WESTERN POWER DISTRIBUTION

Serving the Midlands, South West and Wales

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Connections workshop: In-person and online

17 November 2021

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Contents

Introduction

On 17 November 2021, Western Power Distribution (WPD) hosted a 'hybrid' Connections stakeholder workshop, with some people attending in person and others joining remotely. The workshop was aimed at seeking feedback from stakeholders on the following topics: WPD's Connections Strategy; Community Energy; High Volume Connections of Low Carbon Technologies (LCTs); and WPD Proposed Approach to Electric Vehicles (EVs).

Each session consisted of a short presentation given by WPD representatives, which was broadcast live to those stakeholders participating online, followed by facilitated discussions at round tables and in virtual breakout rooms. In addition, stakeholders were asked to vote on a number of topics in an online poll using Slido. The figures in this report have been rounded to the nearest whole number and therefore may not always add up to 100%.

WPD instructed EQ Communications, a specialist stakeholder engagement consultancy, to independently facilitate the workshop 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. For the purposes of this report, no differentiation will be made between feedback gathered from the virtual and in-person elements of the workshop.

The full presentation can be found here.

Methodology

Maximising participation

WPD's database contains the details of more than 2,100 connections stakeholders, all of whom were invited to take part in the workshop. The database is refreshed annually to update existing contact details and add information on stakeholders who have registered via the website or worked with members of the WPD team over the last 12 months. To ensure that WPD remains on top of emerging sector-specific issues, additional research is undertaken ahead of topic-specific engagement to ensure that the database contains comprehensive, up-to-date information for certain stakeholder categories, especially as new roles or stakeholder groups emerge.

The connections stakeholders on the WPD database were sent several email invitations for the workshop to ensure that they were given the opportunity to participate. The first invitation was sent on 13 October 2021 to give stakeholders at least four weeks' notice. In addition to the email invitations, pre-identified stakeholders also received telephone calls with the aim of ensuring a mix of different stakeholder groups at the workshop. According to standard practice, ahead of any workshops, all stakeholders who have registered are reminded about the event via telephone and email with a view to maximising participation.

Providing accessible information

There were four short presentations, each followed by breakout sessions in smaller groups to enable stakeholders to provide verbal feedback. Relevant slides from the presentation were shared in the virtual breakout rooms and handouts were given to those attending in person to ensure that stakeholders had sufficient information in front of them to participate. If stakeholders did not answer a question, the facilitators asked them to confirm whether their silence indicated tacit approval or whether they felt unable to respond.

Each breakout session was followed by electronic voting, using dedicated software, with a view to gathering quantitative feedback on each topic.
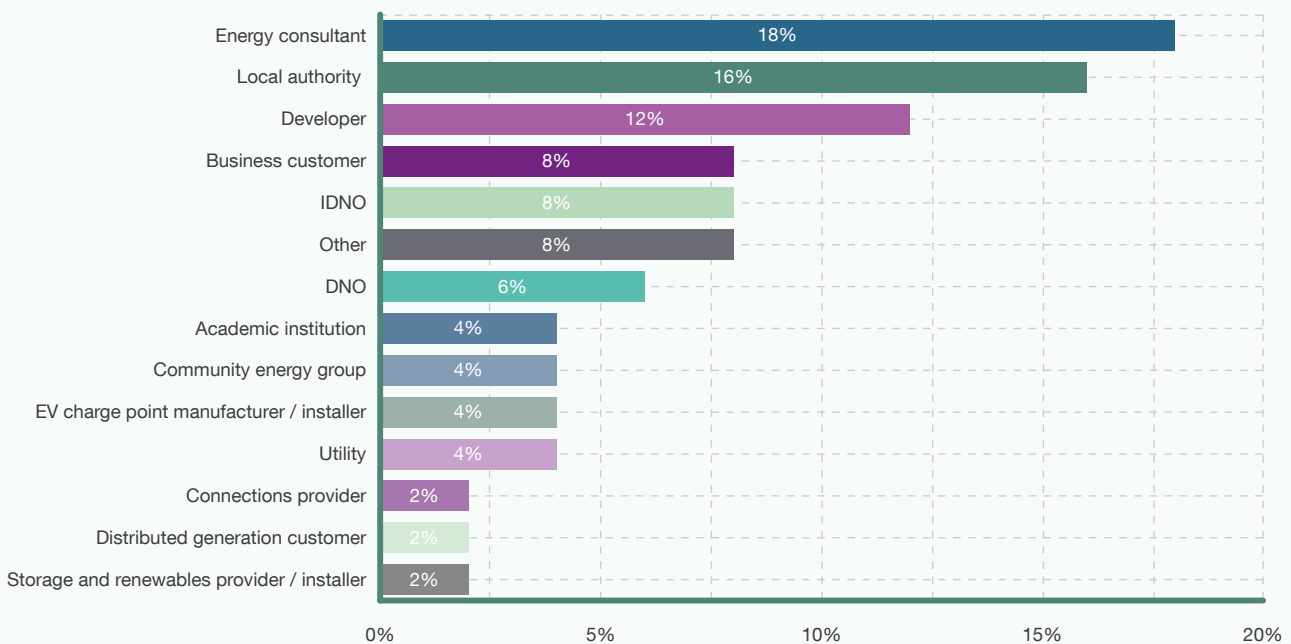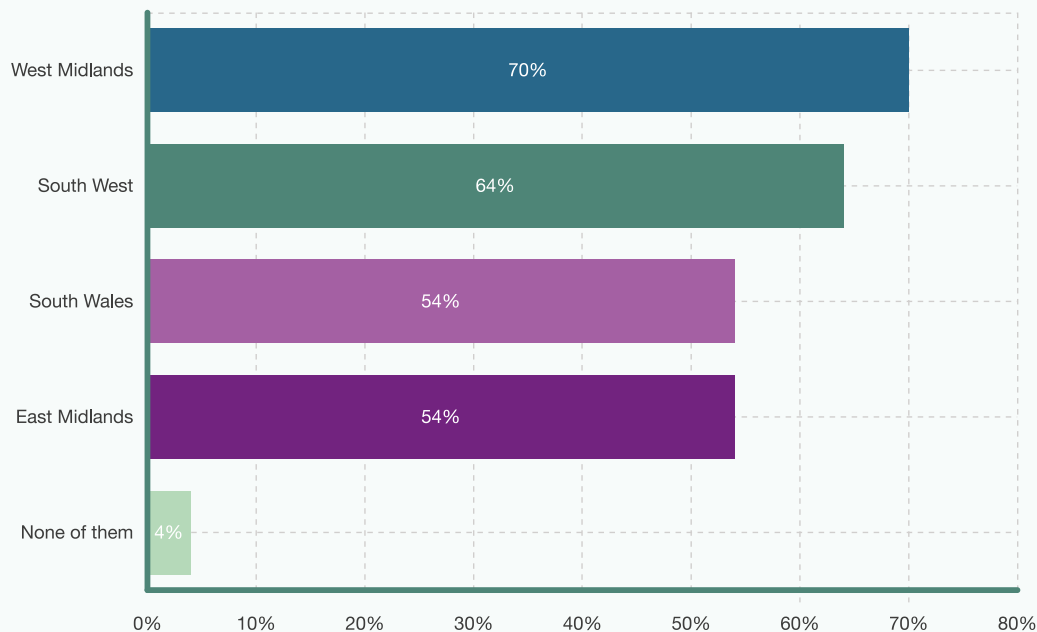
Executive summary

Participants

- A total of 68 stakeholders participated in the workshop, representing 58 organisations.

- 65% of stakeholders attended online, and 35% came to the in-person event.

- The most widely represented stakeholder types were energy consultants (18%), local authorities (16%) and developers (12%).

- The West Midlands was identified as the relevant region by the largest proportion of stakeholders (70%), followed by the South West (64% of stakeholders). Stakeholders were able to select multiple regions, which is why the figures add up to greater than 100%.

- 65% of attendees who filled out a feedback form told us that they found the workshop to be 'interesting', with another 35% opting for 'very interesting'.

What type of stakeholder are you?

Stakeholder type	Percentage
Energy consultant	18%
Local authority	16%
Developer	12%
Business customer	8%
IDNO	8%
Other	8%
DNO	6%
Academic institution	4%
Community energy group	4%
EV charge point manufacturer / installer	4%
Utility	4%
Connections provider	2%
Distributed generation customer	2%
Storage and renewables provider / installer	2%

Which WPD region is relevant to you?

Region	Percentage
West Midlands	70%
South West	64%
South Wales	54%
East Midlands	54%
None of them	4%

Workshop 1: WPD's connections strategy

The workshop began with a presentation from Vanessa Buxton, Connections Policy Engineer at WPD, who explained the company's overarching connections strategy and then asked for feedback on WPD's six key initiatives, namely a centralised mapping functionality; targeted stakeholder engagement; a customer portal for end-to-end progression during application; a self-serve online tool for connection offers; a customer portal for end-to-end progression, post-acceptance; and an online tool for interactive work scheduling. Stakeholders were also asked how the initiatives should be prioritised.

- When ranking WPD's six key initiatives in terms of order of delivery, the centralised mapping functionality came out as the top priority for RIIO-RIIO-ED2, with an average vote of 4.85 out of 5.

- Stakeholders emphasised that data is critical for decision-making and should be easily accessible, relatively straightforward to analyse and as recent as possible.

- Having a customer portal for end-to-end scheme progression during the application process was deemed to be the second most important priority, receiving an average score of 3.98 out of 5.

- 92% of stakeholders wanted to see regular updates on WPD's improvements against the baseline expectations. Almost half (49%) asked to see these updates quarterly, with over a third (35%) feeling that receiving news every six months would be appropriate.

Workshop 2: Community energy

Faithful Chanda, Community Development Engineer at WPD, introduced the second session, explaining that engagement with community energy groups and local energy organisations forms a key part of WPD's strategy for net zero. He explained that community energy organisations provide value beyond the number of megawatt hours they generate, acting as trusted local partners and capable of building networks and reaching vulnerable customers, engaging the wider public and collaborating with local authorities to deliver projects and raise awareness of local energy issues. After outlining WPD's vision, purpose and approach with regard to community energy, Faithful

introduced WPD's proposed work packages for community energy, which include actions such as working with Regen, a not-for-profit centre of energy expertise, to define the role of community energy engineers and delivering a series of net zero forums.

- Although stakeholders were positive about WPD's proposed approach to community energy, it was felt that more needs to be done to integrate the work carried out under community energy into the business as a whole.

- Stakeholders were mostly in favour of the work packages proposed under community energy, particularly packages 2, 3 and 4, focused on community energy engineers, net zero forums and the creation of YouTube videos for energy education purposes, respectively.

- The majority (61%) of stakeholders either agreed or strongly agreed that the five work packages set out by WPD focus on the right areas to facilitate the uptake of new community energy projects.

Workshop 3: Low-carbon technologies (high-volume connections)

Paul Jewell, System Development Manager at WPD, presented the third session of the day. He gave some context for Low Carbon Technologies (LCTs), explaining that WPD estimates that it will facilitate some 500,000 LCT connections per year, or around 2,000 per working day, over RIIO-ED2. To manage this growth, WPD is introducing some process changes, such as amending the connections policy to enable all domestic EV chargers and most domestic heat pumps to be automatically approved for connection, and centralising this activity in a single team for speed and consistency.

- 82% of stakeholders either agreed or strongly agreed that WPD's proposed process changes focus on the right areas to facilitate the uptake of new high-volume connections.

- During the discussions, there was widespread enthusiasm for WPD's process changes, with many considering that WPD is far ahead of other DNOs in terms of driving the connection of high volumes of LCTs to the network.

- By facilitating fast, easy LCT connections, stakeholders felt that WPD has a responsibility to lead the way in open-source sharing of the data generated from these connections, which can be used to forecast and plan for a net zero future.

- There was consensus that WPD should automate its processes for accepting connections applications, and stakeholders confirmed that most people expect 24/7 online service and access to connections services.

