Customers in vulnerable situations and community resilience: A cross-utility study

Final Report

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Section 1: Background

1.1 Project summary and aims

Utility networks are responsible for ensuring that communities have access to safe and efficient utility (gas, electricity, water and communications) supplies. They recognise that supporting the most vulnerable members of society in times of adversity is a necessity. However, how we understand vulnerability, the range of vulnerabilities in existence, and how different vulnerabilities interact or emerge in the context of different types of utility is complex. There is an equally complex and diverse range of non-utility stakeholders that provide support services to vulnerable utility customers. As the utility networks prepare for a challenging energy systems transition, a comprehensive and consistent approach to ensuring community resilience will be required to safeguard vulnerable individuals and communities.

To respond to this challenge, National Energy Action (NEA) worked with Northern Gas Networks (NGN) to undertake a cross-utility review that considers the range of support currently being provided, who those providers are, and what good practice means for community resilience and consumer safeguarding, both in the current energy landscape and during the future energy transition.

This project's aims are as follows:

- Identify how we currently understand vulnerability.
- Forecast short-term and long-term risks to community and customer resilience, including the energy justice implications associated with the low-carbon transition.
- Identify current network activity to support customers and communities.
- Make recommendations to ensure that networks are equipped to provide the most appropriate support for vulnerable members of society during the energy systems transition.
- Strengthen existing partnership work between Gas Distribution Networks (GDNs), Distribution Network Operators (DNOs) and water utilities and highlight potential efficiencies on the delivery of respective social obligations.
- Highlight opportunities for relevant parties, and their partners to innovate, collaborate and coordinate so that assistance is better targeted to customers most in need.
- Develop best or innovating practice recommendations to support customers in vulnerable situations and frontline workers in a cross-utility network.

1.2 Structure of this report

Section two of this report reviews the ways in which vulnerability is currently understood and defined. It examines how it is conceptualised as complex, multifaceted, and situational, and as relating to individual characteristics, circumstances, and capabilities, as well as structural and market-based inequalities. It highlights the need to be aware of intersectionality and protected characteristics when considering vulnerability and service design.

Section three discusses common themes of detriment or harm that customers in vulnerable situations may be at risk of experiencing within the current energy/utility system. It explores detriment according to the themes of affordability, communications/accessibility, 'missing out', and safety detriment. It also explores the intersectionality and complexity of vulnerability and risk that each theme represents.

Section four explores how possible changes to future energy systems during the low-carbon transition may engender customer vulnerability and risk of detriment in different and complex ways.

It does so by forecasting potential future energy system risks but also examining insights and learnings around vulnerability and support requirements from recent, unanticipated events (Covid 19 pandemic, energy and cost of living crises, and extreme weather events). It highlights the multiplicity and intersectionality of the ways in which changes to the current system could impact upon customers. Understanding vulnerability and risk of detriment in such contexts will not require simple, one-size-fits-all approaches. Rather, approaches will need to be responsive and pre-emptive, inclusive, and subject to continual review and adaptation.

Section five describes the ways in which some utility stakeholders have begun to take a 'vulnerability first' approach to strategic planning and operational delivery. A vulnerability-first approach looks to ensure the resilience of vulnerability support services by enabling them to adapt and flex to planned and unanticipated future scenarios. The section examines current examples of best practice including vulnerability gap mapping and analysis, partnerships, Priority Services Register (PSR) development, impact assessment tools, ongoing research, vulnerability pathway development, and funding provision for services and training.

Section six goes on to highlight good practice approaches for addressing existing types of detriment from which customers may be at risk. It provides insight as to the kind of strategies and services that utilities and their partners should take into account when identifying, empowering, and providing support to customers in vulnerable situations both now and in the future. The section discusses good practice according to the themes of debt and affordability; communications and accessibility; support for all; and personal safety.

Finally, Section seven presents six best practice guidelines for utility-related companies, regulators and policymakers for understanding, identifying and supporting customers in vulnerable situations both now and in the future. Each guideline has been developed using insights gathered at each phase of this research.

