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Communications

WALES & WEST UTILITIES

BUILDING A SUSTAINABLE FUTURE: SUPPORTING THE TRANSITION TO NET ZERO

FEEDBACK REPORT

JANUARY / FEBRUARY 2021



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INTRODUCTION

On 27 January and 3 February 2021, Wales & West Utilities hosted two online stakeholder workshops aimed at eliciting feedback from stakeholders in its South West and Wales licence areas, respectively. Both workshops followed the same format and focused on the transition to net zero and the green recovery. Owing to the circumstances regarding Covid-19, the workshops were hosted virtually using the Zoom platform, rather than in person.

Participants in the workshops came from a range of backgrounds, including housing associations, local authorities, and parish / community councils. Stakeholders representing utilities companies, vulnerability service providers and academia were also in attendance. The workshop comprised a series of presentations given by senior Wales & West Utilities personnel followed by discussion sessions in breakout rooms.

The workshop was split into three sessions. These are shown below:

- Session One: Business Plan Update
- Session Two: Supporting the Transition to Net Zero and the Green Recovery
- Session Three: The Net Zero Challenge – Compact Hybrid Heating Systems

Wales & West Utilities instructed EQ Communications, a specialist stakeholder engagement consultancy, to independently facilitate the workshops and to take notes of the comments made by stakeholders. Comments have not been attributed to individuals to ensure that all stakeholders were able to speak as candidly as possible.

EXECUTIVE SUMMARY

Each workshop session opened with a presentation by a Wales & West representative, which was followed by a discussion session in breakout rooms. This report contains summaries of the findings from the discussion sessions, as well as verbatim comments and written feedback submitted by stakeholders.

SESSION ONE: BUSINESS PLAN UPDATE

In the South West, stakeholders representing local authorities, parish / community councils and housing associations were keen to get involved in the green recovery and find out how Wales & West Utilities' plans for the future network aligned with their own organisation's plans. In Wales, the high proportion of representatives from housing associations were keen to learn about the potential future changes to housing stock and to gather practical information on behalf of the people they represented.

In terms of how Covid-19 had affected people's roles, it was noted that, while the pandemic had led to project delays, the switch to remote working and virtual meetings had presented unforeseen benefits, with one vulnerability service provider noting that they had been able to broaden the scope of their outreach by working online. In the context of energy specifically, stakeholders were concerned that the pandemic had led to a rise in fuel poverty among types of customer who were not ordinarily affected by it and were therefore more difficult to identify.

SESSION TWO: SUPPORTING THE TRANSITION TO NET ZERO AND THE GREEN RECOVERY

Stakeholders in the South West discussed what they felt was the lack of a coordinated approach to the net zero transition within the energy industry, which only fuelled confusion for customers. Looking ahead to Wales & West Utilities' role in the future energy system, they felt the company was well-placed to provide its expertise to key groups, including developers, local authorities, and communities, as well as to lobby government for changes to policy. Stakeholders in Wales were particularly keen for Wales & West Utilities to 'champion, facilitate and lead' on the net zero transition.

In terms of the existing barriers to net zero, stakeholders cited a lack of decent energy advice in the public domain, 'hidden' poverty, and the need to change the narrative around gas as a dirty fuel to an energy resource that will be central to the net zero transition. To mitigate these challenges, stakeholders called on Wales & West Utilities to use simple and digestible language, socialise the cost of strategic investment, provide customers with practical energy-saving tips and keep energy options as broad as possible rather than forcing customers down a certain path.

SESSION THREE: THE NET ZERO CHALLENGE – COMPACT HYBRID HEATING SYSTEMS

Stakeholders across both events agreed that cost was the biggest factor when considering changing their heating system. When asked to vote on these factors, 'up-front investment cost' scored highest in the South West, while 'ongoing running cost' was felt to be most important in Wales. Generally, it was felt that different demographics have different concerns about – and preferences for – the various heating systems. In spite of this, it was felt that Wales & West Utilities could provide all customers with clearer, more accessible information on the pros and cons of each system along with each system's suitability to different types of property. Early engagement, especially on the cost and reliability of each system, was seen as important to ensure that elderly, rural and fuel poor customers in particular are not left behind in the transition to net zero.

WRITTEN FEEDBACK

After the workshop, stakeholders were asked to complete a short feedback form. Some of the key findings are shown below. A full breakdown of the feedback can be found in Appendix 1 of this report.

- 100% of attendees who filled out a feedback form told us that they found the workshop either 'very interesting' or 'interesting'.
- 90% 'agreed' or 'strongly agreed' that they had had an opportunity to make points and ask questions.
- 95% 'agreed' or 'strongly agreed' that the right topics were discussed on the day.
- 90% thought EQ Communications' facilitation was either 'very good' or 'good'.
- 95% felt the online format worked 'very well' or 'well'.

ATTENDEES

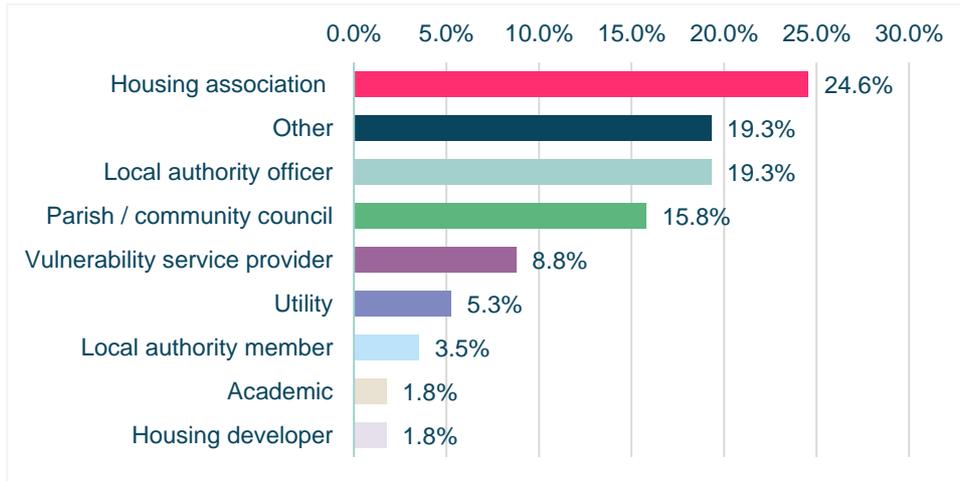
In the South West, there was a total of 42 attendees from 36 different organisations, which are shown below.

Abbey Manor Group Ltd
Abri
Alliance Homes
Camelford Town Council
Centre for Sustainable Energy
Citizens Advice
Cornwall College
Cornwall Housing Ltd
Cotswold District Council
Durleigh Parish Council
East Devon District Council
Energy Saving Trust
Exeter Community Energy
Goonhavern Parks Committee
JRC
Kilve Parish Council
Landewednack Parish Council
Lanner Parish Council
LiveWest
Malvern Hills District Council
Milborne Port Parish Council
North Bristol NHS Trust
North Devon Council
North Somerset Council
Plymouth Community Homes
Saltash Town Council
Somerset West and Taunton Council
South Hams/West Devon Councils
South Somerset District Council
St Cuthbert Out Parish Council
St Day & Carharrack Climate Action Group
St Day Community Food Larder
Street Parish Council
Wadebridge Renewable Energy Network (WREN)
West Monkton Parish Council
Wiltshire Council

In Wales, there was a total of 28 attendees from 20 different organisations, which are shown below.

Aughton Automation
Barcud
BSI
Cardiff City Council
Care and Repair
Care and Repair Carmarons
Ceredigion Citizens Advice
CLA Cymru
DCWW
Family Housing Association
Freelance consultant
Hafod
Linc Cymru
Local Partnerships
Pobl
Swansea Council
Warm Wales
Welsh Government
West Monkton Parish Council
YES Energy Solutions CIC

The split of stakeholder types across both events is shown below:



SESSION ONE: BUSINESS PLAN UPDATE

The first presentation of the day was given by Sarah Williams, Director of Regulation. Sarah explained how Wales & West supplies gas to 2.5 million homes and businesses, serving a population of 7.5 million people across Wales and South West England. During the Covid-19 pandemic, keeping customers and communities safe and warm had remained a firm priority, and the company was proud to have maintained momentum and high standards. Looking ahead, Sarah discussed the company's next Business Plan – the company's most sustainable plan ever – which has been informed by the views of over 21,000 stakeholders. In light of the pandemic, however, Wales & West was keen to hear from stakeholders to see whether any priorities may have changed, particularly in relation to supporting the transition to net zero, ahead of the start of the next five-year Business Plan cycle, RIIO-GD2, in April 2021.