Workshop 4: WPD's electric vehicle (EV) strategy

Peter White, Policy and Innovation Engineer at WPD, presented the final session of the day. Outlining the projected growth in EV ownership and use (from 300,000 vehicles on the roads in August 2021 to more than 3 million in WPD's patch alone by 2030), he highlighted what WPD is doing to enable these changes and mitigate their impacts on the network. WPD is undertaking initiatives such as installing larger cable assets on new builds and upgraded sites, reconfiguring looped service cables and engaging widely with local authorities and stakeholders, in addition to carrying out projects to identify innovative solutions for rapid charging at motorway services and filling stations and offering flexible connections to depot-based fleet users.

- An overwhelming 88% of participants agreed or strongly agreed that WPD's approach focuses on the right areas to facilitate the likely uptake in EVs, with no participants disagreeing.

- Stakeholders agreed that the next significant challenge facing WPD, and the country as a whole, is the decarbonisation of heat. For many, the key barrier to uptake of heat pumps is cost. Stakeholders were strongly in favour of changes to regulation, financial support and grants, and called for a push to insulate properties.

- 75% of stakeholders agreed or strongly agreed that WPD should do more to engage with relevant parties, such as local authorities and housing associations, on the decarbonisation of heat, with 15% remaining neutral.

- Hybrid in-person and online workshops were felt to be the most effective way to engage with the widest range of stakeholders on the decarbonisation of heat in the drive to net zero.

Workshop 1:
WPD's Connections Strategy

Stakeholders were introduced to WPD's overarching Connections Strategy and the company's six key initiatives: a centralised mapping functionality; targeted stakeholder engagement; a customer portal for end-to-end progression during application; a self-serve online tool for connection offers; a customer portal for end-to-end progression, post-acceptance; and an online tool for interactive work scheduling. Attendees were asked to feed back on the initiatives and to prioritise them in terms of delivery.

Summary

Reasons for attending

Stakeholders represented a diverse range of sectors, including energy consultancy, local government, developers, community energy, academia and storage. Uniting them all was a drive to inform themselves on WPD's direction of travel with regard to connections, including with regard to the rapid growth in the number of connections and steps to facilitate the connection of Low Carbon Technologies (LCTs), such as electric vehicles (EVs), heat pumps and solar PV systems, to the network. Some stakeholders shared their experiences of connecting projects to the grid, while others expressed an interest in WPD's connections strategies moving forward, particularly with regard to technological and innovative solutions to meet the proliferating volumes of new connections to the network. Decarbonisation was also high on stakeholders' agendas, with all kinds of customers interested in how they could work with WPD to connect LCTs to drive their businesses, homes and communities towards net zero.

Centralised mapping functionality to make data more visible and interactive

When stakeholders ranked WPD's six key initiatives under its connections strategy, the centralised mapping functionality came out as the top priority for RIIO-ED2, with an average vote of 4.85 out of 5. This was reflected in the discussions, where stakeholders affirmed that data is critical in terms decision-making and should be centralised and visualised for customers. Easy access was another key consideration; stakeholders felt that data should be visible, relayed quickly and easy to understand, enabling as many customers as possible to use it effectively. Accuracy was also seen as vital to any effective data-mapping strategy. Stakeholders wanted data to be as recent as possible, with additional access to historical data, which would enable them to make contextualised decisions and take "better educated risks". Other positives included fewer interactions with WPD and greater ability to self-serve with decision-making. Many stakeholders wanted access to more granular data from the low-voltage networks, particularly at secondary substation level, while others suggested including reinforcement and works maps alongside the heat map, as offered by other distribution network operators (DNOs).

Targeted stakeholder engagement to identify improvements relevant to the subject area

Stakeholders decided that this was the third most important initiative, awarding it an average score of 3.52 out of 5. A diverse range of stakeholders, including representatives from energy consultancy, community energy, large users and local authorities, agreed that direct engagement with WPD on strategic local developments and priorities is hugely valuable, not only to enable all parties to proactively consider the potential need for reinforcement, but also to educate the public about the future of energy and inform them of how they can help to achieve net zero by installing LCTs, leading to "more informed consumers". Some stakeholders were concerned that levels of engagement, historically very high at WPD, may slip as a result of the takeover by National Grid and urged WPD to avoid this. Others highlighted the importance of directors listening to stakeholder feedback and WPD identifying lessons learned as a result of feedback, demonstrating that they have been deliberately built into future strategies and approaches.

Customer portal for end-to-end scheme progression during the application process

This initiative was deemed to be the second most important priority, receiving an average score of 3.98 out of 5. Although many stakeholders were in favour of increased automation and more opportunities to self-serve and project manage via a portal, it was often stressed that online tools must never replace the option of engaging directly with contacts at WPD or asking questions over the phone. One stakeholder noted that although the ability to track progress would be an advantage, "you do need that in-person contact if you need to make an immediate change". Some stakeholders were sceptical of customer portals in general, having had quite negative experiences of them in other contexts. Design was seen as key for a successful portal, with one stakeholder stressing the importance of the designers being in touch with 'on-the-ground' realities. For many, the key point was how customers engage with the portal, as this would determine its usefulness and success. Some felt that for customers managing multiple applications, such as big commercial groups, the ability to keep tabs on all their projects in one place would be invaluable, while others felt that the portal would be more useful for smaller, relatively inexperienced customers. Some recognised the value of being able to manage projects more effectively, as information received via the portal could be relayed to partners and collaborators.

Co-creation of connection offer agreements through self-serve online tool

Although several stakeholders identified this as the most important initiative during the discussions, it emerged as the second lowest priority during the electronic vote, with an average score of 2.94 out of 5. Many stakeholders saw this kind of online, self-serve tool as best suited to smaller customers, including "dabblers and early adopters", who might otherwise take up valuable WPD time. For larger customers with more complex needs, stakeholders worried that this level of automation ruled out bespoke planning solutions that could only be reached through direct engagement with WPD. While the connections offer portal at UK Power Networks was praised, stakeholders questioned the scalability and asked whether such a tool would only work for smaller projects or whether it could be applied at all levels, including for projects over 10 MW. Those from community energy groups approved of the focus on co-creation, recognising the benefits for both WPD and communities, provided the demand was balanced. Others felt that the online tool could be integrated with the other automated, self-serve offerings under the initiatives with a view to establishing a more comprehensive, holistic package.

Customer portal for end-to-end scheme progression, post-acceptance

This initiative was ranked as the fourth most important priority for RIIO-ED2, receiving a score of 3.17 out of 5, with stakeholders recognising its usefulness in terms of keeping on top of project progression. It was felt that the tool, which, at the very least, could build in better knowledge and improve the ability to plan, could help to address frustrations caused by the shortage of network engineers and the ability to plan outages on the high-voltage network. Some customers stated that it would also be helpful to map the visibility of reinforcements needed post-acceptance via the portal. For many, once again, finding a balance between in-person interaction and greater automation was imperative, with some pointing out that there is a spectrum between having things completely manual and completely digital; while some processes become quicker and easier when automated, other elements require a creative and cogent approach. In the light of this, WPD was advised to "build in human elements to this digital portal" to make it truly effective.

Online tool for interactive work scheduling

Although this initiative was widely praised, it received the lowest score in the electronic voting (2.54 out of 5). Although this type of tool was described as a "step-up" from current practices, it was generally seen as less of a priority compared with the other initiatives. Stakeholders felt that it would be "handy" to be able to select potential dates and progress them according to their needs, which may also make life simpler for WPD. In most cases, this was seen as an easy win for automation, given that the vast majority would prefer to use online scheduling rather than picking up the phone to coordinate diaries.

Updates on progress

92% of stakeholders wanted to see regular updates on WPD's improvements against the baseline expectations. Almost half (49%) expected to see these quarterly, with 35% feeling that an update every six months was appropriate. However, those in more time-sensitive industries, such as EV charge point manufacturing, wanted an update as soon as something changed or progressed. For many, the priority was accessing technical updates to enable them to keep up with any changes to standards and policies, which is particularly vital in terms of rolling out changes to equipment manufacturing.
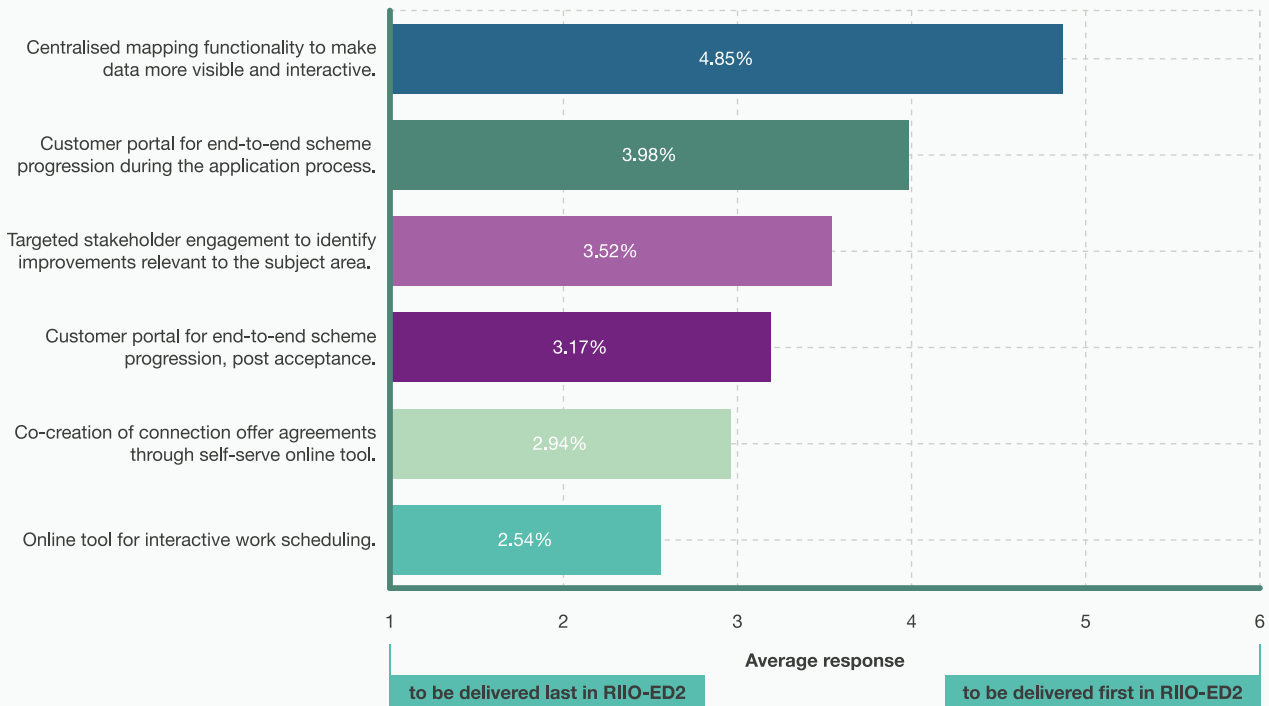
Verbatim comments and voting

1. What is your reason for attending today?

- "I'm an electrical engineering manager interested in EVs and PVs to embrace 2033." **Major energy user**

- "I'm a consultant to community groups, community centres and religious groups about more energy efficient use." **Energy consultant**

- "We specialise in automation products and solutions, and WPD are one of our customers." **Storage and renewables provider / installer**

- "I'm here to find out as much as I can about WPD's strategies. I'm interested in innovation and technological approaches to connections. We've done a lot with transmission and distribution customers, and a lot of work with National Grid." **Energy consultant**

- "I work for a not-for-profit centre of energy expertise. We do a lot of work around decarbonisation. I'm interested in getting as many community energy connections as I can across the grid." **Energy consultant**

- "I'm mainly here for the purely EV side of things. We're seeing how things are starting to progress. We have to start implementing charging strategies on our homes. We're thinking about heat pumps, too." **Major connections customer**

- "We're a large developer of distribution centres. Our main interest in today is that we have huge demand from our customers for the connection of PV on their roofs and we have a big interest in EVs." **Major energy user**

- "I'm here to understand how WPD is supporting the South West area, particularly with regard to renewables and the changing landscape of connections." **Academic institution**

- "My main purpose is to look at the EV strategy and what's happening there. We're concentrating on providing connections solutions for charge point operations, so it will be interesting to see what's on the agenda." **Business customer**

- "I work in stakeholder engagement. We have some customers who are national, so the purpose of me being here is to learn from best practice and what WPD are doing and hopefully have some input." **Utility**

- "I'm the Managing Director of a community enterprise that's developed community solar. I'm very interested in connections, particularly flexible connections, and trying to understand the potential for some of the more flexible connection approaches that I'd understood WPD are interested in, and trying to understand how they fit with in the connections strategy and how connections are going to get cheaper over time." **Community energy group**

Key initiatives

Please rank these 6 key initiatives in terms of order of delivery - in your opinion.