1.3: Project methods and approach

Phase One: Scoping Study (April – October 2022

An evidence review comprising more than 70 resources has shaped and underpinned the work in Phase One. The review included academic and grey literature relating to vulnerability, utilityrelated vulnerability obligations and guidelines, current practice and future utility scenarios. This has evolved throughout Phase One and has been updated with additional resources shared by utility and non-utility experts participating in other parts of the project. In July 2022, an online call for evidence (CFE) was issued to explore several key areas including the ways in which utility and non-utility stakeholders understand and define vulnerability; the manifold ways in which they identify and respond to vulnerability; and views on future risks and needs of energy consumers and clients of wider services in relation to the energy transition. The CFE elicited a total of 53 complete responses; 12 from individuals who identified as representing a utility distribution or supply company, and 41 from individuals that, for the purpose of this report, will be referred to as non-utility stakeholders.

The third stage of Phase One involved a series of three Expert Workshops. Each workshop was delivered twice for convenience, therefore a total of six workshops were held. In total, 21 utility and non-utility stakeholders participated in the workshops – the majority of whom had indicated that they would like to be involved via the CFE. Where CFE respondents were unable to participate or where expertise within their own or partner organisations was deemed more appropriate to the focus of the workshops, invitations were extended. Attendees represented a diverse range of sectors and organisations, including representation from utility networks in the gas, electricity, and water sectors. Local and national third sector agencies were also represented, as was academia, the health sector, and private, chiefly not-for-profit, enterprises working to alleviate energy vulnerability. Workshops lasted between 60-90 minutes and audio recordings were transcribed for analysis.

Alongside the Expert Workshops, a total of 10 indepth semi-structured Expert Interviews were completed. The purpose of these interviews was to examine, in greater depth, examples of innovative or best practice that had been identified in earlier stages of the research. These examples focused on individual projects and multiple projects as part of wider programmes of funded work to alleviate vulnerability, drawing on the views and expertise of utility and nonutility stakeholders. Interviewees included experts from vulnerability teams in utility organisations, academics, programme and policy leads with national charities. Interviews lasted between 30-45 minutes and audio recordings were transcribed for analysis. In October 2022, a 'wash-up' session was held with NGN and EIC to bring together key thinking from the above activities, and to feed into the development of this interim report as well as set the direction and areas of focus for Phase Two. As with the workshops and interviews, an audio recording of the session was transcribed for analysis.

Phase Two (November 2022 – November 2023)

Phase Two brought together insights from the Phase One Scoping Study to develop potential best or innovative practice delivery approaches to support customers in vulnerable situations and frontline workers in a cross-utility network. This included key learnings related to the best methods to coordinate and engage with the variety of external stakeholders.

In order to understand customer experiences of vulnerability, engagement with different types of support and the stakeholders providing them, as well as attitudes towards future energy systems transitions, a postal survey was distributed to 500 households. These were randomly sampled using a list of UK addresses (Royal Mail Post Code Address File). An online version of the same survey was also distributed using a 'postcard' advert, shared via social media, as well as through National Energy Action's and Northern Gas Network's existing networks. This survey was also shared internally by NGN. The householder survey received 43 valid responses. From the existing sample of survey respondents, eight in-depth qualitative telephone interviews were completed with householders, to allow for further discussions of key topics. Interviews lasted for up to one hour and audio recordings were transcribed for analysis using the software Nvivo.

A second series of follow-up Expert Workshops were held with utility and non-utility stakeholders – to test and refine the concepts developed during Phase One and to enable a focus on approaches to identifying and supporting under-recognised vulnerabilities . A total of six workshops were held with 38 attendances from utility and non-utility stakeholders. A roundtable event was then held with 24 expert utility and non-utility stakeholders in November to present findings from Phase Two of research and to test and refine the best practice approaches identified.

Section 2: Understanding vulnerability

2.1 Approaches to understanding vulnerability

An initial aim of the scoping study (Phase 1) was to review the ways in which vulnerability is currently understood and defined. This began with an awareness that the terms 'vulnerable' and 'vulnerability', while widely used, can differ greatly in meaning and scope across sectors and services. Use of the terms can also be problematic and unfavoured by some in the design and delivery of support. Therefore, what we mean by a vulnerable customer, consumer, householder, service user, client, patient, and so on, can impact upon the shape and reach of the support designed to respond to experiences of detriment and hardship.