Participants in the South West – the majority of whom represented local authorities, parish / community councils and housing associations – were keen to get involved in the green recovery and find out how Wales & West Utilities' plans for the future network aligned with their own organisation's plans. Many from town and district councils stated that their authority had declared a climate emergency and were generally aiming for a target date of 2030 for net zero. Many parish / community councillors, who also sat on climate change groups, were acutely concerned about the impact of gas on the environment. Housing associations and vulnerability service providers were keen to gather information on behalf of their customers, while stakeholders with expert knowledge of the energy industry – including connections and business representatives – were keen to see Wales & West Utilities involved in the transition to a smart grid future, which would require the company to be more dynamic. The decarbonisation of heat, green gas, heat pumps, biofuel, community investment / initiatives, sustainability strategies for businesses and sustainable living all featured highly on stakeholders' agendas.

The overall sentiment at the South West event was that Wales & West Utilities was at a critical juncture on the path to net zero. Stakeholders were conscious that any actions taken now might limit the options available in future and were therefore concerned that we do not 'build ourselves out of the best option' with present-day plans. They questioned Wales & West Utilities as to the role it envisaged for the gas industry moving forwards, with one stakeholder feeling that the Green Homes Grant did not provide much scope for gas in the future network. This uncertainty was compounded by the government's 'policy vacuum' when it comes to how existing buildings that rely on gas will be able to facilitate low carbon heat, with stakeholders questioning what government policies could be implemented to support consumers and the wider industry.

In Wales, there was a high turnout of housing association representatives, who made up almost one quarter of attendees. They were keen to understand how they could decarbonise their housing stock and ultimately get their customers on board with the transition to net zero. In particular, the push towards heat pumps in social housing was questioned as it was felt that green gas was potentially a more affordable and simpler solution, with one housing association citing user management errors with heat pumps. In contrast to the South West, there were hardly any local authority or parish council representatives, but several attendees represented utilities, businesses, or government bodies. In general, stakeholders in Wales were very knowledgeable about the energy industry but were looking for information and advice from Wales & West Utilities before taking long-term decisions on behalf of their organisations. As in the South West, protecting vulnerable customers was raised as a priority area, with the point made that partnership working in this area is vital to ensure that good work is not duplicated and is shared as widely as possible.

In terms of how Covid-19 had impacted people's roles, most stakeholders in the South West cited a shift to home-working. One mentioned that some local authority colleagues had been redeployed to support the vaccine rollout, while another had set up an emergency community fund to support vulnerable customers. In Wales, it was mentioned that staff members falling ill had led to delays in vulnerability projects, and there had naturally been reduced scope for home visits. However, it was noted that platforms such as Zoom had in fact broadened the scope of outreach with vulnerable customers, allowing groups that were ordinarily less visible in the community to be reached. The pandemic had also shown that certain aspects of care for vulnerable customers can be delivered remotely, without the need for home visits.

Generally, concern was expressed that fuel poverty and vulnerability had become more prevalent in the wake of the pandemic. In the South West, one local authority officer observed that many people who wouldn't normally be classed as fuel poor were suddenly finding themselves 'having a taste of what fuel poverty is', as the shift to home-working meant that people were seeing their energy bills soar and their disposable income shrink. The suggestion was made that this transient experience of fuel poverty could be drawn on to raise awareness of those who experience severe fuel poverty on a permanent basis. Another stakeholder from a housing association suggested that the pandemic had potentially thrown up a new category of vulnerable customer – the working poor – who are able to afford their energy bills but have less, if any, disposable income for other essentials. This made them more difficult to identify from a fuel poverty perspective.

FEEDBACK

1. What is your role and your reason for participating today?

- “We’re a community energy organisation. I’m here looking to understand what you’re doing around green gas and your network, as I also run our fuel poverty project, so I’m here to represent vulnerable consumers in our area.” Connections representative, South West
- “I’m a district councillor and a portfolio holder for sustainable homes and communities. At the council, our target is to be net zero by 2040. I’m keen to listen today. We’ve got the job of trying to address all of our 4,000 council properties and trying to get them to comply with that target as far as possible.” Local authority member, South West
- “We work with the energy operators in the UK. Our primary purpose is to support them in their network requirements, and we’re keen to ensure that Wales & West Utilities is involved in the move to a smart grid future. In this move, we need networks to work in a more dynamic way.” Business representative, South West
- “I’m a parish councillor, and in our area there are lots of developers trying to build housing. We are very keen to persuade them to move away from fossil fuel vehicles into electric or hydrogen-fuelled vehicles. My interest is not just in how to supply individual properties, but around communal charging points for biofuels in the future.” Parish / community council, South West
- “I’m the managing director at a firm of commercial residential developers. I’m keen to understand how the changes, both regulatory and otherwise, are likely to affect your network and the interplay between energy provision of gas and electricity.” Housing developer, South West
- “I’m a spatial planner at a local authority. We’re in our local plan review and as part of that we are creating our climate change policies. A big part of that is zero carbon new build policies and retrofitting, and what policies we can put in place. I’m interested to know what the gas network is planning in that area.” Local authority officer, South West
- “I’m an Environment Director. Our interest is, we use a lot of gas at the moment. We are putting quite a lot of gas back into the grid. We hope to move quite swiftly to produce a significant amount of hydrogen for our own fleet and sister companies. I’m interested to see what Wales & West Utilities’ take on hydrogen is, in particular vehicles.” Utility, Wales
- “I’m an energy manager from a local council. Like everyone else, I’m interested in hybrid heating, not just for homes but also the workplaces. I’m just here to learn some lessons from everyone in the group really.” Local authority officer, Wales
- “Very successfully you’ve achieved it year after year. There seems to be thousands of different standards and only one for carbon footprint.” Business representative, Wales

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- “I’m from Hafod. I’m here to see how we can go forward and improve our stock. I’m also a councillor. I’ll be taking information back to the council offices. I am a project officer and work onsite, checking quality of buildings, etc.” Housing association, Wales
 - “I attend quite a few of these. I’m a chartered surveyor. Our association represents farmers, landowners etc. I’m here to learn how our members can assist in energy production e.g., with biomethane. I’d like to know who the players are in the utilities sector.” Housing association, Wales
 - “I’m a frontline energy adviser. We provide advice to maximise income and help people avoid fuel poverty. Are you planning to expand the grid or are you planning local networks?” Vulnerability service provider, Wales

2. Has Covid-19 impacted your role?

- “I think as an organisation, it is a situation that has come out the blue. Then it was just about responding as best as we can. We still have to respond best to our customers and residents. We moved very quickly to working from home, which involved a lot from our IT department. For the day-to-day operations, we had to look at the government guidance to see what we were actually allowed to do. Then listening to the residents as to what they are comfortable with. We didn’t have to stop gas boiler services, just because there’s been a pandemic doesn’t mean you can stop running really.” Housing association, South West
- “From my perspective we have had a very quick shift to home working. I think what’s happening is that people are watching their electricity and gas meters spin around and with the costs involved, I think they’re all having a taste of what fuel poverty is. When people have heating systems on all day, there’s an opportunity I think to build on that, to state that people in fuel poverty have this all of the time.” Local authority officer, South West
- “We’ve noticed people are working who are not necessarily on benefits and on a low income and more at risk because they’re paying what they can and then lacking in other areas so they’re even more vulnerable but harder to find.” Housing association, South West
- “We are running a consultation currently on our local plan, but we can’t have face-to-face meetings in town halls. It’s all got to be online, which is challenging in some ways but also easier in some ways.” Local authority officer, South West
- “From our point of view, concerning personnel, we’ve worked through the pandemic and it’s not really affected our resources. To be honest it’s been good for our company to work through the pandemic.” Business representative, Wales
- “Really my job is going out and about to see how I can help people and it hasn’t stopped us. We’ve acted remarkably quickly. We can provide everything we used to.” Vulnerability service provider