Initiative	Average response
Centralised mapping functionality to make data more visible and interactive.	4.85%
Customer portal for end-to-end scheme progression during the application process.	3.98%
Targeted stakeholder engagement to identify improvements relevant to the subject area.	3.52%
Customer portal for end-to-end scheme progression, post acceptance.	3.17%
Co-creation of connection offer agreements through self-serve online tool.	2.94%
Online tool for interactive work scheduling.	2.54%

Average response

to be delivered last in RIIO-ED2   to be delivered first in RIIO-ED2

2. Centralised mapping functionality to make data more visible and interactive

- "Data is critical to everybody in terms of making decisions. It's really essential that they have a centralised mapping functionality that is interactive for customers. Visibility of all connections. At the moment we are lacking in the visualisation of assets in the networks and the impacts of these on connections. I think visualisation of the assets and the understanding of their performance is important. You need some form of industrial AI system. People can then derive data to innovate solutions. At the moment we don't have these embedded in the networks, but I think we need to." **Energy consultant**

- "I picked up on the easy access element. Local authorities want to increase the number of connections in their area, they need to have awareness of connections. But they also need the information quickly, and nothing too technical. What is already in an area too." **Energy consultant**

- "I like how it's being centralised. Just highlighting the point that it needs to be accurate. The number of times I've looked at a substation and then found out the information is inaccurate. In terms of centralised mapping, the more information, the better. Examples like can the substation be expanded, the more information you can give us, the better educated risks we can take. Less interaction too with customers, it would save a lot of time. Particularly more granular information." **Major connections customer**

- "From my point of view, it would be key to keep the data on there up to date. For example, how often is it refreshed? How do you make sure the data you are providing is relevant? However, I appreciate that historical data is useful, too." **Energy consultant**

- "My questions were around the level of data that's provided. At the moment, you can get reasonable access at primary substation level, at secondary substation level it's quite limited and more access at that level would be useful. Also, data tends to go out of date, so I'm hoping talking about real-time data is going to be an improvement. Anything that means we can rely on the data more fully would be good. For example, we've got a really interesting interactive map for EV charging, but it would be great to have that extended for solar and renewables more widely. I wouldn't say it's the highest priority, but it's certainly really important." **Community energy group**

- "You need to be able to look on the map and see whether we can put a solar farm or roof somewhere. If you do this, the less time we will spend ringing you up. Saves both of us." **Community energy group**

- "This would be great for independent connection providers looking to establish low-voltage connections. I would particularly like to have access to network maps, particularly around substations for low-voltage networks and the clustering of connections." **Storage and renewables provider / installer**

- "Start from the high-voltage connections and work down. Higher-voltage connections are easier, so you should use any lessons learned from the higher connections for the trickier lower connections." **Energy consultant**

- "If it's going to be improved significantly, then it's worth doing. Having more data being openly available to then find out the best connections options is really useful, especially for community groups. It's good for them to know what areas are constrained." **Energy consultant**

- "Heat maps are a great idea. It needs to be more granular and give more information than the high-level indicator that it currently is." **Community energy group**

- "The mapping that WPD provides from a network point of view is very good compared with other areas of the country." **IDNO**

- "The heat maps are quite nice, it would be good to have some more guidance on how to use them though. There is a lot of information on them, but make that information more accessible. It would be good if it came with a second document on how to use these maps for different purposes." **Academic institution**

- "Some other DNOs have included information about reinforcements in each substation, showing that, for example, in three years' time, this substation is due to be upgraded. They may also show that there's already so-and-so connected here, and five or six projects looking to connect in this area. Have a reinforcement map alongside the heat map, and a works map alongside too." **Community energy group**

3. Targeted stakeholder engagement to identify improvements relevant to the subject area

- "From our perspective, it would be really valuable to be able to engage directly with WPD and talk through our aspirations for our parks. That strategic level discussion would not only help us, but would help WPD in terms of your planning." **Major energy user**

- "It definitely sounds worth doing, speaking from a planning authority point of view. It needs to be a more proactive approach. If you can go out and speak to stakeholders and find out where they are likely to need EV charge points, etc., then I suspect you're going to have a lot of projects coming out of the woodwork that you weren't expecting. You need to talk to planning authorities because they are planning for the future." **Energy consultant**

- "Are WPD consulting with stakeholders about structural changes in the business? We deal with small demand connections, and I don't think that WPD have consulted with stakeholders about these types of changes, which will help us with the upcoming transformations to the network." **Energy consultant**

- "My concern is that WPD had previously been upholding high standards, but those standards are starting to slip with the takeover by National Grid. If these standards drop across the board, Ofgem is not going to step in to fill in the gap." **Energy consultant**

- "Dealing with utilities over the last 20 years, effective changes will only really happen if the directors are engaged and want to hear feedback." **Energy consultant**

- "You have to make sure you build on people's feedback. It's important to show what you are doing with the stakeholder feedback." **Energy consultant**

- "I believe that it needs to be targeted because there are lots of different groups with different requirements, so targeting those groups is very important." **Developer**

4. Customer portal for end-to-end scheme progression during the application process

- "I'm sceptical about any type of customer portal, as I haven't found any that work yet. It would be very bureaucratic with the National Grid ownership and just a tick box exercise, where you check off items in order to move through the connection process. I can see a fight between WPD and National Grid about how the portal being built will feel." **Energy consultant**

- "The only portals that I use are the water industry ones. The mapping system doesn't give you accurate locations, so that you can't meet people on site about specific issues. There are definitely cultural issues at play; the people designing the portal have no idea about what things are like on the ground." **Energy consultant**

- "Having a contact person is quite vital to the people I speak to day-to-day – they want a phone number if they encounter an issue. You can't rely solely on the online portal, but it does sound really good." **Energy consultant**

- "Being able to check your progress is a positive thing, but you do need that in-person contact if you need to make an immediate change, for example." **Major connections customer**

- "If you're doing multiple applications, the online portal would be quite good for that. For big commercial groups to know that all their applications are in one place is useful." **Energy consultant**

- "One of the takeaways for me today would be to start and engage in that process. We want to touch base and make sure if this is feasible for our network. We've got a lot of PV with EVs coming on site. We're our own private network, so we're interested to see this process." **Major energy user**

- "I think project management has always been challenging with DNOs. The most important thing here is making sure people do engage with it. There are lots of parts involved in this, where things have been done but someone hasn't gone on to the website. It's a bit of a challenge – it's about how people engage with it." **Developer**

- "The portal is a good idea for certain kinds of customer that aren't used to dealing with WPD. For larger, more advanced customers, we have our own ways of managing each stage of the process. I think it's a good initiative for entry-level engagement, but I think larger customers need that direct contact." **IDNO**

- "I think it's extremely useful to be able to log in online and check something rather than go through a phone system." **WPD Customer Engagement Group**

- "Anything that can speed up the process of getting customer connections. The idea of providing an online process of getting connection offers that are more flexible and interactive is really interesting, particularly if it can integrate some of the more flexible and innovative ideas. If this makes us more informed consumers about the options and provides us with a way of interacting and getting the right outcomes, for me this is one of the most important bits." **Community energy group**

- "From our point of view, that would be particularly important. One of the KPIs in our contracts is keeping the local authorities up to date with how our schemes are going. It does tend to be a last-minute notification when the connection is ready to go. Just to be able to go straight to the local authority with that unfiltered information would be useful." **Business customer**

- "I think that online tool would be truly beneficial for our contractors." **Storage and renewables provider**

5. Co-creation of connection offer agreements through self-serve online tool

- "The people who want to get involved with low-voltage EV connections are dabblers and early adopters. They don't really know whether the information is correct and take up a lot of time of WPD staff. Automated self-service portals or assistance from community engineers through such a platform would be really helpful." **Energy consultant**

- "80% of my clients who want a low-voltage connection will ignore you when you talk about the potential cost involved and then complain after they go through the application process. It's so frustrating. Anything that supports these types of client would be good." **Energy consultant**

- "When we do talk to planners, there are potentially bespoke solutions. We take risks. So that's why I'm slightly worried about this. We could be in a situation where we use this tool, and we don't have the right answer. I like the idea, but definitely don't get rid of the connection surgeries that you have. Incredibly important to us that we have that engagement." **Major connections customer**

- "As long as it doesn't get rid of the conversations we can engage in; we really like that interaction." **Energy consultant**

- "UK Power Networks have a good automated connections portal, which gives you a good range. The question is, does that replace you having to ring up the engineer to do a project, or is it more for smaller-scale projects that are a bit simpler? Is it scale-related, or would all new customer requests go through this portal and be dealt with there? If it works for the vast majority of connections, then definitely yes, automation helps quicken everything up." **Community energy group**

- "Will this work at all levels? For example, more than 10 MW? I'd like it to." **Distributed generation customer**

- "Transparency of process is welcome. I'd be interested in understanding the parameters. What knobs and buttons can you play with in order to attune your design, and how far in the future can you do this? I wonder to what extent this co-creating allows pre-booking of capacity and how long that remains valid for?" **Developer**

- "It makes our lives a lot easier to not have to pick up the phone." **Developer**

- "It requires co-creation and being more creative. If you can get the demand balanced, then you can get something that works for WPD and the community, so for me this is the most important of all the priorities." **Community energy group**

- "If you're going to create the customer portal for the co-production of connection offers, which for me is the highest priority, it makes sense to integrate that with the other aspects that you've got here around the interactive work scheduling, and so on. It feels to me like there's an activity there that it would be great to see done as early as possible in RIIO-ED2." **Community energy group**

6. Customer portal for end-to-end scheme progression, post acceptance

- "The main issue we are having is with the interface between WPD and National Grid. It's that sort of interface and timeframes making it impossible for some projects to go ahead. It's holding back a lot of stuff for us. Flexibility in online tools, flexibility in the data you publish. It also needs to be very detailed data." **Major connections customer**

- "Yes, that's really useful. We're really struggling with the availability of network engineers. We've got schemes we want to build in the summer that WPD can't deliver because of lack of availability. If we could actually see when that could be done, that would be helpful." **Developer**

- "It would be good for outage planning with high-voltage projects as we're limited by winter – when we can feasibly book in an outage." **Developer**

- "When you're digitising a process, certain things lend themselves to that digitalisation more than others. There's a spectrum between having things completely manual and completely digital. It's about making it easier for people to interact if it's automated, but having that human interaction where quality or creative thinking is required." **Energy consultant**

- "If you spot there have been 60 days since someone has got in touch – maybe they need some input – being able to spot where things break and being able to iron out the creases is good. Someone who knows the process really well and can apply that human common sense to a digitised process. You could build in human elements to this digital portal." **Energy consultant**

- "It is very useful if you're talking about the customers mapping reinforcement of the offer we've accepted. Usually, we don't have visibility of that sort of thing, so seeing that in the portal would be helpful. I would say that's quite a high priority." **IDNO**

- "Customers are getting used to user interfaces, so the key is making these tools user-friendly." **Local authority**

8. Would you like to see regular updates on progress?

With regard to the improvements we are making against the baseline expectations, would you like to see regular updates?
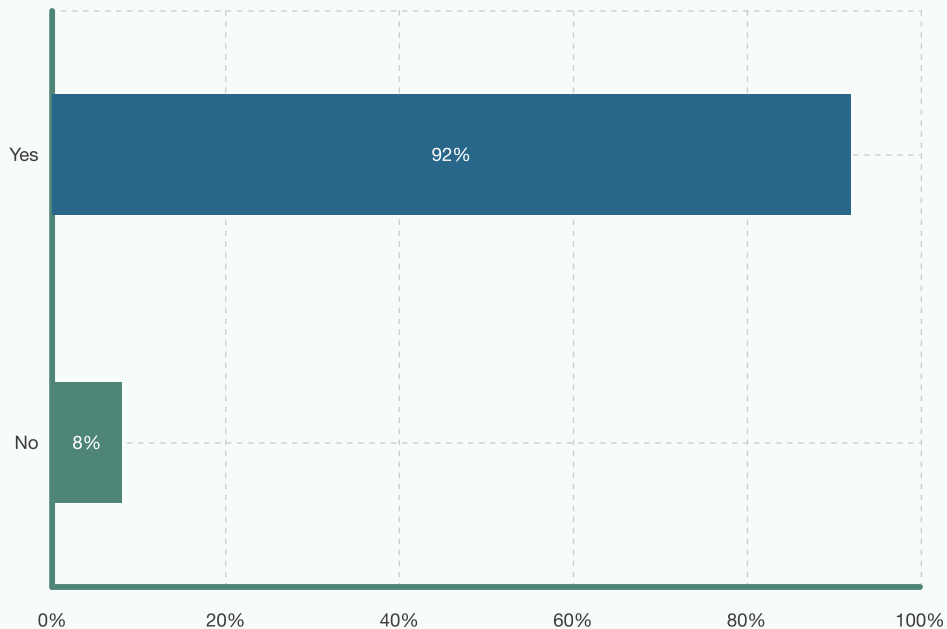

