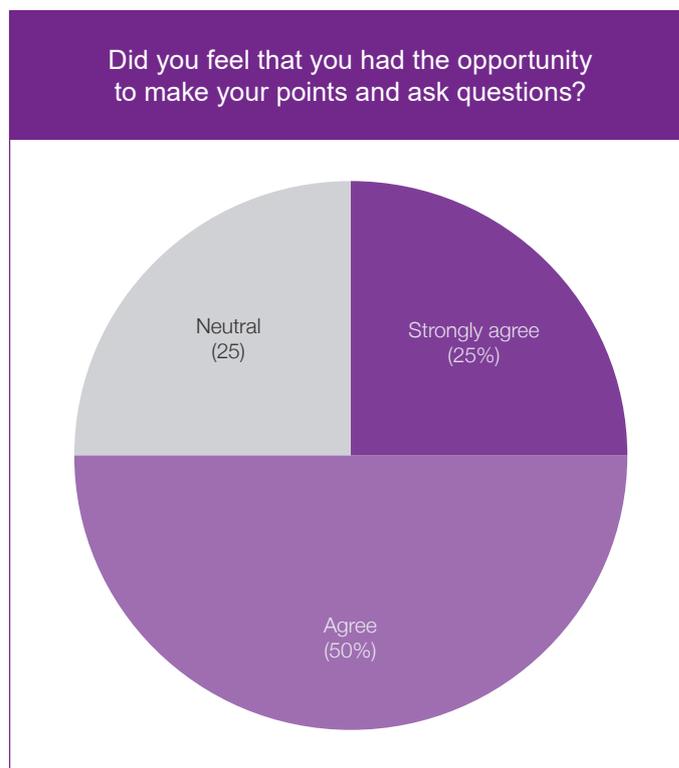
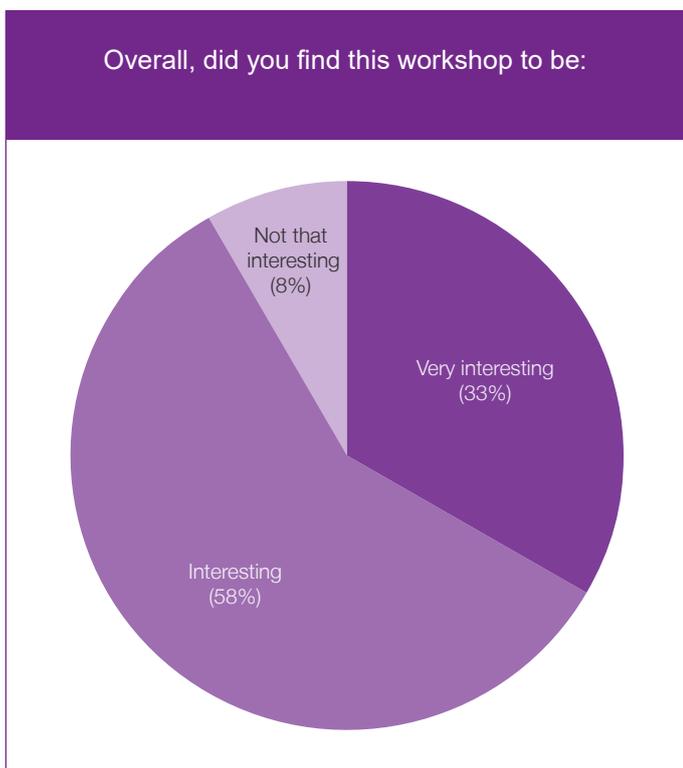
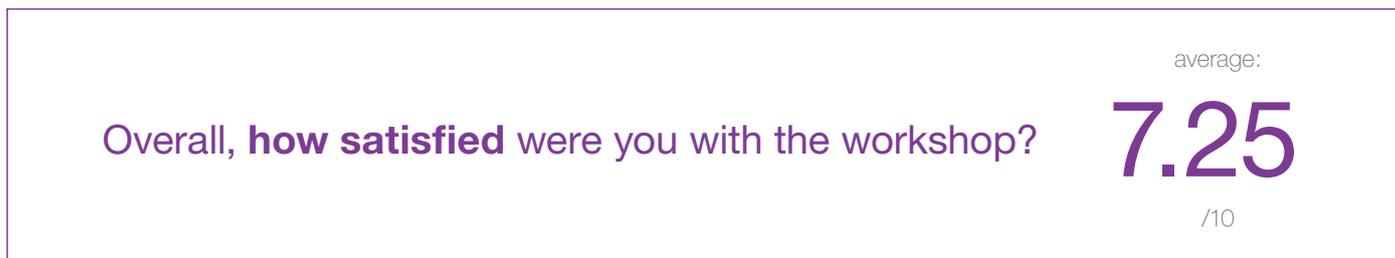
A total of 53 stakeholders attended the workshop, representing 45 organisations. The organisations represented on the day are shown below:

- Babcock Networks
- Bath & North East Somerset Council
- BP Chargemaster
- Cornwall Council
- EA Technology Ltd
- EcoDev Group Ltd
- Electrical Testing Ltd
- Energy Systems Catapult
- ENGIE
- Electricity North West
- ESC Ltd
- Fieldpower Ltd
- Freedom
- Geldards LLP
- Geothermal Engineering Ltd
- Gloucestershire County Council
- Grid Serve
- Hawker Siddeley Switchgear Ltd
- Hitachi Europe Ltd
- Kier
- Landmark Associates Ltd
- Lanner Parish Council
- Low Carbon Gordano
- Lucy Electric
- Network Rail
- Nortech Management Ltd
- Nottingham Trent University
- Pembrokeshire County Council
- Power On Connections
- PyroGenesys Ltd
- Redditch Borough Council
- REG Power Management
- Severn Trent Water
- Siemens
- Solihull Metropolitan Borough Council
- South West Water
- TUSC Ltd
- UK Power Network Services
- UK Power Solutions
- University of Birmingham
- University of Warwick
- Wattify Limited
- Wessex Water
- Wessex Water Customer Challenge Group
- William Andrews RE Consultant



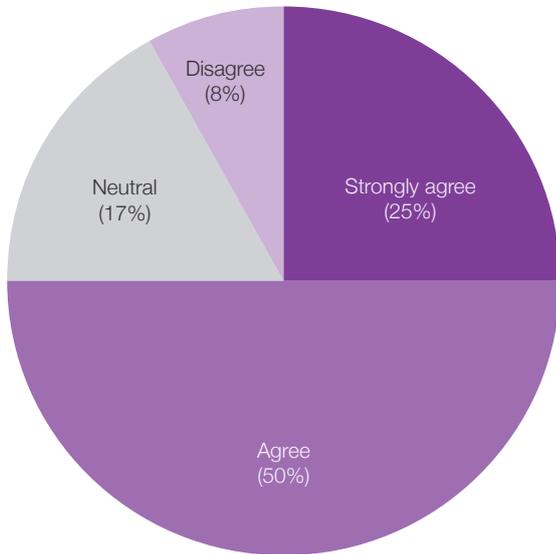
9 | APPENDIX 2: EVENT FEEDBACK

After the workshop, stakeholders were asked to complete a short feedback form. The feedback was as follows:



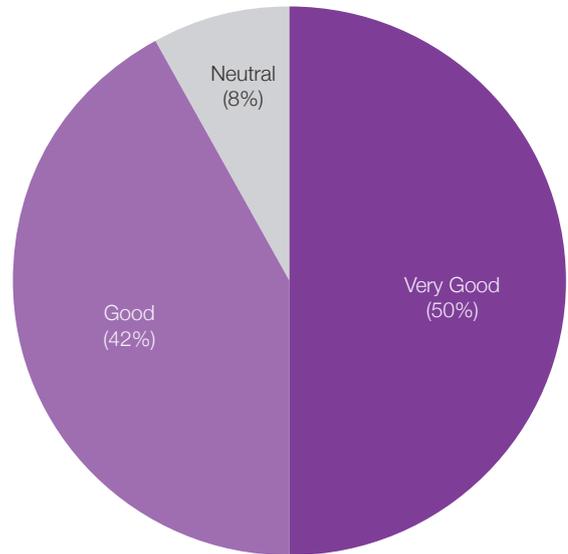
“[The workshop] flowed well.”

Did we cover the right topics for you on the day?



“Content was good.”

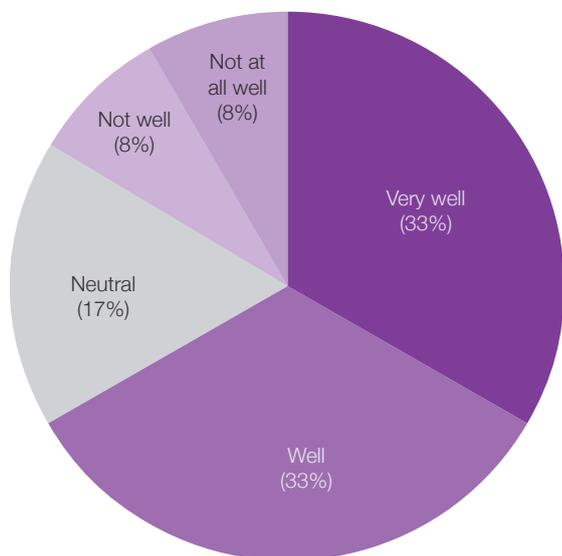
What did you think of the way the workshop was chaired by your facilitator?



“[The facilitator] asked questions to guide us which was helpful.”

“Breakout rooms very useful and good to share viewpoints.”

How well do you think the online format worked?



Any other comments?

“Thank you for the time and effort.”

“Thanks for making the effort to engage meaningfully.”

“Please keep us informed of progress. We are most grateful to be kept in touch with and hope that your plans include support for novel business models.”

“Allows great participation as no need to travel, so saves time and money.”

“It means that I can attend sessions that are very useful, but I probably wouldn't have time for normally.”

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