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- “We have had some staff members catching Covid, which has delayed rolling out our projects. This has been a huge challenge over this past winter, as ensuring that people have properly heated homes is key during that period.” Vulnerability service provider, Wales
 - “We are the largest social landlord in Wales, with 10,000 properties to manage, so our operations spectrum is pretty wide. Covid has hit the different sectors in different ways, ranging from nightmares experienced in care homes to asset-management problems. Trying to keep the new builds going has been a challenge too.” Housing association, Wales
 - “Covid has been a challenge, but it has made us realise that we don’t have to go into people’s homes to achieve effective changes for them. We can do visits via Zoom and referrals over the telephone.” Vulnerability service provider, Wales
 - “Our shift in working has enabled us to target a far broader swathe of Wales, rather than just focusing on one town or city, thanks to our increased use of Zoom and phones. We have also been able to liaise with new partners via Zoom events too.” Vulnerability service provider, Wales
 - “Energy companies have been a nightmare though and have been completely unresponsive. They blame everything on Covid and do little to help you.” Vulnerability service provider, Wales

SESSION TWO: SUPPORTING THE TRANSITION TO NET ZERO AND THE GREEN RECOVERY

The second presentation of the day was given by Chris Clarke, Energy Strategy Director. Chris highlighted some key developments around the transition to net zero, including the government's 10-point plan to achieve zero carbon emissions by 2050, the Climate Change Committee's sixth carbon budget and the new energy white paper. The three documents focused on the transformation of energy to build a greener, cleaner future, support jobs and offer a fair deal for consumers, as well as protect the fuel poor. Chris explained that plans were underway to trial hydrogen heating in homes, and that there are calls on the Government to mandate hydrogen-ready boilers from 2025. Wales & West Utilities has its own target date of 2035 for net zero, which it plans to achieve through a mix of zero carbon gas, hydrogen and biomethane, and a focus on hybrid systems to make green gas go further. Wales & West Utilities was collaborating to deliver those projects under the Gas Goes Green programme, an ambitious plan to deliver the world's first carbon zero gas grid to help meet the UK's carbon emissions target and bring together the engineering expertise of the five national gas distributors.

FEEDBACK

Stakeholders in the South West expressed concern that the gas industry was moving toward net zero without a plan and were sceptical as to whether the country would ever reach this target with current plans. One stakeholder felt that the term 'carbon neutral ready' encapsulated this inertia around net zero as it suggested that gas distribution companies are simply waiting for the industry to decarbonise around them rather than taking a more proactive role. Without a cross-industry approach, achieving net zero was felt to be unrealistic. To address the lack of coordination, stakeholders felt that a roadmap is needed to bring together gas distributors, gas suppliers and government which sets out a clear vision for the future.

A consequence of this uncoordinated approach was that it merely served to fuel confusion for customers about what changes they should be making, compounded by the fact that different organisations have varying targets and often use woolly terminology around net zero and the green recovery. A good case in point was that customers are still installing standard gas boilers today, despite the climate emergency. This sentiment was echoed at the Wales event, where stakeholders felt that there was a lack of public awareness around net zero. For example, it was noted that while more people are using energy efficient appliances, energy usage is increasing overall – arguably due to the 'invisibility' of energy and a lack of awareness about the impact of domestic energy use on the environment.

In terms of Wales & West Utilities' role in the future energy system, stakeholders felt that the company was well placed to provide its expertise to other industry sectors, including by enhanced data sharing. For example, it was pointed out that developers will always prioritise low cost above the environment, unless mandated to by building regulations. Therefore, it was felt that Wales & West Utilities should educate developers on the benefits of more environmentally friendly solutions and tout the benefits of new innovations – particularly as retrofitting is costly and very complex. As one stakeholder put it, the issue revolved around convincing businesses to see clean growth as a necessity for society rather than a bottom-line issue.

Similarly, it was felt Wales & West Utilities could impart its expertise to local communities to hone green ambitions into workable town plans and provide greater support for community energy schemes. In particular, it was felt that connection costs are often a 'postcode lottery', with some communities being unfairly priced out of schemes. In that respect, stakeholders called for a joined-up approach to link pockets of funding, support, and education for community energy groups, as well as a structured connections framework, as most communities have the ambition but lack the technical knowledge to see schemes through to fruition.

Moreover, it was commented that local authorities could also benefit from Wales & West Utilities' expertise. An example of this was one local authority's plans to green their refuse lorry fleet by switching to biofuel or hydrogen. The council in question lacked the expertise to make a decision, which was coupled with a reluctance to proceed given the pace of technological change and the risk that changes can easily become outdated.

Another role that stakeholders in the South West saw for Wales & West Utilities was in lobbying and influencing government, which was very much seen as a blocker in terms of planning regulation and was failing to implement the top-down approach needed to bring about systemic change. For example, it was commented that the lack of regulations for eco homes meant that they simply weren't being developed. Some stakeholders, therefore, felt Wales & West Utilities has a role to play in co-creating future policy around net zero. Notwithstanding this, one stakeholder suggested that Wales & West Utilities should be focusing more on ways of reducing demand for energy in the first place, including by educating homeowners on energy saving measures.

Stakeholders in Wales took a slightly different view of Wales & West Utilities' future role. While they made similar comments to stakeholders in the South West, they called on the company to explain their role to customers more clearly and to 'champion, facilitate and lead', suggesting that they saw Wales & West Utilities as being at the vanguard of the transition to net zero, as opposed to simply an expert partner. They felt that Wales & West Utilities needs to go one step further by being more forthcoming in its approach to push the Gas Goes Green agenda more forcefully and get people talking. As part of

this, it was felt that Wales & West Utilities needs to play an overarching role to help its customers with net zero from start to finish, from installing appliances to educating them on their use and ensuring that bills are kept affordable.

In terms of the existing barriers to net zero, stakeholders in Wales felt that Wales & West Utilities needs to flag the importance of gas in decarbonisation, as it shouldn't be seen as the enemy, but rather a facilitator in the net zero transition. The point was made that gas is still seen by some as a dirty fuel, so Wales & West Utilities needs to make its plans and insight more visible to convince people otherwise. It was suggested that most people think that net zero entails a transition away from gas, so Wales & West Utilities needs to change the narrative around this. Moreover, it was felt that as people don't directly associate heating systems with carbon emissions, this acts as a barrier to behavioural change. This feeling was echoed in the South West, where stakeholders felt the general public lacked decent energy advice. For example, it was felt that the BEIS energy advice website is not fit for purpose, and the previous system of local energy advice systems had disappeared. As a potential solution, it was suggested that local authorities could instead step in and act as impartial focal points for consumer energy matters. This could help households understand what energy changes are feasible.

Hidden poverty was cited as another barrier to net zero, with stakeholders feeling that the 'just about managing' demographic is often overlooked in that they manage their budgets and energy usage very tightly and can't afford new boiler systems yet aren't eligible for grants either. One vulnerability provider felt that, far from implementing comprehensive eco solutions in homes, their work involved plugging holes in properties until the next problem arises. In that connection, there was felt to be a trade-off between achieving net zero and alleviating fuel poverty, with one stakeholder noting that putting people on standard gas boilers takes people out of fuel poverty.

As for overcoming those barriers, stakeholders generally agreed that affordability is important, as well as ensuring that elderly, rural and fuel poor customers aren't left behind in the smart transition. One vulnerability service provider made the point that costly pre-paid meters are a huge barrier to net zero in themselves and suggested that Wales & West Utilities need to consider an education piece around helping people to manage their budgets so they can stop relying on meters for budgeting. This reflected the overall feeling that more of a dialogue is needed between Wales & West Utilities and its customers, including on the company's strategy for the future, as this would be the only way for Wales & West Utilities to really understand people's reservations and concerns about any changes. Stakeholders called for Wales & West Utilities to use simple and digestible language, socialise costs of strategic investment, provide customers with practical energy saving tips and keep energy options as broad as possible until all options are green, rather than forcing customers down a certain path.