Not sure: 2/50

- "It wouldn't hurt to have the occasional email. But not on the website as I don't check it every day." **Developer**

- "I would like to have access to technical updates through the WPD portal so that we can see where things are at with standards and policies. We deal with WPD, but also with independent connection providers and industrial groups. It's good to be able to stay in the loop about regulations and then be able to discuss equipment with our customers." **Community energy group**

- "It's all about communications for me. It's good that policies are being updated, but we need to know about these updates. One time, we only found out about a policy being updated by chance." **Storage and renewables provider / installer**

- "Having access to conversations about how policies and standards will likely be updated down the line would be vital in giving us an understanding going forward." **Community energy group**

- "If you have a lot of large EV connections, two-way conversations will be hugely important to the roll-out." **Community energy group**

- "It would be great to have improved visibility of upcoming changes to policies and standards, as it takes time to get equipment manufactured. By engaging in greater two-way communications, we can all ascertain what customers need and deliver it to them." **Storage and renewables provider / installer**

9. If so, how frequently would you like to receive updates?

If you answered yes, how often would you like to receive these updates?

Frequency	Percentage
Once per year	12%
Every six months	35%
Quarterly	49%
Monthly	4%
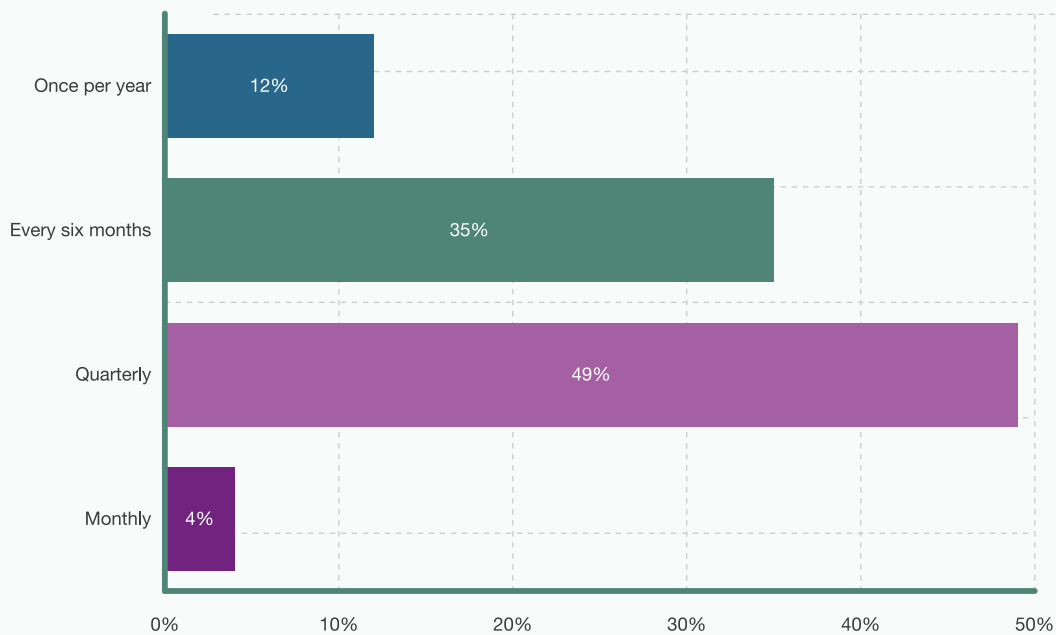
- "Quarterly seems like a reasonable schedule." **Business customer**

- "Would like an update as soon as something changes." **EV charge point manufacturer / installer**

- "If there is nothing to say, there is no point in letting us know, but if you've made significant progress, let us know." **Developer**

- "I would say every six months would be a fair amount to come back and report on for a strategy like this." **Community energy group**

- "We have quarterly coordination meetings with all of the utilities. The more information you can give us, the more likely we'll let you in to do the work." **Local authority**

Workshop Two:
Community energy

The second session contextualised community energy and the role of local energy organisations, stressing that engagement in this area forms a key part of WPD's strategy for net zero. Stakeholders were asked for feedback on WPD's proposed approach and the company's work packages for community energy, which include actions such as working with Regen, a not-for-profit centre of energy expertise, to define the role of community energy engineers and delivering a series of net zero forums.

Views on WPD's proposed approach

Stakeholders were very positive about the role of community energy, agreeing that it is critical in terms of reaching net zero. However, while stakeholders welcomed some of the ideas and approaches proposed by WPD, many felt that more needed to be done to spread the word about the work of, and indeed the existence of, community energy groups. Those already working with WPD on community energy projects felt that this side of the business tends to be siloed, calling for greater integration to open it up further and ensure collaboration with others. As one stakeholder noted, "the best work community energy does is often in collaboration with other businesses and partners". To this end, stakeholders suggested a 'mastermind group', convened and led by WPD, comprised of providers, installers, engineers, architects and local authority representatives. Others felt that while WPD is leading the way in community energy, in contrast with other DNOs, a one-size-fits-all strategy across its four licence areas may not be the most suitable approach, as the needs of each area are quite distinct.

To increase support for community energy groups, stakeholders suggested providing them with information on funding sources, as finance is often a significant barrier to participation. Others recognised that groups sometimes lack the knowledge needed to 'operationalise' their ideas, and that workshops and other engagement strategies could help by providing information, education and support. Some stakeholders pointed out that although Ofgem expects suppliers to act as regional hubs to coordinate community energy projects, this does not happen in reality, and the DNOs step in. Lobbying government for more stringent regulation in this area was seen to be beneficial, and stakeholders also advocated lobbying on building regulations with the aim of making it easier for new-home buyers to 'tick a box' to opt in to greener, community-led energy schemes. Others urged WPD to look not just at where community energy groups may need support, but at opportunities for groups to learn from those who are already leading the way. Feeding into this was the suggestion that WPD should consider not only location-based community, but also "communities of interest" with a view to expanding partnership working.

Community energy work packages

Stakeholders were broadly in favour of the work packages proposed under community energy, particularly packages 2, 3 and 4, which relate to community energy engineers, net zero forums and the creation of YouTube videos for energy education purposes, respectively. When stakeholders were asked whether the five work packages set out by WPD focus on the right areas to facilitate the uptake of new community energy projects, the majority (61%) either agreed or strongly agreed that this was the case, with five participants responding 'don't know / can't say'.

Discussing community energy engineers, stakeholders saw them acting as bridge between WPD and community energy groups, recognising their potential to put disparate community energy groups in contact with one another. To this end, it was suggested that support should be provided to train more local energy engineers, helping people to develop their skills in these areas. This was seen to mitigate one of the primary concerns of stakeholders in the context of work package 2, namely that four community energy engineers would simply not be sufficient to support the realisation of WPD's ambitions for community energy.

Net zero forums for new entrants, new community stakeholders, small to medium-sized enterprises and local authorities were also seen as hugely beneficial in terms of providing hands-on support and advice, with stakeholders noting that their own communities "just want to see a face". Others felt this package went the distance in terms of helping to raise awareness and start conversations with communities, which are key elements to unlocking the potential of community energy.

The use of YouTube videos, where experts would be asked questions on key topics, signposting existing guides on connections and local flexibility markets, was seen as empowering, with a key benefit being that "anyone can access that … in their own time", while questions can be answered on the chat.

Stakeholder's criticism centred around the need for more action and fewer words. Some stakeholders expressed concern that the Net Zero Communities Strategy was developed with WPD and Regen without input from stakeholders. There were calls for the strategy to focus more on pinch points and areas of major concern, such as where there is a conflict between supply and demand, and to incorporate a follow-up commitment to make community energy the solution.

Verbatim comments and voting

1. What do you think about our proposed approach?

- "I think like anything, it comes down to the whole process piece. I think community energy groups are incredibly diverse, people who live and breathe the industry – a lot of retired people that have time on their hands to do this. They do need that hand-holding." **Developer**

- "I like the idea of each region having a specific contact point. That would provide a consistent approach." **Storage and renewables provider / installer**

- "It's a good idea, but its success will depend on the remit of the staff involved and how good these members of staff are. In my dealings with other DNOs, some of their area-based engineers are not experts. In addition, there's an expectation that people will want to have face-to-face interaction in order to help to resolve issues, so you need to think hard about how this will be coordinated and ensure that the right staff are in place." **Energy consultant**

- "I didn't know WPD was doing anything on this. I'm too busy working on the commercial stuff. I've never worked with a community energy group, but I definitely would. That's partly why I'm here today." **Energy consultant**

- "We already work with WPD's community energy team. It's very siloed. It might be worth integrating it more into other WPD areas to open it up and ensure collaboration with others. The best work community energy does is often in collaboration with other businesses and partners." **Energy consultant**

- "You need a mastermind group comprised of providers, installers, engineers, architects, WPD and a local authority. Without those six, it's not going to work." **Energy consultant**

- "Maybe WPD can be a leader or convener in this space." **Energy consultant**

- "I imagine the needs across the four different licence areas are going to be quite different. Having a strategy that's the same for all, I'm not sure how successful that's going to be. The challenge is how do you make sure you're prioritising your scarcest resources where they are needed?" **Energy consultant**

- "We've been running a forum in each of the licence areas. We're working with Northern Powergrid. Some of their ideas are slightly different. WPD is definitely one of the best DNOs for community energy, though." **Energy consultant**

- "I'm a big fan of community engagement as a key part of the deployment of renewable systems. However, I worry that WPD may be swamped by the need to educate, hand-hold and help communities prioritise their work. Working with Regen and/or other organisations could be a big help with that broader agenda." **Business customer**

- "The overall approach is good, but a major barrier is finance. Different information on funding sources could be useful here. There are also questions of leadership, and there's the issue of implementation and actually making things happen." **Local authority**

- "I think central government policies hamper us. If the reins are loosened at this level, there will be a lot of potential. Many local authorities do want to encourage these initiatives." **Local authority**

- "Last year WPD ran a specific information call for projects targeting communities, which was brilliant. For me one of the strategies would have been information. Could have involved an online approach to helping communities. Quite often communities have experience of particular ideas but don't really have the knowledge to operationalise those ideas. It would be nice to see something more concrete." **Community energy group**

Is there more we should be doing to facilitate the roll-out of community energy projects?

- "Ofgem expects suppliers to act as a hub, which would help to coordinate community energy projects, but they're not interested. As a result, DNOs have forever been filling in this void that has been left behind." **Energy consultant**

- "I agree that suppliers could also be more proactive in helping people to get these community energy clusters off the ground. Lobbying Ofgem to put stronger regulations in place could help here." **Storage and renewables provider / installer**

- "Having a community engineer could be good and could change people's expectations around what they want housing developers to deliver. It would be good to have a tick-box option when buying a new build to have these new technologies, and they could help to create community energy projects through the extra network capacity added." **Community energy group**

- "People are very aware of the cost of energy at the moment and would probably pay attention to any energy efficiency components to new-build homes, so I would work with housing developers to get them in place." **Storage and renewables provider / installer**

- "I think it's quite patronising talking as though 'they don't know what they are doing, how can we help them?'. I think it's really good that WPD want to engage all communities, but they need to have community energy champions to show other groups what they can aim for. So perhaps communities who are starting out might need more support, but some community groups are really leading the country, so how do we harness that?" **Community energy group**

- "We need to be thinking in terms of communities of interest as well as communities of location." **Community energy group**

- "When I worked in Boston, we had a scheme that used third-party funding that produced energy for the local social housing estates. WPD didn't even know we existed and didn't necessarily appreciate the impact our scheme had on their network. You need to know who your market is and who your potential market is. A lot of local authorities will be a good starting point as they will have a good inroad into contacts." **Local authority**

2. Do you have any comments on our work packages?

How do you feel about the following statement?
"The five work packages set out by WPD focus on the right areas to facilitate the uptake of new community energy projects."