1. Do you understand what transitioning to net zero means?

- “It’s new to me. I kind of expected it to be anyway so I’m taking what I can from this.” Housing association, South West
- “It would be useful to have a quick run through of this definition just to make sure that what I think it means aligns with what you think it means.” Local authority member, South West
- “I’m rather confused by the various targets set by central government, planning policies, and utility companies like yourselves. There seem to be a range of targets, so I don’t have a clue what it means other than increased cost and confusion in the market around how we address the various targets. I don’t think we have a clear vision of it at all.” Housing developer, South West
- “Unless Wales & West Utilities and all the other gas networks can see a pathway to a point where there is no fossil fuel gas of any sort going through their networks, then this isn’t a transition to a zero-fossil carbon future. To that extent, it was news to me when the previous speaker put that transition set of slides up to talk about the ambition for the volume of supply to be from biomethane plus hydrogen. If we take the country as a whole, the volume of gas that currently goes through the network is vastly more than could ever be supplied by current sources of biomethane. We can’t get to a zero-carbon gas network in that situation.” Local authority officer, South West
- “We’ve seen an increase in energy-efficiency appliances in the home, which decreases the amount of energy usage for specific aspects of home life, but, at the same time, we have seen an increase in energy usage overall. On that basis, I worry that there is a disconnect in how people understand net zero.” Vulnerability service provider, Wales
- “With this apparent lack of understanding, I feel that there should be more efforts made to making energy visible again, which adds to the case for smart meters. People need to be made to think about how they use their energy.” Vulnerability service provider, Wales
- “Is Wales & West Utilities prepared to be a driver faced with the challenges of reaching net zero?” Business representative, Wales
- “Many of our members are off-grid. I’m assuming there are all sorts of players in the market. Those characters as well as Wales & West Utilities will be looking at similar technological changes in order to bring about this decarbonisation. What’s needed to do that from a technological perspective?” Housing association, Wales

2. Do you understand what is meant by the green recovery?

- “I think we can bung a bunch of words around ‘green recovery’. I think it’s a phrase bandied around without very much meat on it, actually. I’m a bit wary of it.” Local authority officer, South West
- “If by recovery we mean rebuilding economic activity post-Covid, then it’s a question of simply doing that but using the opportunity of new investment to make choices which don’t lock in a high carbon future. That relates to transport, as much as house building, as much as anything else. We are

quite fond in local authority land of trying to impose targets and thinking of developers as people we beat up on and expect to deliver. It's useful to hear from a developer's perspective how hard it is to understand a very fast-moving set of demands, some of which are borderline daft. On one hand, you are being told that the gas network is going to become green and wonderful, and on the other hand you're being told that you must not have anything connected to the gas main." Local authority officer, South West

- "Everybody needs to understand that this is a problem of all the population of the South West. It's not a problem that needs to be solved at the expense of people buying new property. The planning system can only deal with a very small proportion of dwellings or business properties that are generated under the current regime. There is enough pressure from the planning system and elsewhere that already makes that a pretty ambitious proposition. If one loads on yet more restrictions and controls, properties that need to compete with existing stock on the market don't stand a chance of getting built. So how we will ever achieve those green targets by forcing people into ever more concentrated use of substandard stock, I really don't understand." Housing developer, South West
- "From my company's point of view, a green recovery within our sector would revolve around creating more affordable and low-carbon homes. We also want to look back to our older stock and bring them up to standard for this more sustainable future that we are all envisaging." Housing association, Wales

3. In relation to the transition to net zero and the green recovery, what do you think the role of a gas distribution network should be?

- "I think they should be at the forefront. They are the shipper of the energy. It's going to be fundamental. There needs to be a collective decision between the government and the shippers. We are moving towards net zero, but no one understands how we can get to it. We are still putting gas boilers in now, so carbon neutrality for 2035 seems very close. Wales & West Utilities needs to have a roadmap to show what we as a country are going to do. The way that we use energy in the home does need to be looked at. I agree with decarbonising the national grid. I think it needs to be a roadmap involving everyone." Housing association, South West
- "I think you should be modelling the way. But one thing I'd like to focus on is about education and how we facilitate within our homes. I think we will have better homes if we educate our communities. It's all about people taking on board what we require to do in terms of climate change. I would like to have that expressed. We need to educate, and we need to be more mindful. I think it is fundamental." Vulnerability service provider, South West
- "Collaboration, partnering, and research is crucial, especially with regard to emerging technologies. If distributors can cascade and share information, that will be essential." Housing association, South West

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- “In the future we’re going to see more heat networks, particularly in big cities, and I know Bristol has big plans as part of its City Link programme. You’ve got people who know how to take roads up and put pipes down, so whilst it’s not part of what Wales & West Utilities does now it seems to me that actually deploying, managing, and looking after heat networks is something Wales & West Utilities could do as a transition towards gas and net zero.” Vulnerability service provider, South West
 - “It’s really important not to forget the end user. Customers have to get on board as well and we need to make that as easy as possible. If Covid remains at the forefront of our minds, the impact of any changes we make to the fuel economy on the end user needs to be kept in mind.” Housing association, South West
 - “I think they need to be a lot more aggressive with it. Housing associations have been given a grant to take out gas and put in heat pumps. They’re saying that this is the way to go to green. I think Wales & West Utilities need to have an aggressive stance and say there is a potential to make gas be green. I think Wales & West Utilities need to get people talking. I think as well, if the homes in Wales moved away from gas, the standard charge is going to go through the roof as it’s monitored through usage. I think we need to up the game on this whole gas goes green approach.” Housing association, Wales
 - “I suppose the main thing really is explaining to people what Wales & West Utilities’ role is. Businesses, residents and that side of things.” Local authority officer, Wales
 - “I think that Wales & West Utilities needs to take an overarching approach in making homes more energy efficient. For example, Nest is placing new energy-efficient boilers in damp homes with no windows and holes in the ceiling. I’d like to see more joined-up thinking and more money spent on the building shells, rather than everything going towards boilers.” Vulnerability service provider, Wales
 - “I’d say communicating to people about what they need to be doing as well. We have this idea of what the future should look like, but how do we get there?” Housing association, Wales

4. What are the main barriers we need to overcome to transition to net zero, and the benefits?

- “I think contractors need to drive that education for new homes. It’s making sure that they are more on the customer side, rather than the profit side. We need to do more to upskill contractors so they are aware of this.” Connections representative, South West
- “As an advice provider, it is key that people get good advice. BEIS’ energy advice website is completely inadequate. We used to have a system of local energy advice centres but that all disappeared with the Green Deal. We need advice provided through home visits, ideally. Another way of looking at it is having a vehicle for delivery, which is maybe where local authorities could play a role. It might overcome people’s concerns if they feel that the local authority is sorting things out and that contractors are bona fide. At the moment, going through

BEIS' energy advice website just isn't sufficient for most people." Vulnerability service provider, South West

- "Obviously, Wales & West Utilities need to look at what they can do and ensure it's technically feasible. But turkeys don't want to vote for Christmas, and it requires something more from government. The government is good at making statements and not following it up with actions. We need more certainly from the government to provide councils with the comfort that they are doing the right thing. All of these things, like supply chains, fit in with this. Wales & West Utilities can do what they can do but it's about the government providing certainty as part of a top-down approach. The gas grid is obviously a very important part of the solution, but we need more certainty around how that's going to be delivered on." Local authority officer, South West
- "The biggest barrier is identifying where strategic investment needs to be made and establishing a mechanism where the costs of providing it are fairly shared amongst all consumers." Housing developer, South West
- "What about the rest of the supply chain in this? The gas boilers, hybrid boilers coming along. How far behind are they and are they ready to be sold and in use in a few years if you're ready for them?" Housing association, South West
- "One barrier might be people's mindset of gas being a dirty fuel. I think maybe a lot of people are trying to move away from gas. I think you need to get it out there that it's not necessarily a dirty fuel these days." Local authority officer, South West
- "Policy instability makes people reluctant to move forwards more quickly." Local authority officer
- The convenience of gas, with it being cheap etc, we risk all of that being trashed for alternative forms, which we've already had a lot of teething problems with. I think Wales & West Utilities' role is to let gas not be lost in the process of decarbonisation. To flag the significance of it to everyone, because there is a lack of it from bigger bodies like the Welsh Government. The network to supply the gas is what you do." Housing association, Wales
- "I'm concerned that there don't seem to be comprehensive solutions that fully support people transitioning to net zero. My work seems to involve temporarily plugging holes as best as I can." Vulnerability service provider, Wales
- "We come across a lot of older people with coal heating. They're reluctant to change as they've had coal all their lives, even if we give them a boiler and a connection. It's easy with early adopters. There's a brick wall with traditional households. People don't associate carbon emissions with heating." Government body, Wales
- "It's really hard to work out how to be less carbon intensive. Covid has also been a complicating factor as people's savings have dwindled and they can't replace their storage heaters." Business representative, Wales

5. How might these barriers be overcome?

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- “I think it comes back to what we’ve been talking about. When we’re talking about the home, it’s about how they live in it. In terms of heat, draft proofing, looking at thermostats. There are lots of ways that you can educate practically to be more sustainable.” Housing association, South West
 - “Support mechanisms need to be in place to ensure people can come on the journey rather than feel like things have been decided for them.” Housing association, South West
 - “The difficulty we all have in a small village is helping people to understand what a climate emergency is going to be. Many people are in denial about this and we have to acknowledge that. TV advertising has impact. Short, sharp messaging has to highlight that the climate emergency is going to be worse than Covid. You can then also highlight that you’re trying to address this.” Parish / community council, South West
 - “Choice is a big consideration. Where I live, I can’t be green and the same is true of a lot of people. I applaud Wales & West Utilities’ green initiatives but if they don’t give their customers the means to do so too it doesn’t really help people like me.” Parish / community council, South West
 - “I think a large part of this is the way in which the costs to society of this transition are fairly distributed. If we consider the really sticky problem of retrofitting homes, I think we’ve barely begun to scratch the surface of how complex and expensive that will be, and yet without question that is the nut we have to crack if we are to deliver a lower carbon future. To that extent, I have a feeling we will have to accept a high degree of socialisation of those costs, so that those with lower incomes are not automatically excluded from the benefits where some of us end up with lower energy bills in the future. In terms of the scale of the challenge, if you look at the number of existing building stock and the amount of time and effort it’ll take to meaningfully transform that, that’s an Apollo Moonshot type of undertaking that we haven’t really nailed yet.” Local authority officer, South West
 - “I think we need to diversify out of looking at this as either gas or no gas. I think we need to support customers using less gas, but you might want to be looking at supporting that decarbonisation by looking at energy efficiency measures rather than looking at supply.” Local authority officer, South West
 - “Is there stuff in Wales & West Utilities’ ED2 research that shows what customers want in the sustainable agenda? If Wales & West Utilities had this information, it could harness that in order to tailor support for communities better.” Vulnerability service provider, Wales
 - “It might be outside Wales & West Utilities’ remit, but it should look to act as a central hub for facilitating the drive towards the sustainable agenda. This would ease the process for all.” Vulnerability service provider, Wales

6. To what extent do you think customers have considered if there might be a cost to them of moving to net zero?

- “I think there is a lot around affordability.” Vulnerability service provider, South West
- “From a customer point of view, you just need to be clear with comms about potential changes, to help people understand. I think at this time, especially with everything going on, it’s so far removed from our most vulnerable customers’ minds. They’re thinking of getting food on the table, they’re not thinking of the future at the moment. It’s not that they don’t care, but it’s just not on their agenda at the moment.” Housing association, South West
- “From our experience I would say our vulnerable clients in Devon do realise that prices may well go up. I think the challenge that most vulnerable people have is that their incomes don’t always go up as well. So, I think most people we deal with recognise that whatever happens in view of our climate change work that there are inevitably costs to be paid and they hope they won’t get left behind in that transition.” Connections representative, South West

7. Who could support in this and in what ways?

- “I think there are a lot of climate change action groups to engage with. We have a forum of 12 councils, and we would be delighted to have you come and do a session. I certainly can feed in names to whoever is appropriate.” Vulnerability service provider, South West
- “I don’t know a lot about the energy and costs from your side, but would it be a case of once things were set up, that future bills for people could be reduced because of the savings on the green fuel? Could it be sold that way, that it would be expensive for this period of time, but over time it would be reduced?” Housing association, South West
- “I don’t think customers really do think about the whole implications of all this – there’s probably a little bit of “well, someone else should pay”. And the government, with the Green New Deal, is creating stimulus that’s borrowing money for the future, to help us get to a sustainable future. Is there money there?” Vulnerability service provider, South West
- “We can communicate with our customers on our strategy, but it’s only then that we can get a sense of what they’re feeling.” Housing association, South West
- “There needs to be a strategic view of government plans. Looking at EV chargers, people can’t afford second-hand EVs because we’re in a deprived area. You need to give people options until you reach the point where the only options are green.” Local authority officer, South West
- “Network organisations can play an interesting role in this. They’re regulated so there’s natural trust. At the same time, I know the narrative isn’t helpful from government. The energy industry isn’t viewed favourably by government. People therefore trust the networks left. The narrative from central government must change.” Business representative, Wales

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- “We’re getting a lot of mixed messaging as part of the narrative is that no house will have a boiler in 10 years. I’m in a rural area with LPG heating. I don’t know what the best option is now for me and I’m an energy adviser!” Vulnerability service provider, Wales
 - “We don’t actually know how to invest. We have a whole portfolio of stock ranging in age. Are we going to be in a situation in 20 years where we’re taking out heat pumps and putting in hydrogen? We need more clarity from government on what the options are and what’s expected of utilities.” Vulnerability service provider, Wales
 - “If government wants to change behaviours, government grants and money will be the fastest way to do this. We’ve seen this with PV on roofs. If you want energy advice, this has to be dispensed by a non-profit independent organisation.” Housing association, Wales

SESSION THREE: THE NET ZERO CHALLENGE – COMPACT HYBRID HEATING SYSTEMS

The third and final presentation of the day was also given by Chris Clarke. Chris discussed the role of compact hybrid heating systems in the future energy system, drawing on a case study modelled on Swansea. The study had shown that hybrid heating systems were needed to cope with variations in climate, balance customer preferences, manage shortages of supply and minimise disruption. He then explained how hybrid heating systems work, using renewable energy when available and in mild weather and using green gas when renewable energy is not available. As for the benefits of these systems, this included greater consumer acceptance, faster emissions reduction and lower cost when compared to natural gas boilers. In that connection, Wales & West Utilities was working on an innovation project called HyCompact which brings together an air source heat pump and green gas boiler in a single unit, helping to provide the lowest cost and least disruptive way for consumers to transition to green energy.

FEEDBACK

In the South West, the biggest consideration when changing heating systems was unequivocally felt to be cost, as reflected in the results of the online poll, where ‘up-front investment cost’ and ‘ongoing running cost’ scored most highly. This was particularly true for the fuel poor, who often faced the choice between heating and eating and may not be able to afford to upgrade in the first place. Moreover, in terms of the payback period, customers will likely be reluctant to pay for a boiler with a 30-year payback time in a property they only intend to inhabit for five years. In Wales, cost also ranked highest as a priority, but ‘ongoing running cost’ was seen as slightly more important than ‘upfront investment cost’. Stakeholders made the point that while many people support the decarbonisation agenda, they are forced to prioritise affordability; otherwise, they risk falling into fuel poverty. The point was also made that while housing associations can often help to shoulder upfront costs, running costs are borne by tenants and are not fixed, meaning that they could become increasingly unaffordable in future. However, the elderly population was highlighted as one demographic which might be willing to sacrifice high cost for any easy-to-understand system.

The size of appliances was raised as a secondary issue, with one stakeholder noting the clear overlap between those who don’t have the space for a large new boiler system and those who can’t afford to upgrade. Interestingly, though, this factor scored towards the lower end of the scale in the online polling at both events, with stakeholders rating dimensions 3 / 8 overall in terms of importance – perhaps indicating that while this would not pose an issue to the demographic attendees represented, it would still be an issue for less affluent customers. In Wales, it was noted that using the same system across the board would be important for housing associations to make it easier to maintain them, while stakeholders called for myth-busting, as the technical information and ‘unknowns’ about new energy

systems acted as barriers to take-up. In terms of noteworthy regional disparities in the voting, reliability and controllability were felt to be more important in Wales, whereas in the South West, stakeholders were more concerned with environmental benefit / carbon emissions reduction. In Wales in particular, stakeholders had a lot of questions about the potential options – perhaps highlighting the gaps in knowledge in this area.

In terms of changes that needed to be made in the wider industry, stakeholders agreed that whole systems thinking was needed across the electricity and gas sector, particularly with regard to active network management and how the supply chain will function from end to end. One stakeholder noted that the switch to unfamiliar heating systems would require upskilling / retraining for gas and heating engineers, yet it was so far unclear as to who would bear the cost of this. Similarly, businesses would have to get on board with new safety regulations, and if households all had different systems, tenants would have to learn to use each system whenever they moved property. However, one stakeholder in the South West noted that whatever the challenges or inconveniences of switching to an eco-friendlier heating system, reducing carbon emissions in light of the climate emergency had to remain an urgent priority for the industry, whatever the cost or inconvenience.