Average
3.39

Strongly disagree	11%
Disagree	9%
Neither agree nor disagree	20%
Agree	52%
Strongly agree	9%
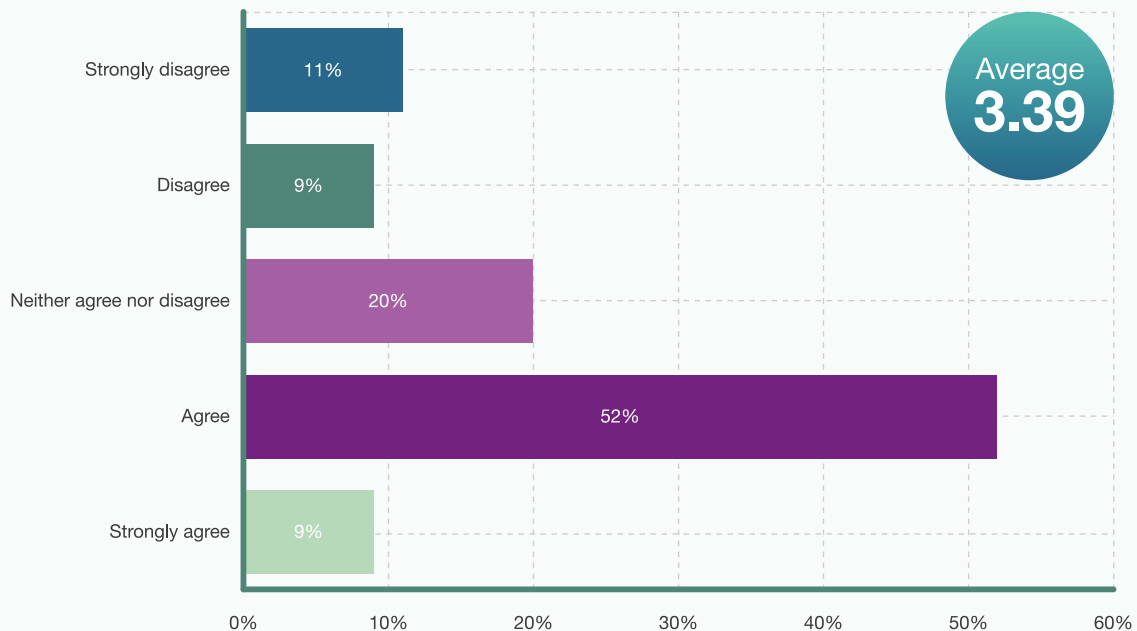
Don't know / can't say: 5/51

Work package 1: Review and update the existing Net Zero Communities Strategy and provide feedback to stakeholders on what's been delivered by December 2021

- "Work packages 1 and 5 seem to be the same thing. There's a lot of stuff about talking and not too much about doing." **Energy consultant**

- "I've been involved in some community regeneration projects for my area and there seems to be a lack of leadership, and no one really seems to know what they want. You need someone who can lead these initiatives and pick the projects that are viable." **Energy consultant**

- "I've read the document, it's quite good, it needs some tweaks, and it needs to fit into local end-to-end use. It would be good to see a plan for using locally produced energy as opposed to sending it all down the pipes and back again." **WPD Customer Engagement Group**

- "The strategy seems to be the key document and it almost seems like we need another strategy like this to formulate it. So the packages below 3, 4 and 5 are almost an irrelevance until we've got the strategy sorted. And it seems like the strategy has been developed with WPD and Regen without input from stakeholders. The approach of this community energy strategy must be more focused on the pinch points, the areas of major concern, so if there are hotspots that are struggling from a security of supply point of view, that should be focused on. The strategy should initially be focused on areas where there is conflict between supply and demand, to make community energy the solution. Look for businesses who can help." **Energy consultant**

Work package 2: Work with Regen to define the role of a community energy engineer and provide regular sector support for this role

- "WPD's region is very large. Four people covering that region is pushing it a bit in terms of the ability of local partners to engage with them. I like the idea of having somebody in that role, but they're going to be pushed in terms of engaging effectively with local communities." **Developer**

- "It doesn't feel like enough people. Why wait until RIIO-ED2? Is it money? Defining a role doesn't seem so difficult to me. I feel as though it should be sooner." **Energy consultant**

- "I think it's a great idea. Having a community engineer that understands everything is good. Once I had looked on the map and seen that we could have a connection, I would then go on the tools and find out the costs. You'd need a time scale for the connection. The timing is quite important. WPD would help facilitate that with us. When the connections are done, if the community engineers could be the go-between with WPD and the community energy groups. It's much easier if you're dealing with one person." **Community energy group**

- "As the hub of a network, the community engineers should be able to put the disparate community energy groups in contact with each other. They tend to build the knowledge and then keep it locally, but the system engineer could be the bridge to share that information with other groups trying to achieve similar things." **WPD Customer Engagement Group**

- "I would like to have seen one of those work packages including assistance in developing energy engineers and helping people to develop their own skills in these areas, especially if people are retired and looking to develop themselves. Could be in work package 2, define but also develop." **Developer**

- "Once you've got those dedicated community engineers, you can do even more outreach if the YouTube videos included engagement and skills options. That would power up what they can do with you as partners." **Business customer**

Work package 3: Redesign and deliver a series of net zero forums for new entrants, new community stakeholders, small to medium-sized enterprises and local authorities

- "Potentially more of a holistic view from that network energy bit – outside just what WPD do and those other stakeholders and those other bits to get a connection done. Regen have done some work already on this. Stuff on a 'how to' document." **Developer**

- "One of the groups says they just want to see a face. They want to see someone that is local and down the road. So really that's the level you're missing." **Energy consultant**

- "This goes a long way to addressing the awareness piece and starting conversations with communities. You don't want to swamp them with information, though. It needs to be clear information in the right format." **Energy consultant**

- "In terms of EVs, heat pumps and stuff, we are going to be forced down that route to get away from gas. From our customers' point of view, it's a new world and we have to learn about it together. More education would be very beneficial." **Developer**

- "A lot of stuff included in community energy groups is just good for general customers. You need to be making sure customers are aware that this material is out there. Keep it simple language, plain and easy to understand." **Community energy group**

- "I think engagement at the very early stages is very important." **Government**

- "Will get the best results if people feel like they are involved." **Government**

- "On flexible connections, I think this might be an area that comes in to work package 3 or 4, but providing cutting-edge information about the latest innovations. Funnelling that information in a practical, usable way back out to communities and local authorities that don't have the depth of sector knowledge that the commercial sector has." **Community energy group**

Work package 4: Produce a series of YouTube short videos, asking experts key questions and signposting existing guides on connections, local flex markets, EVs, heat pumps, the Priority Services Register, etc.

- "I like the idea of producing YouTube videos, as they will answer lots of questions and reduce the burden on WPD staff in dealing with queries." **Storage and renewables provider / installer**

- "Lots of new-build housing estates are being constructed and, therefore, lots of new communities are being created. However, as building regulations have not changed, future technologies like storage and solar panels are not being installed as standard, meaning that a trick is being missed. Any information supplied in these YouTube videos could empower these housing estates to form their own community energy groups." **Community energy group**

- "I think 4 is a fantastic idea; YouTube. Anyone can access that, and can do it in their own time. If questions come out from there, there's a chat and people can get back to them." **IDNO**

- "May be good to have an analogue version for people who don't have the possibility to use things such as YouTube." **Government**

- "That could be a useful resource for other sectors. Also an understanding and awareness of this could begin at school level. If you were working within higher and further education to let them know what you're doing, but also show it to be something to aspire to in their own community, there's some value in that, as part of promotion in this work." **Local authority**

- "To what extent is WPD working with other organisations doing a similar task? Would the YouTube videos be better combined with another group that would traditionally be competitors? Is there an audacious goal that you could set out and push other suppliers to get up to that level? There are groups like this sitting in other regions having the same thoughts, so maybe we could work with Southern Water or something like that." **Energy consultant**

Work package 5: A new Net Zero Communities Strategy

- "The really challenging bit of this is what happens in communities that will need a real leg-up to handle net zero. Measures are not joined up and they could be if we make the energy connections of the future match up with the housing and heating measures that local governments are putting in place. What are we doing to get ready for the way in which energy will roll out across the UK?" **Energy consultant**

- "There is an issue around the connections strategy and the extent to which communities can access grid capacity opportunities and compete with commercial players. It's one thing saying it's not a level playing field, and given that DNOs traditionally treat all customers the same, providing preferential treatment could be difficult, but grid connection is one area where you can make tangible inroads. If grid capacity applications get taken away but people don't access their right to use the grid capacity, then finding a way of communicating that to people so they know it's there would be good. If there is publicly funded refurbishment of the grid, given it's public money, is there not a justification for allocating some of that grid capacity for local authority and community projects?" **Community energy group**

- "Some of the biggest difficulties with community energy are funding and capacity. People rely on volunteers a lot, so trying to professionalise the job is important. Also, there's a gap between the big developers, who can spread the risk over big projects, and smaller community energy groups. We are obviously partnering with WPD on this, so any advice on how we can do this one would be welcome." **Energy consultant**

Workshops Three:
Low-carbon technologies (high-volume connections)

Stakeholders were informed of the increasing volumes of low-carbon technologies (LCTs) connecting to the grid and were walked through some process changes at WPD, which include amending the connections policy to allow all domestic (7 kW) EV chargers and most domestic heat pumps (12 kW) to be accepted for connection, provided customers supply certain information (demand of the property, type of main fuse cut-out assembly, and the number of service cables), with any remedial works carried out after the connection is made.

Changing connections policy to allow all domestic (7 kW) EV chargers and most domestic heat pumps (12 kW) to be accepted for connection

When stakeholders were asked whether WPD's proposed process changes focus on the right areas to facilitate the uptake of new high-volume connections, 82% either agreed or strongly agreed that this was the case. This was reflected in the discussions, where WPD's changes to its connections policy to allow most domestic LCTs to connect to the network were greeted with widespread approval, even enthusiasm. Some felt that, with its ambitious net zero targets, WPD has "no choice" but to enact changes to drive down carbon emissions. Others reported that WPD was far ahead of the other DNOs, with one stakeholder noting that, unlike some other DNOs, "WPD has a pragmatic attitude", which is very encouraging. Stakeholders were also pleased to see the commitment to touch the network once until 2050, with WPD's focus on the low-voltage, high-voltage and extra high voltage networks seen as another critical step towards decarbonisation.

Stakeholders emphasised that adopting an ambitious approach to data within the digitalisation strategy was critical to WPD achieving its goals on LCTs, with high-quality, accurate data points needed to drive real-time decisions on assets and inform decisions for investment. As ever, stakeholders stressed the need for greater load capacity, with some noting the discrepancy in the market for loading between IDNOs and DNOs. It was felt that smoothing out these differences would be beneficial in rolling out the changes to WPD's connections policy. Some felt that the projected numbers of heat pumps were too low, particularly given the current spike in gas prices, and that WPD should plan for more connections than expected.

Discussing the three things that WPD needs to know in order to approve a new LCT connection (demand of the property, type of main fuse cut-out assembly, and the number of service cables), many energy experts felt that they would not know how to obtain this information. Although some recognised that this may be more straightforward for new builds, there was concern that for older properties, it would be more difficult to access the information. Some felt that the questions were not sufficient for WPD to filter out the false positives, and that the company should come up with innovative, foolproof solutions to enable customers to answer these questions accurately.