Stakeholders were broadly split as to which heating system they would choose in future, in part owing to a lack of information as well as being overwhelmed by the pace of technological change. In the online poll, 34.5% of stakeholders in the South West said that the people they represent would choose an electric heat pump, yet the same proportion would still opt for a natural gas boiler. Hydrogen boilers were the least attractive option in the South West, garnering just 3.4% of the vote. This was borne out in the discussion, where one stakeholder expressed reservations about the use of hydrogen in domestic heat, which they felt was better suited to the transport sector, particularly in large vehicles such as trains and lorries.

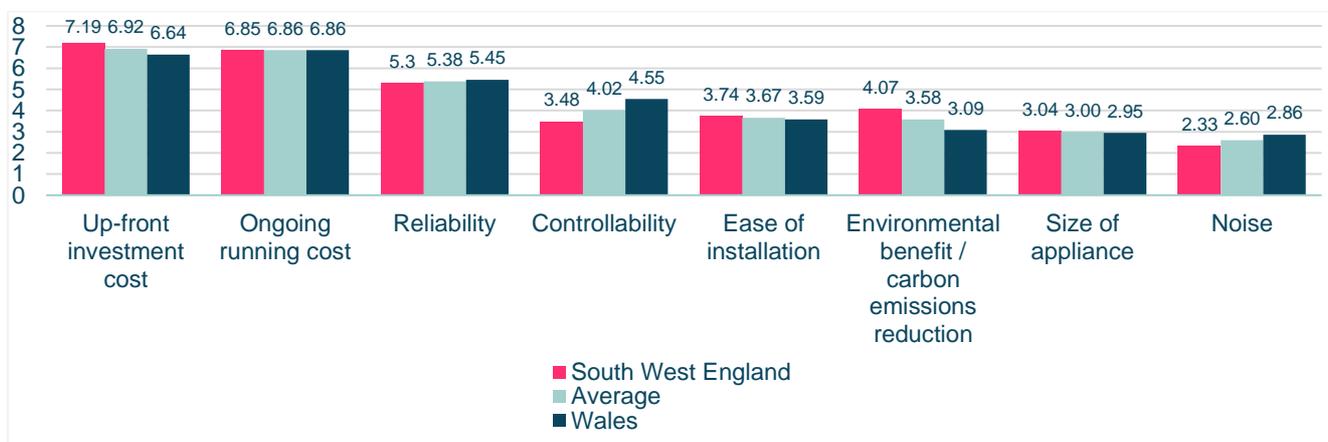
In Wales, voting patterns on the choice of heating system were quite different. An overwhelming 62.1% of stakeholders said that the people they represent would still opt for a natural gas boiler – which reflected the lower level of importance that stakeholders in Wales attached to ‘environmental benefit’ compared with the South West (3.09 / 8 compared with 4.07 / 8). Only 6.9% of participants in Wales said they would choose hydrogen or hybrid compact boilers respectively, while the least preferred option was electric heat pumps with 3.4%. They called for cross-industry collaboration, including with agencies on the ground, to disseminate the relevant information on hybrid systems. Early engagement with customers, especially on cost and reliability, was seen as key, as was relevant training for service engineers.

In terms of guidance in this area, it was felt that independent technical advice for customers would be useful, as choosing which boiler to invest in can be overwhelming for the average non-technically minded consumer. For example, a false assumption about heat pumps had led one customer to rule them out completely – suggesting that without clear and authoritative information, customers may be

easily swayed by unfounded narratives. A couple of stakeholders, however, did question whether or not they could take the information provided by Wales & West Utilities at face value, suggesting that they wanted this independent technical advice provided by a more impartial body as opposed to an organisation with a vested interest in the sector. Stakeholders also called for guidance on how the fabric of a property affects the eligibility requirements for different heating systems – again, potentially from an independent body.

As for the main barriers to any of the heating systems, stakeholders in Wales felt that the heavy use of smart apps was not ideal for people in fuel poverty who may not be able to afford internet, nor for older people who may be wary of new technologies. There was concern that complex boiler systems could limit the availability of suitably trained engineers, and that not enough information was currently in the public domain about the pros and cons of each boiler system and their suitability to different types of housing stock. Ultimately, stakeholders wanted Wales & West Utilities to empower its customers to make well-informed choices for heating systems and stressed the need for energy prices to be kept as low as possible, regardless of the heating system chosen.

1. Which of the following do you feel are the main priorities for the people you represent (as well as organisations and installers) when considering changing their heating system?



Up-front investment cost

- “I think what will happen is that people won’t change their system until they need to. Then they’ll think ‘what’s the advantage to me?’ and ‘what’s the payback time?’ If you’re expecting to live somewhere for 5 years, a 30-year payback isn’t viable if you’re only getting 10 years of the benefit. Also, many of us don’t have the option of this as we don’t have gas: it will be an electric heat pump or nothing!” Parish / community council, South West
- “Questions about whether grant funding will become available can stifle the decision-making process for people.” Local authority officer, South West

Ongoing running cost

- “I would say yes, if you are housing anyone that is struggling with fuel poverty. From a tenant point of view all they can think about is getting a warm house as cheap as they can do it. If the housing association has to pay for more expensive products, then perhaps it gets taken off the rent in a way to pay off this. A lot of people can’t afford to decarbonise, and they want value for money. We need to be looking at ways that we can keep it as affordable as possible for people.” Housing association, Wales
- “I agree that ease of maintenance is particularly important for housing associations, as servicing and maintenance involve huge costs.” Vulnerability service provider, Wales
- “Cost is the big issue. Not just installation cost but also the running cost. Money isn’t necessarily as fluid as it has been. Governments can change behaviours very quickly.” Housing association, Wales
- “The running cost is the area of concern. If that cost gets transferred over to tenant’s bills, then it’ll become a big concern for them.” Housing association, Wales

Reliability

- “Energy efficiency and reliability are the main two for me. We’re always asked about how long a boiler will last and what the make is.” Vulnerability service provider, Wales
- “With hybrid options, you need to get the word out on reliability.” Housing association

Size of boiler

- “The dimensions of it are important as well, as homes have limited space to put boilers.” Vulnerability service provider, South West
- “The constraint is with space, and I see that one of the pictures on the screen is a stonking great big boiler which would be fine for us, but not for 50-60 percent of people in the parishes, it would simply be too big. The people who couldn’t fit a big boiler in their kitchen probably couldn’t afford the investment cost upfront either.” Parish / community council, South West
- “I’m aware with heat pumps that they work much better with large radiators. If you have central heating, it’s not just about replacing a boiler with a heat pump; you have to get underfloor heating or large radiators. I’m just wondering how heat pumps are going to work with the set-up most people have at the moment.” Vulnerability service provider, South West

Ease of installation

- “For me, I find the choice can be overwhelming if you don’t have an engineering background. There’s the technical barrier, cost of implementation and the desire to be green. I just upgraded to a storage heater and moved to a green energy tariff. For a landlord, who do you get

independent technical advice from when things move so fast?” Local authority officer, South West

- “There isn’t enough done to train or support that transition in the householder to renewable technology. Sometimes it’s making sure that it’s fit for purpose, and what choices there are, are done correctly and not just because it’s the flavour of the month. Once that homeowner leaves, is there a handover process in which the next homeowner is taught how to use the technology?” Local authority officer, South West
- “We would have to comply with what the planners said and wanted. But I think we’ve got to think about practicality for us as an organisation. We only know one specific gas boiler, for us to make a change to a different system will be fundamental for us. The cost to us as a housing provider as to how to install and refurb this boiler. We would like to know what it’s going to be so that we can almost predict it and put it into our business plan. Gas safety, checking the boiler, etc. All the practicalities and other stuff that will change with changing boiler system will impact our business.” Housing association, South West

Noise

- “Air source heat pumps tend to be very noisy. It’s almost like a 3kw air conditioning unit when they’re running. We’ve had one case in the parish where a person has installed a heat pump and all the neighbours around him have complained about the noise and he’s had to turn it off. In the summer it’s quite a lot of noise. I just wondered if air source heat pumps need to be so noisy and if technology can be used to turn them down a bit.” Parish / community council, Wales
- “In Rhondda Cynon Taf we have the record of being the worst place for the Covid pandemic and that’s because we have a lot of poverty and we tend to live on top of each other in the valleys. To introduce something like a heat pump, people haven’t got a garden, or it’s more like a yard in very close proximity to the neighbour. If there were issues with any sort of noise, it would be an issue for our area. So, the fact we can stay on gas, with zero carbon there gives me a bit of hope that we can still become a better place with your help.” Housing association, Wales