Further improving WPD's systems

Stakeholders saw that, by making it very easy to connect a domestic EV charger or heat pump, WPD would be able to collate the data needed to forecast and plan for a net zero future; it was therefore felt that the most important improvement WPD could make would be to lead the way in the open-source sharing of that information and forecasting, enabling other DNOs, community energy actors and other networks to drive net zero alongside WPD. Although the design and manufacturing of heat pumps is not within WPD's remit, stakeholders reported that improvements to heat pumps were needed in terms of size, ease of use, noise and price in order to facilitate mass-market take up. Others felt that closer collaboration between community energy teams and ground-source heat pump teams within WPD would benefit customers, particularly in terms of education and advice. Similarly, stakeholders advocated greater access to information on flexibility markets, with a suggestion that WPD provide a link to other flexibility providers when processing new connections applications. WPD was also advised to consider how it will minimise disruption to communities when installing new connections, upgrading substations and laying down three-phase cable, with stakeholders calling for enhanced coordination between gas and electricity actors as one infrastructure is removed, and another is introduced.

Automating and digitalising WPD's processes

There was a clear consensus that WPD would have to automate its processes for accepting connections applications to avoid being totally overwhelmed by the projected 2,000 new LCT connections per working day. Stakeholders reported that most people expect 24/7 online service and access, with one participant noting that "people now expect to click a mouse and have something happen". It was felt that customers want the flexibility to manage their lives around their working day by using online systems, as they do when switching car insurance or energy supplier via a comparison site. Some noted that, for WPD, scaling data to automate low-voltage network processes was an important area to address.
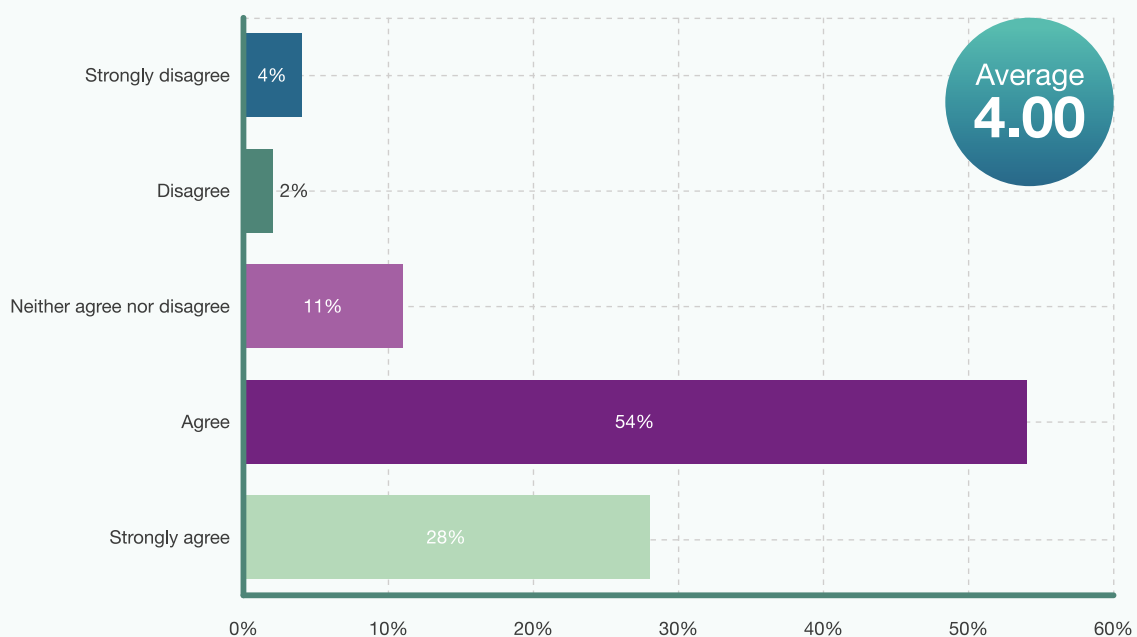
Digital communication routes

It was suggested that three simple communication points during the process of providing a new LCT connection would be appropriate. For some, a mobile app would be a preferred communication route, while others favoured an optimised online customer portal, where people could keep track of their application and receive relevant messages.

Verbatim quotes and voting

1. Are we focusing on the right areas?

How do you feel about the following statement?
"Our proposed process changes focus on the right areas to facilitate the uptake of new high-volume connections."

Average
4.00

Strongly disagree	4%
Disagree	2%
Neither agree nor disagree	11%
Agree	54%
Strongly agree	28%

Don't know / can't say: 0/46

We have made changes to the connection policy to allow all domestic (7 kW) EV chargers and most domestic heat pumps (12 kW) to be accepted for connection. What are your views on this?

- "Network capacity is currently a big issue and lots of new substations are being installed, so I think that the focus is on the right areas. However, data will be key to putting together accurate mapping to inform the strategy and ensure that it develops correctly. This strategy will become more crucial as EV uptake increases. A lot of people will go for multiple-phase charging, which will complicate things too." **Community energy group**

- "To meet the 2030 target, we've got no choice. We have to connect everyone and provide as much as we can." **Energy consultant**

- "Data points are data to drive real-time decisions on assets and what decisions are made for investment. WPD need to be very focused on the data element in their digitalisation strategy. Do you have the right quality and availability of data? It's all about the systems you deploy now that will help with decision-making in the future." **Energy consultant**

- "The low-voltage networks are as important as the high-voltage and extra high voltage networks. Others are like 'what are we going to do', but WPD has a pragmatic attitude. The touch once until 2050. Ofgem has fostered an attitude where you don't do things ahead of need, which isn't good when you need to facilitate all of this." **Developer**

- "I think it's the right approach and the lessons are reflective of what we do as we have a private network on site." **Major energy user**

- "With domestic heat pumps, I think you're underestimating demand, especially as gas prices have been hammered, especially after the hold on Nord Stream 2. Even if people are not saving money, they will want to secure prices for the foreseeable so they're not affected by market pricing." **Energy consultant**

- "I can see some risks in rural areas. In a rural area, you will have 5 kV transformers and one person could overload the transformers with their connections alone." **Energy consultant**

- "I'm encouraged by the direction of travel here and by this particular initiative. It's great that WPD is taking the lead on this. By contrast, the equivalent Energy Networks Association form is not customer-focused and generally a bit rubbish really. It will encourage a lot of expenditure on the network, which will be music to suppliers' ears." **Energy consultant**

- "The trickiest thing from our point of view is the chunkier loads like the industrial estates moving to heat pumps. There is a difference between commercial and domestic discussions." **Community energy group**

- "You are miles ahead of any of the other DNOs. The others are looking at Active Network Management (ANM) for households. Instead of speccing the network for three-phase, they're looking to control the capacity. It's a very different kettle of fish." **Community energy group**

- "The overall emphasis is good owing to the projected rise in applications for these technologies. However, generally speaking, local authorities could better communicate with people about what 2030 means. It sounds unrealistic to many." **Local authority**

- "I think it's really positive. If we can achieve the sort of outcomes you're talking about, it will make a massive difference and I wish SSEN would take the same approach. The time it takes to get simple quotes back is mindboggling. It seems like you're taking a more proactive approach. The holistic approach is great." **Community energy group**

- "My key issue is the difference between DNOs and IDNOs when it comes to load capacity. When we look at loadings on a new housing development, the load is diversified over a 24-hour period. What used to be a 5 kVA load has come down to a lot lower, and it's the same thing with air source heat pumps. When we apply for connection on your network, we've had issues where you're trying to increase the load we've applied for. So it just needs to be consistent across the board." **Energy consultant**

- "It's fantastic to hear that type of flexibility is planned. It's exactly what is needed to focus on reducing carbon intensity!" **Community energy group**

We need to know three things (demand of the property, type of main fuse cut-out assembly, and the number of service cables)

- "I think you're not asking enough to filter out enough of the false positives." **Energy consultant**

- "The fuse cut-out size, for example – most people don't know that." **Energy consultant**

- "I guess the installers will know that, but presumably they'll have to go and visit the property first." **Energy consultant**

- "I was looking at these three questions and I wouldn't know how to answer them or how to find out the answer. I know where the fuse box is, but that's about it!" **Energy consultant**

- "Could they have pictures as an example online?" **Major connections customer**

- "If it's a new build and has a smart meter, then it's a lot easier." **Major connections customer**

- "The difficulty is, when there are so many people calling you up to query this information, you need a foolproof way of any person being able to do this on their own." **Energy consultant**

- "Do you even need to ask the customer? Don't you have that data already somewhere? If you look on Google Earth, you can see the property type and you already have the meter reading, so you can categorise on that basis." **Energy consultant**

Any remedial works are carried out later, after the connection is made

- "As long as it's safe, that's fine." **Energy consultant**

2. How can we further improve our systems?

- "Making it very easy for someone to get a heat pump or EV charger allows WPD to easily get the information that's needed to forecast and plan the future. The most important thing is also for WPD to lead the way in the open-source sharing of that information and forecasting." **WPD Customer Engagement Group**

- "What about the size of heat pumps? Once innovative companies start forcing the market on things like size, others will start following." **Energy consultant**

- "The pricing point of heat pumps compared with gas boilers is really bad, so there needs to be something done here." **Storage and renewables provider / installer**

- "There are potential issues around heat pumps in flats and the noise caused by them. The market needs to be encouraged to put together more viable solutions." **Energy consultant**

- "The idea of community heat projects is ok, but there needs to be some way of getting people to think as a collective rather than as individuals." **Storage and renewables provider / installer**

- "We're seeing an increase in demand for heat pumps among our clients and they don't care about the strain on the network currently, so maybe more education is required at the moment to ensure that expectations are realistic." **Energy consultant**

- "Customers wouldn't have any interest in particular triggers for processes. They just want you to do things better however you can." **Energy consultant**

- "You will need to coordinate between gas and electricity as one infrastructure is removed (gas), and another is introduced (electric)." **Local authority**

- "People will be going to experts, so you may want to combine your community energy team with your ground source energy team." **Developer**

- "I think this is really sensible. We need these early adopter connections; it seems like it's going in exactly the right direction. I think the next stage would be to look at the flexibility capabilities of customers adding those pumps and EVs and whether more could be done at the time of applying to help them link up with other providers." **Energy consultant**

- "If you could provide a link to other flexibility providers and explain a bit about flexibility so that people understand the need for it, that would be great." **Community energy group**

3. How would you want us to automate or digitalise our processes?

- "On big new developments, in terms of direction for retrofit on to existing homes or EVs on a one-by-one basis, I think it sounds great. But I'm wondering whether it can be done in a more automated way. It should be so automated that it should just be done by installers, so the householder goes to an installer and the installer deals with WPD, and that way the householder doesn't have to get involved in the process at all." **Community energy group**

- "Scaling the data to automate low-voltage network processes is an important area to address." Energy consultant

- "There are some big questions to be answered about data protection, but some of those conversations need to be led by Ofgem." **Energy consultant**

- "The simpler you can make it, the greater the likelihood of something being accepted. You're on the right track." **Research, development and technology group**

- "I think a 24/7 system would be better than phoning or emailing. It gives greater flexibility." **Utility**

- "It's 2021 and people now expect to click a mouse and have something happen, it just seems to make sense really. I think everybody will want that eventually." **Utility**

- "Having identified the potential tenfold increase in connections, I think the only way you are going to deal with it is to automate it." **Developer**

- "Online systems are easier to use, just look at changing car insurance."
Storage and renewables provider / installer

- "People are going to be doing it after work and with the amount of requests coming in, it seems essential." **Storage and renewables provider / installer**

4. What digital communication routes would you want us to include in the future?

- "If WPD can come up with just three simple communication points, that would be great. There will be risks, which will be far smaller in urban areas compared with rural areas. However, WPD is proactive when things go wrong, and this is a good initial step in the right direction." **Energy consultant**

- "I'd like to see something on the website so you can just tell them what you're doing and what you've got, and just post a photo up there and wait for them to get back to you." **Developer**

- "In this day and age, phone apps are one thing that you'd like to be able to see as an option." **Developer**

- "Optimising it through a customer portal and doing it all online." **Community energy group**

Workshops Four:
WPD's electric vehicle (EV) strategy

Stakeholders were introduced to WPD's wider EV strategy, which includes initiatives such as installing larger cable assets on new builds and upgraded sites, offering flexible connections to depot-based fleet users, reconfiguring looped service cables, and engaging widely with local authorities and stakeholders, as well as projects aimed at finding innovative solutions for rapid charging at motorway services and filling stations.

Meeting the likely uptake in EVs

A resounding 88% of stakeholders agreed or strongly agreed that WPD's approach focuses on the right areas to facilitate the likely uptake in EVs, with no participants disagreeing. The discussions, however, were more nuanced. Most stakeholders were sympathetic towards WPD in its efforts to accommodate government plans and prepare the network accordingly, despite the lack of in-depth consultation by government with business and industry. For most, WPD was leading the way in terms of this preparation, particularly in the laying of three-phase cable as standard, but many felt that the country as a whole was ill-prepared for the predicted rise in EV use. Given the considerable uncertainty, the sensible thing, most agreed, was to lay the groundwork for maximum uptake but be "malleable" and prepared to "ratchet up and ratchet down according to demand across the whole supply chain". The uncertainty extended to how car use and ownership will evolve in the future, with some predicting that ownership may decline owing to better public transport and carpooling initiatives, and others feeling that the current model will continue to apply, with multiple car ownership for each residence, particularly for rural customers and those with families, as the norm.

Doing more to facilitate the roll-out of EVs

Stakeholders suggested a range of initiatives and ideas aimed at facilitating wider roll-out of EVs. Rapid charging at petrol stations and service stations was seen as key; many provided anecdotal evidence of range anxiety among potential EV owners, and it was felt that ensuring reliable, fast charging at locations already associated with energy supply would go a long way to tackling this. Others highlighted the barriers to charging for people in terraced houses or apartments without access to driveways, with stakeholders stressing the need to work closely with local authorities to achieve equitable EV charging. Stakeholders also wanted greater collaboration between WPD and local authorities to facilitate the roll-out of charging for electric buses and other forms of mass transit. In all cases, stakeholders advocated education, targeted engagement and close collaboration with partners to accelerate roll-out and uptake of EVs.

Looking ahead to the decarbonisation of heat

Stakeholders accepted that the next significant challenge facing WPD, and the country as a whole, was the decarbonisation of heat, which, although in some ways inextricably linked to the decarbonisation of transport, comes with its own set of challenges. For many, the main barrier to adoption is the high cost of heat pumps, and changing regulations and increasing support for less wealthy customers is vital. Others felt that a push to insulate properties is a key part of the puzzle, especially as most of the UK's housing stock is old and very poorly insulated. In terms of managing network demand and keeping costs down for customers, insulation and greater energy efficiency were seen to be the only solutions. Innovative solutions such as district heating could lead to working at scale with ground source and air source heat pumps, particularly as we move away from gas, and close collaboration with the gas networks to facilitate this transition was considered to be crucial. With regard to reinforcement, stakeholders urged WPD to take a risk-based approach, seeing that rural areas at the edge of the grid were more likely to take up electric heating first, given the price differences between gas and oil heating, and should therefore be prioritised to manage reliability. An interesting suggestion was made in relation to developing apprenticeships that specialise in different types of network, such as 11 kV, to build knowledge and skills in different areas for the future.
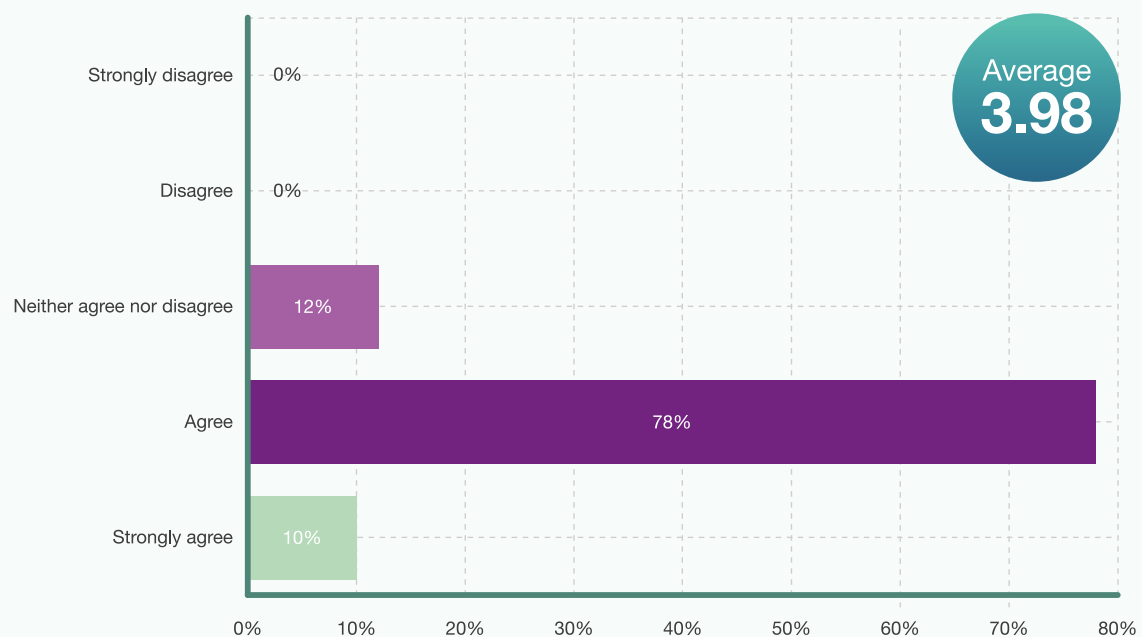
Engaging on the decarbonisation of heat

75% of stakeholders agreed or strongly agreed that WPD should do more to engage with other parties (local authorities, housing associations, etc.) on the decarbonisation of heat, with 15% remaining neutral. In the discussions, stakeholders felt that WPD could engage more closely with major housebuilders and housing developers to push for energy efficiency and for LCTs to be installed as standard. For most, leadership had to come from the top, with government centralising and regulating the energy changes needed to drive us to net zero, and with WPD engaging with MPs, local authorities and other key partners to make this a reality. Hybrid workshops, such as the one held for this event, were felt to be the most effective way to reach the widest range of stakeholders.

Verbatim quotes and voting

1. Do you think we are on course to meet the likely uptake in new EVs?

How do you feel about the following statement?
"Our approach focuses on the right areas to facilitate the likely uptake in EVs."

Average **3.98**

Strongly disagree	0%
Disagree	0%
Neither agree nor disagree	12%
Agree	78%
Strongly agree	10%

Don't know / can't say: 1/42

- "I have a benevolent sympathy for DNOs on this one, as the government seems to be leading the conversation without engaging with the industry and with what is achievable. However, I think that WPD is likely to meet the update in new EVs, as it's working to accommodate what the government has laid out." **Business customer**

- "There are some benefits to not having national guidance and leaving DNOs to their own devices and to talk to each other, but eventually the government needs to lead the way with a framework." **Energy consultant**

- "We really should be looking at public transport on site. Additional chargers for public transport. Not just domestic and motorway services and towns." **Major energy user**

- "Some more about flexibility and futureproofing. I know we're doing it with 33 kV modular transformers at service station areas. When we initially build into forecourts for 6 MW – it's a huge amount of charging to put in infrastructure now to look better in the future." **Developer**

- "You are way ahead on three-phase particularly." **Community energy group**

- "Already companies like Shell are looking to convert their fuel stations into EV charge stations. WPD is doing the right thing, but I don't think the whole country is up to speed enough to reach these targets." **Academic institution**

- "Your plans have to be malleable in order to ratchet up and ratchet down according to demand across the whole supply chain." **WPD Customer Engagement Group**

- "At SSEN we are seeing much of the same. We are seeing an increase in applications, and the systems we have in place aren't up to the task for what is coming our way." **Utility**

- "I don't think anybody is ready because we still don't know exactly what we need. Not sure how reinforcements are going to be handled by all DNOs, not just WPD." **Utility**

- "In the wake of COP and as local authorities do more to encourage public transport, there could be a move away from private vehicles in general." **Local authority**

- "Should we put a charge point in every house if things will then move more towards public transport, like in Scotland?" **Developer**

- "I don't know a family that's a one-car family, or a one-car business. Everything I see is a charging point for a single car. I don't think they're aiming high enough because it's a difficult challenge." **Local authority**

- "In cities we can look at alternative modes of transport that have even lower emissions than EVs and shift away from private cars completely. But rural areas are more likely to need to maintain that private ownership of cars." **Local authority**

- "The presentation seemed fine and good and the plans made sense. It's difficult to answer the question as you'd need to see more practical delivery first to make that sort of judgement, but the objectives and the approach all seem sound." **Community energy group**

- "I think the speed with which EVs are going to impact the system is potentially faster than implied in the presentation. I don't know if WPD are moving fast enough. A bit more of a proactive approach is needed. Coordination with councils especially should be almost yearly and WPD should be going out and finding the councils and making contact with them." **Energy consultant**

2. Is there anything more we should be doing to facilitate the roll-out of EVs?

- "We can't install MV substations in existing petrol stations – is that what you said in the presentation? I use the super chargers on the motorway for Tesla, but they are miles away from the service station amenities because the charge points have to be a certain distance away from the petrol pumps." **Energy consultant**

- "We don't seem to be putting charge points in for terraced houses. With apartments, they can have dedicated parking spaces and we can put them in. It is getting easier to put them in but depending on your property type it can be difficult." **Major connections customer**

- "What happens in areas where people don't have driveways? How are you going to help people with solutions for on-street parking? That will be a huge challenge. You also need to be able to tackle issues around charging pricing and charging convenience for customers. That will help to drive uptake." **Storage and renewables provider / installer**

- "The local authorities will be taking responsibility for getting enough EV charging infrastructure in their areas. Some local authorities are ahead of the game, but about half may not have anything already. I suppose that's probably down to Office for Zero Emission Vehicles more than yourselves, but you need to be aware and engaged as much as possible." **Community energy group**

- "We're going to have to think about the way we use cars differently. You won't be able to quickly pull up and fill up your car in five minutes. There needs to be education around this." WPD Customer **Engagement Group**

- "Councils are encouraging people to get away from the idea of a private car. This is easy in cities but in more rural areas we need to do more work to convince people of that. Again, this is an issue of education." **Local authority**

- "Look at bus networks. Where I am based, Stagecoach would love to switch to electric buses. Currently, they claim to be green on the sides of their buses merely because they're not cars, when they would really like electric fleets." **Local authority**

- "Should WPD be more proactive in finding out which customers will be interested in getting an EV in the future? What will happen is that all of a sudden a load of people will want to get an EV at the last minute, as we get closer to 2030, and there might not be the capacity in the organisation to deliver those connections when people actually need them." **Energy consultant**

- "Having tried to buy an EV lately, there was a one-year waiting list to get one. Could you be more connected to the manufacturers to find out how many vehicles they're expecting to make in the next year based on demand? Also using analytics to find the concentration of people that can afford to buy these things, because they're not cheap." **Energy consultant**

- "From a local authority perspective and working on climate change, that's exactly the kind of thing we're looking at: positioning new residential developments, schools, shopping centres and things like that closer together to avoid the need for people to have to use traditional transport options. It's bringing WPD but all the stakeholders into those conversations." **Local authority**

- "If people do want to install private chargers and they don't have off-street parking, suddenly that becomes a planning issue and it comes back into local authorities' domain. It's that relationship with local authorities which is highly important to encourage uptake." **Local authority**

- "The advice bit feels really important, but it's vital that it's not just over to the Energy Saving Trust, you deal with it, that you integrate that in your own communications, because it will have far more power that way and otherwise people drop out of that conversation." **Community energy group**

3. We are now looking ahead to the decarbonisation of heat. How would you like us to do this?

- "Heat pumps are so much more expensive than gas boilers and the cost of electricity is going through the roof. There needs to be more financial support there, particularly for poorer customers." **Storage and renewables provider / installer**