Controllability

- “We hear a lot about Active Network Management. We need this sort of system across electricity and gas. Is this a role that the gas networks need to be involved in, in a more localised way?” Vulnerability service provider, South West
- “I worked with a lady who switched to air source heat pump. Firstly, when someone switches from one system to another, they need a lot of support about how the system is going to be used. Not just five minutes press this, press that, you need quality time and quality service with properly trained people. This is so that they can use it properly for energy efficiency. Make sure

there is a really good follow-up service. This lady was told her bills would drop. They went from £60 to £159. Part of it hasn't been resolved and it's about usage. I have arranged for a community liaison officer to see her from the energy company." Vulnerability service provider, Wales

- "It's about support and knowledge. Technologies get a bad reputation because people don't know how to use them. You don't know the other story; it might be the wrong size and people not using it properly. If people want whatever system, they get to heat their hot water and gas as much as their boiler. The hot water is what people don't talk about. Just making sure that people understand how an old system and a new one compare, and how they have to use them, and you get out of it what you're supposed to." Local authority officer, Wales
- "As a landlord, ease of use and cost of use are the most important factors. People are used to flicking a switch and their heating comes on." Local authority officer, Wales

Environmental benefit / carbon emissions reduction

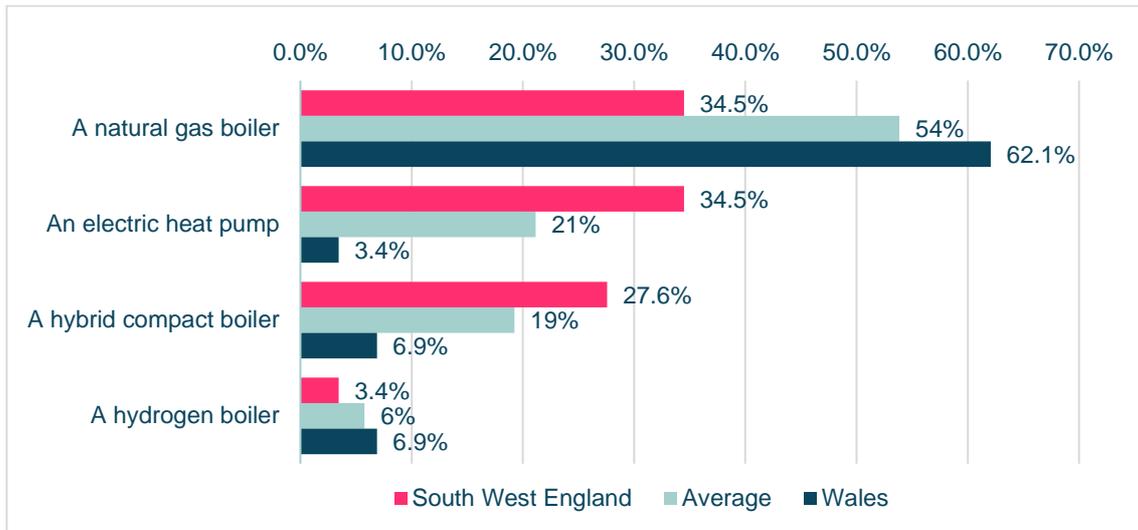
- "If we look at this question through the lens of the climate emergency, all those priorities and that hierarchy of issues, we have to say that carbon emissions has to be at the top of that tree. Otherwise, we are not stepping up to what the implications of the climate emergency are. To that extent, rather than saying what you think is the most important, we have to say the number one issue is carbon, and now what should we do about solving the problems that flow from that, which are secondary in importance? The big change is one that we simply have to do, and we have to have done it yesterday." Local authority officer, South West
- "You've got to focus on the carbon, that's what is key to this. The biggest problem is with the existing stock, not the new stock. New build housing is pretty efficient as it stands. This hybrid system to me seems an amazing opportunity to retrofit stuff into existing stock and make major gains in carbon emissions. I do wonder whether the output temperatures from these would work with existing installed heating systems, but I think this is definitely something to be developed and adopted if these trials prove to be right." Housing developer, South West
- "It's about achieving zero carbon. There has to be a mix of carrot and stick. The Welsh Government sets regulation, that's your stick. The carrot aspect is grant aid. I'd love PV on top of my house and an air-source heat pump. If I could qualify for a grant, I'd do that, and more people would be more inclined to improve their homes. Regulations will come in in future in order to meet political targets." Housing association, Wales

2. How might different stakeholders' priorities differ?

- "Where we are, I think it's a very elderly population, so they'll be looking at what's easiest for them. What they understand etc." Parish / community council, South West

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- “From a social housing perspective, it always comes down to cost. However, we choose to spend money, it’s ultimately reflected in the rent. From a fuel poverty perspective, it can come down to a choice between heating and warmth.” Housing association, South West
 - “As far as those on this call and in Wales & West Utilities are thought leaders in a sense, we all have to say that cutting carbon emissions is top priority. It’s uncomfortable but that’s what we’ve got to do.” Local authority officer, South West
 - “From our point of view, consistency in boiler infrastructure is very important, as it would make maintaining the boilers far easier.” Housing association, Wales
 - “The target we have at the moment is EPCA 92+. Knowing how many points you’d get towards this would be good as the investment cost may be offset by not having to do other work on the property.” Housing association, Wales
 - “For us, the issue is also cost, not pushing people into fuel poverty. Myth busting is also a challenge for changing the minds of certain users.” Vulnerability service provider, Wales
 - “Any strategy needs to also address the needs of private tenants for warm and affordable homes.” Business representative, Wales
 - “I think from my perspective the main priority is different for every kind of stakeholder I’m involved with. The council is delivering their own development programme now. They’re coming around to it, but they actually balked at moving away from gas in the first instance because they’ve got cabinet approval for this huge delivery programme where they hadn’t thought about the cost of heat pumps. So, they’re looking at the upfront costs and balking at that but now realising they have to invest it. Obviously, our tenants who are now on gas want to stay on gas because it’s cheaper for them. We’ve got our own repairs and maintenance team in our company. We have lots of gas and heating engineers. We haven’t got the people down here to do servicing on heat pumps, and we haven’t got around to training our own guys. In each aspect, everyone wants something different out of this. I don’t see a solution that’s going to help everyone.” Housing association, South West

3. Given the choice, would the people you represent choose a natural gas boiler, an electric heat pump, a hybrid compact boiler or hydrogen boiler?



- “I installed a gas boiler in my home as at the time I wasn’t thinking about sustainable heating options. I’ve subsequently felt frustrated about that decision. With technology moving forward, it would be good to know whether what you’re getting will still be good in two years or if it will become massively cheaper. Education is also key for ease-of-use with these technologies.” Housing association, South West
- “It’s difficult. Do we trust Wales & West Utilities to provide us with impartial information? There are impartial bodies.” Parish / community council, South West
- “My guess would be that compact hybrid appears attractive for all those reasons, but I would very much doubt that it’s as cheap as it claims to be.” Local authority officer, South West
- “I think generally there’s been a gap in what’s highlighted. What it is and how it’s provided. There’s a big area there that could do with support of some kind.” Housing association, Wales
- “It won’t be one or the other. It will be property-specific and customer-specific.” Vulnerability service provider, Wales

4. How can the information about hybrid compact systems be best shared with you and the people you represent?

- “The Welsh Government Energy Service needs to combine with Nest to disseminate suitable information as part of a collaborative approach. It can’t just all be coming from one point.” Local authority officer, Wales
- “There needs to be more liaison with agencies on the ground who actually know about the issues in these households and feed that back.” Vulnerability service provider, Wales

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- “I think that early engagement in relation to hybrid compact systems is absolutely critical, as it would enable users to be prepared for this change.” Vulnerability service provider, Wales
 - “A switch to a hybrid approach is good going forward, but it comes down to cost. We have to very carefully assess what schemes are financially viable on the one side. The political thrust is there, but it’s not being backed up by cash coming from Welsh Government. We’re having to make difficult decisions with new-builds. Tenants generally don’t like new tech as they can’t cope with it. There’s an education issue there.” Housing association, Wales
 - “What’s the training programme in place with gas-safe engineers? Service engineers will need to be trained up to feel comfortable with the pace of change.” Housing association, Wales

5. How can we make sure that we do not leave anyone behind?

- “Devon has more fundamental issues in that most of it isn’t even on the gas grid. In the huge area of the geography we cover, people have very limited choice for heat systems. They’re in old traditional homes, often cottages or 18th century farmhouses and none of these options are suitable for me with houses like that. We have bigger issues than what we’re discussing here.” Connections representative, South West
- “In our parish you’ve almost got a split economy who would take two different views on the heating options. In the older part of village there are a lot of established families more able to afford the investment costs upfront, and they would be of the more unique older properties, i.e., farmhouses and Georgian vicarages – and so that would apply a different set of criteria for those that live in more newly built properties. We have that very interesting dichotomy and I think that would be reflected in installing heating system options. I think the dynamic and demographic of where you target is hugely important.” Parish / community council, South West
- “Education is key. With new technologies, these need to be as smart as possible in order to take the onus off tenants. It comes down to engaging with customers so that they can alter their habits.” Government body, Wales

6. What do you think might be the main barriers and how can we overcome these? ...and what are the main benefits?

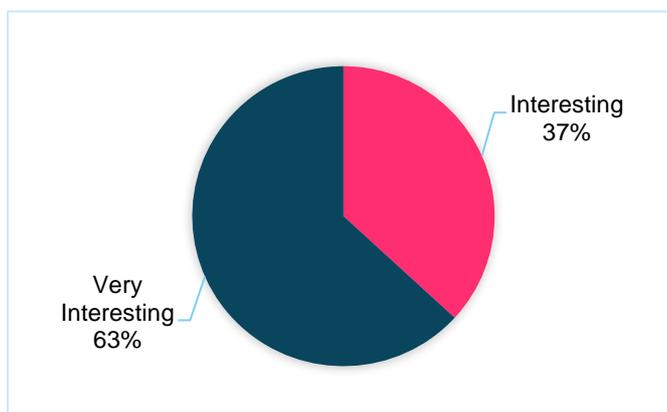
- “I guess we’re conscious of increasing energy prices – no matter what heating solutions are used, vulnerable customers will see a huge price hike they won’t be able to afford.” Connections representative, South West
- “Really we should be looking at the fabric of properties first. I’m aware that’s not really what Wales & West Utilities are here to do but in terms of hierarchy, if you’ll apply any of these technologies, the smaller unit you need to provide the heat, the better.” Vulnerability service provider, South West

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- “The most important thing is making sure that the fabric of the house can best get the best out of what the different systems are.” Local authority officer, South West
 - “The heavy use of apps with smart boilers and heating systems could be an issue for vulnerable people, as some people simply cannot afford internet and older people tend to be scared of new technology. In order to overcome this, I would suggest rolling out an education piece and not abandoning analogue systems completely.” Vulnerability service provider, Wales
 - “With the more complicated boiler systems being introduced, engineers’ skills and the availability of suitable engineers could be a barrier. Is there some kind of skills training drive that Wales & West Utilities could support?” Local authority officer, Wales
 - “I think that there still isn’t a great enough level of knowledge among the general public about the pros and cons of different boiler systems and whether they will be suitable for different types of housing. For example, people have been installing air source heat pumps in homes with thick stone walls in North Wales, but these do not work properly as these houses are not properly insulated, making the system very expensive to run. Could an education piece or insulation support help here?” Vulnerability service provider, Wales
 - “I agree that a lack of wider knowledge on a general level could be hindrance. You don’t want a situation where people are blaming this new technology when their home itself might not be suitable for it. There’s a real lack of knowledge here and we need to find a way to empower people.” Local authority officer, Wales

APPENDIX 1: WORKSHOP FEEDBACK

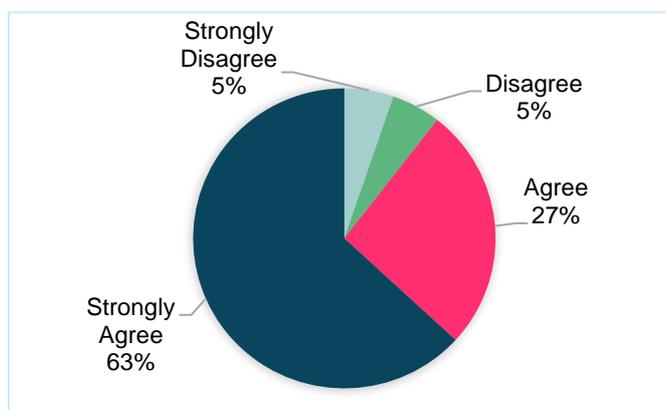
After the workshop, stakeholders were asked to complete a short feedback form. Some of the key findings are shown below.

Overall, did you find this event to be:



- “I thought this was a really good session. It was good to understand the work that has been going on behind the scenes.”
- “Learnt new information about [your] long term commitment to gas network and hybrid systems.”
- “Really useful and interesting session - well organised and facilitated.”
- “Thank you. Really interesting and informative. Would love to attend more.”
- “Important topics covered.”

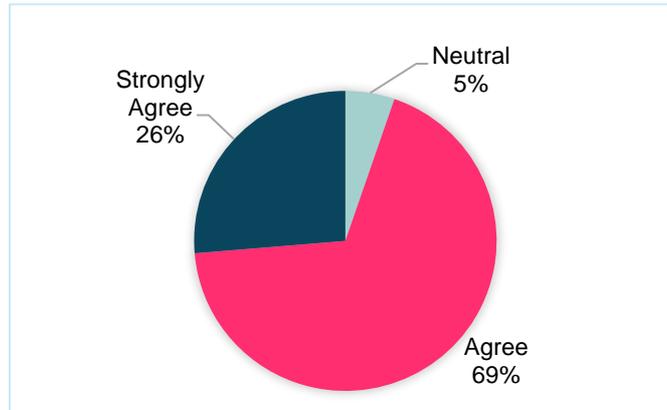
Did you feel that you had the opportunity to make your points and ask questions?



- “I felt we were given the opportunity to feed in our views and this was an excellent session.”

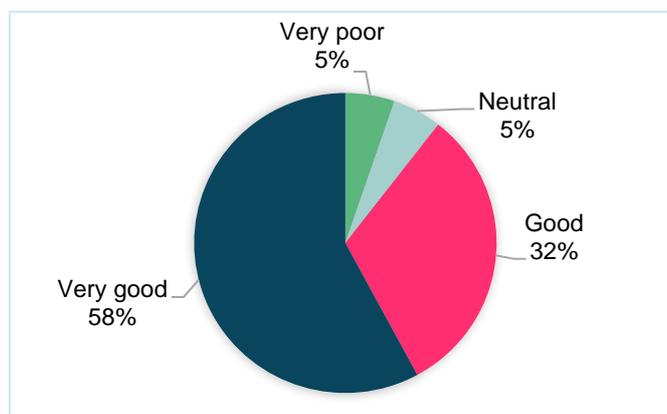
- “I felt able to contribute.”
- “Great facilitation.”

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

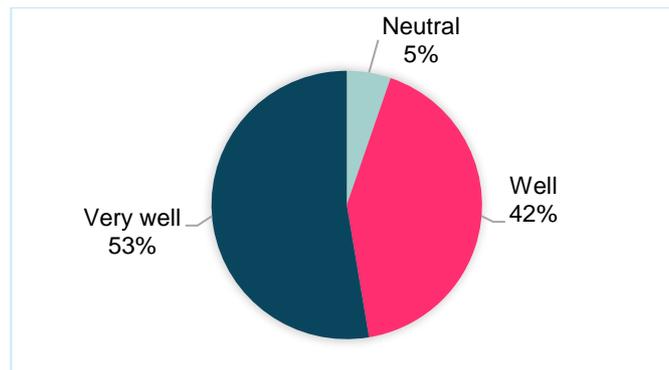


- “Might be useful to see what engagement is being undertaken at the supply angle into the grid and also around a general theme of communication with the EMA, UK and Welsh Governments to make sure we are all joined up and moving in the same direction.”

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



How well do you think the online format worked?



- “I prefer face to face discussions, so hopefully in the future we will meet...!”

Do you have any further comments?

- “Thank you for the information sharing about future technologies. It is always useful to be aware of what is going on in the industry.”
- “Very interesting to learn where things are heading.”
- “Thank you for the opportunity to attend.”
- “Really appreciate being involved and that Wales & West Utilities are running these stakeholder engagement sessions - hope we can continue to be involved in the journey for us all to meet zero carbon by 2030.”
- “People who are off gas grid would be keen to hear about possible options for their future.”



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