- "Unless regulations drive the changeover to heat pumps, progress will be sluggish." **Storage and renewables provider / installer**
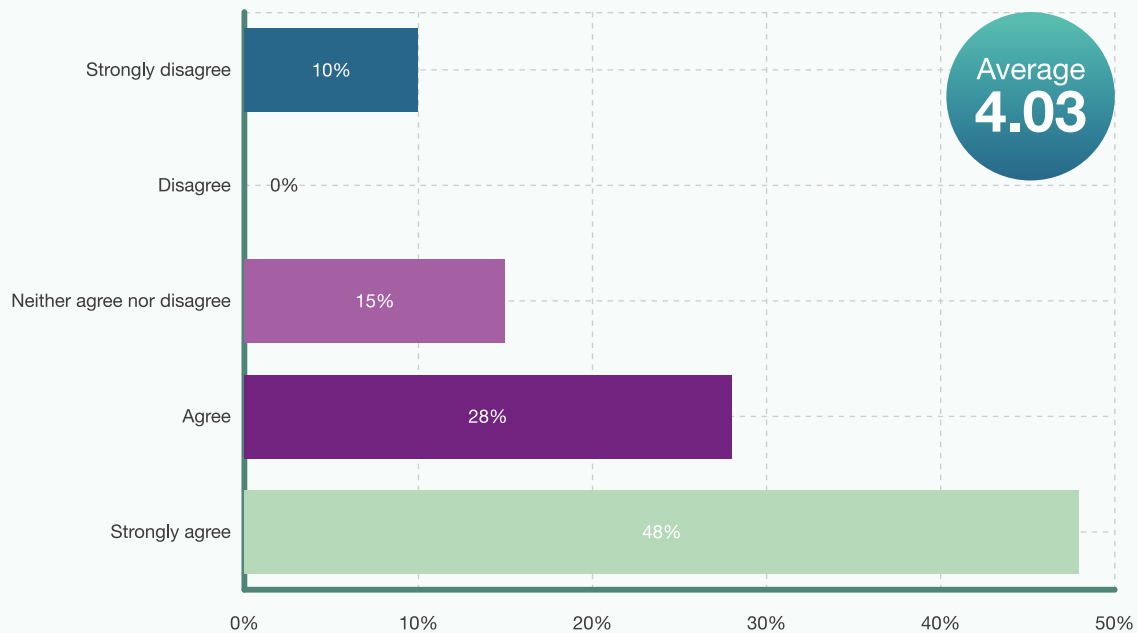
- "If you put regulation in place that slashed the price of heat pumps in half tomorrow, that would have a huge impact on WPD's operations. The lower prices would result in a huge uptake in a short period of time and would potentially catch WPD out, as there wouldn't be enough capacity or infrastructure to support a large heat pump network." **Storage and renewables provider / installer**

- "Some DNOs are leaders and others are followers. Lots will instinctively wait for someone else to come up with the best solution and then rush to put it in place themselves. As a result, lots of heads are buried in the sand in the meantime, which doesn't help support wider efforts to get the right infrastructure in place for heat pumps at a wider level. However, WPD are definitely one of the DNOs that are instinctively happy to lead." **Storage and renewables provider / installer**

- "Labourers to install these heat pumps and boilers could be a major obstacle, as well as workers involved in planning any heat pump roll-outs." **Energy consultant**

- "It feels like more work could be done on segregating apprenticeships to different types of network (11 kV, for example). Developing these specialist skills in young engineers would be really helpful for the future. It feels like independent connection providers are doing better with this at the moment." **Storage and renewables provider / installer**

- "I've got 10 properties I can get heat pumps put into. People who live there are in fuel poverty and can't afford to pay for gas. I contacted WPD to ask for the heat pumps to be put in and they told me it would be four months. Our funding would've run out by then. There should be some flexibility in WPD to rush through connections that might be time sensitive." **WPD Customer Engagement Group**

- "Perhaps WPD could offer grants to make houses more efficient to reduce energy needed." **Storage and renewables provider / installer**

- "If really the only people who can afford EVs and heat pumps are setting the agenda for how we shape and design future electricity networks, that's not going to bring value to an area or a community if the majority of people can't have a heat pump or an EV because of their driveway. This holistic approach to capacity planning is really important for both technologies, if only to keep people on board with how they're spending on networks in their energy bill." **Storage and renewables provider / installer**

- "Just wondering about the interaction that WPD has with the gas network. If we're thinking about district heating and converting gas to electricity, then close collaboration between the network providers in these areas could be really helpful. Then, thinking about the district heating side of things, there could be real value in developing innovation programmes around how you can work at scale with heat pumps, ground source and air source." **Community energy group**

- "The cost differences between gas and oil heating means that rural homes that are at the edge of the grid and might need more network reinforcements are the ones most likely to adopt electric heating first. So you need a risk-based approach." **Community energy group**

- "There needs to be a push about insulating properties. Insulation on buildings will have the greatest impact on demand for energy, and most of the housing stock we have is well below par and has little to no insulation." **Community energy group**

4. Should we do more to engage with interested parties such as local authorities, housing associations, businesses and home owners? Is anyone missing?

How do you feel about the following statement?
"WPD should do more to engage with relevant parties (local authorities, housing associations, etc.) on the decarbonisation of heat."

Average
4.03

Strongly disagree	10%
Disagree	0%
Neither agree nor disagree	15%
Agree	28%
Strongly agree	48%

Don't know / can't say: 0/40

- "It is worth discussing future designs and plans with major constructors. We're trying to push them to make their homes more efficient, but we get pushback due to priciness. Public pressure alone is not enough, so we need an ongoing conversation with them." **Local authority**

- "I think it's going to have to come from the top. At some point everybody's behaviour is going to have to be influenced. It has to come with a level of power." **Utility**

- "WPD need to focus on speaking to government and local authorities about the issue." **Utility**

- "Local authorities and local MPs need WPD support." **Storage and renewables provider / installer**

5. What does this engagement look like?

- "I think stakeholder events like we are doing now, and open it up to the general public to get their thoughts on the process because a lot of the customers don't even know WPD are supplying their electricity." **Storage and renewables provider / installer**

- "Hybrid conference like today would be a good way of running it." **Utility**
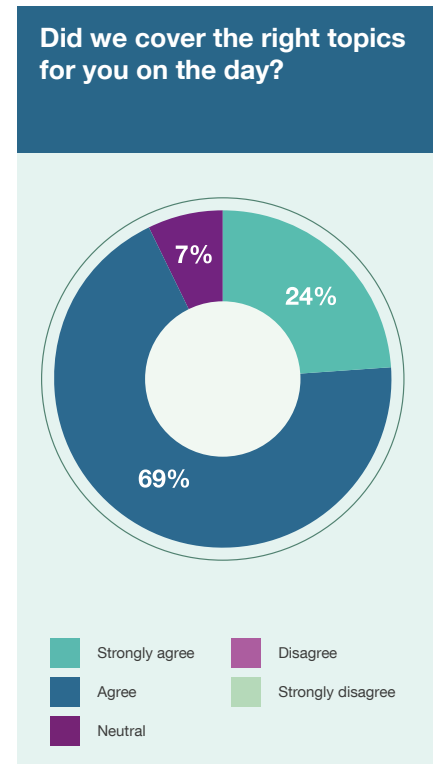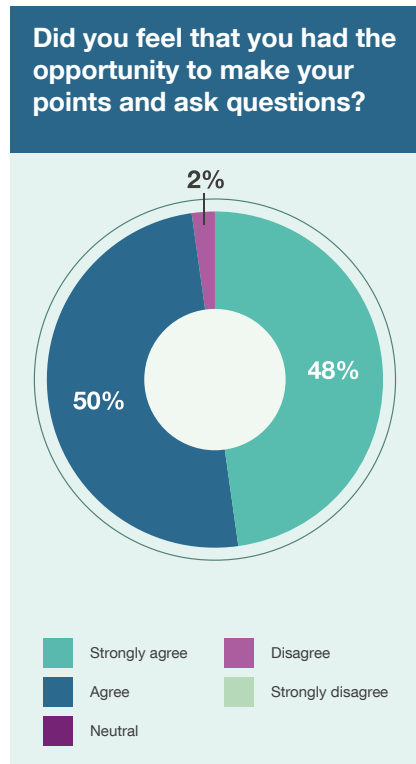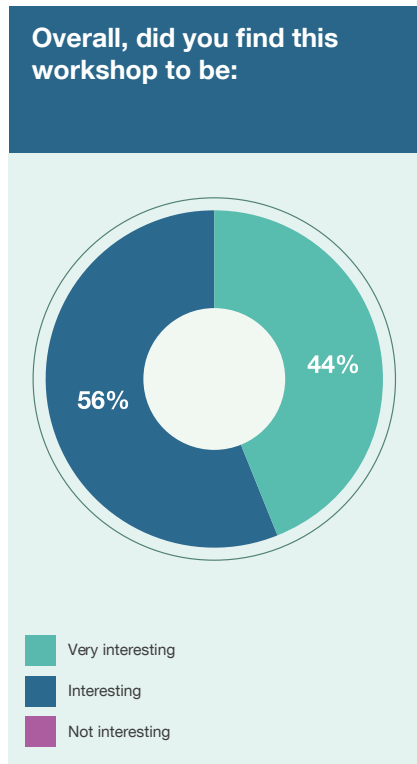
Appendix 1
Participants

A total of 68 stakeholders attended the workshop, representing 58 organisations. The organisations represented on the day are shown below:

Ablaze Green Energy Solutions	Lucy Electric
Accent	Mid Devon District Council
AMT-Sybex Ltd	Nottingham City Council
AVEVA	Power for Good Coop
Babcock	Prologis
Bath & West Community Energy	Redrow Homes
Bath and North East Somerset Council	REG Power Management
BFI National Archive	Regen
Birmingham Airport	Rugby Borough Council
Capula	Rutland County Council
Charnwood Borough Council	Silverstone Green Energy
City of Lincoln Council	SIMEC GFG
CoGen	SMS Plc
Electrical Testing Ltd	Solihull Metropolitan Borough Council
ENWL	South West Water
ESP Utilities Group	Speedwell Energy Services
Exeter Community Energy	SSEN
Gloucester City Council	Sun4net Ltd
Gloucestershire County Council	T4 Sustainability Ltd
Greater Nottingham Planning Partnership	Technical & Development Services (Northern) Ltd
Green Frog Power Ltd	TUSC Ltd
GridBeyond	UCSM Ltd
Gridserve	University of Exeter
GTC UK	Warwick District Council
Hitachi Europe Ltd	Wattify Ltd
Hook Norton Low Carbon Ltd	WPD Customer Engagement Group
IBM Business Consulting	Zero Carbon Shropshire
Jacobs	ZIV Automation
Low Carbon Hub	Zlc Energy Ltd

Appendix 2
Workshop feedback

After the workshops, stakeholders were asked to complete a short feedback form. The feedback was as follows:
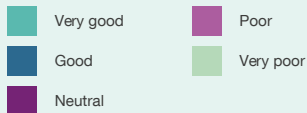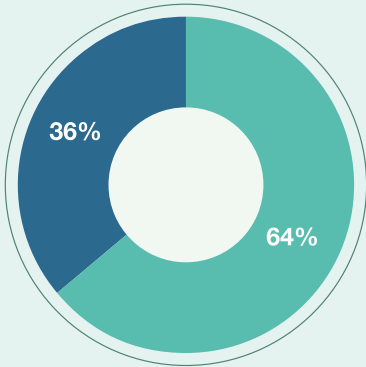
Overall, did you find this workshop to be:

44%
56%

- Very interesting
- Interesting
- Not interesting

Did you feel that you had the opportunity to make your points and ask questions?

2%
50%
48%

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

- "Very, very good table facilitator."

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

7%
24%
69%

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

- "Could have done more to cover how WPD will collaborate closer in future with Local Energy Systems projects, actors and new-model operators."

- "Really useful for me. Nothing else to add."

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

- Very good
- Good
- Neutral
- Poor
- Very poor

36%
64%

What did you think of the way the hybrid approach to this workshop worked?

- Very good
- Good
- Neutral
- Poor
- Very poor

7%
41%
52%

- "Well organised and facilitated. Good questions asked and covered all bases."

- "They did great, promoting discussion."

- "Well timed. Professional."
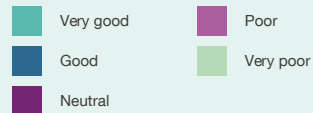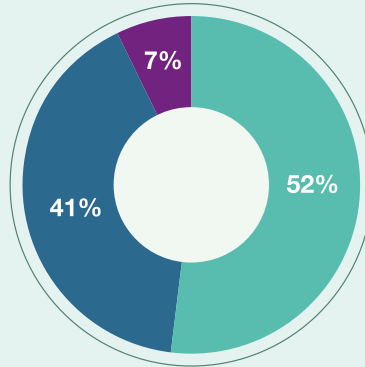
- "I was sceptical but it worked very well."

- "Great workshop! Well organised."