There are a number of utility-related strategic policies and guidance documents currently available which set out the expectations placed upon utility companies in terms of vulnerability commitments, as well as outlining principles of good practice and specific licence conditions (see appendix A).

Ofgem's consumer vulnerability strategy highlights a statutory duty to take into account the needs of those with disabilities, those who are chronically sick, who are living on a low income or in a rural area. The strategy recognises that individual characteristics can result in increased vulnerability and that vulnerability can be multidimensional and transitory. As such, it requires companies to make efforts to understand the range of factors contributing to vulnerability within their consumer base, as well as developing appropriate mechanisms to identify and support those customers.[1] Ofwat recognises that vulnerability can be the situations and circumstances in which customers find themselves. As such, Ofwat prefers to talk about "customers in circumstances that make them vulnerable" or "situations of vulnerability"[2].

There is a large body of academic work that has sought to better understand and articulate a definition of vulnerability. The evidence reviewed for this project can be categorised as taking either a vulnerability-, capabilities- or a health-based approach[3]. A vulnerability-based approach examines how people might fall into fuel poverty at certain times (vulnerability can be temporary) and in certain spaces (vulnerability can be transient)[4]. Here, vulnerability is influenced by changing circumstances and individual abilities for adapting or coping with them[5]. Understanding lived experiences becomes key and focusing on real lives can reveal the multiplicity of factors that intersect to create energy-related vulnerability[6 7]. This can include access to energy and the affordability of energy; how flexible energy services are; the characteristics of a dwelling; a household's particular energy needs; household income; tenure; individual health and wellbeing; a person's social relationships, behaviours; and the influence of policy. In summary, to understand vulnerability to diverse detriments, multiple indicators and experiences must be examined[8].

Taking a capabilities approach means looking at how different aspects of utilities (including access, use and affordability) could affect (and be affected by) the basic capabilities of a household (such as their health, wellbeing etc.). This approach highlights the importance of considering how an individual's relationship to a utility and the market might affect their capabilities, and vice-versa.

Market characteristics and policy interventions can also create distributional inequalities. This can be the case when market costs fall primarily onto those least able to pay and those least able to access the benefits of the policies in question (such as levies on bills for the domestic Renewable Heating Incentive or Feed-in-Tariff)[9]. Within the energy justice literature more widely, justice tends to be considered as relating to distributional, procedural and recognition lines[10]. Recognition injustice occurs when policy does not adequately or appropriately reflect, understand, or consider diverse individual needs and potential impacts[11]. This means that, where issues are not well understood, not acknowledged, or misrecognised at local and national government levels, vulnerability to and from issues such as fuel poverty can be increased due to policy shortcomings[12].

The health-based approach to utilities and vulnerability considers how social inequalities, and the social determinants of health may intertwine to create vulnerability to cold- and damp- related morbidity and mortality.[13] Within this approach, multi-agency and year-round cooperation and planning is needed to reduce health-based vulnerabilities resulting from insufficient access to energy for comfort and wellbeing. Certain groups are considered as being particularly vulnerable. These include those suffering from pre-existing respiratory, cardiovascular or mental health conditions, those living with a disability, those aged over 65 years, families with young children, pregnant women and households on low incomes.[14]

Categories, such as "those with physical/mental ill health conditions" often only become a useful lens through which to understand utility-related vulnerability, however, once the complexity and multiplicity of vulnerabilities that each category entails are acknowledged and understood. In this case, for example, it ranges from understanding how health conditions in themselves may affect the capabilities of an individual and increase their vulnerability to experiencing detriment in certain circumstances (such as fuel poverty). While that detriment in itself (e.g., cold and damp homes, high energy costs) can negatively affect personal characteristics (individual health and wellbeing) and quality of life in multiple ways. Woven into this will be the nature of support that is available, how accessible it is, and how far it has been designed to meet and take into account their particular needs.

2.2 Protected characteristics, structural inequalities, and intersectional vulnerability

In the UK, certain protected characteristics are associated with a higher risk of being in poverty. These include (but are not limited to): race, sex, disability, and age. Overall, the more protected characteristics that a person has, the greater the risk that they will experience poverty. The evidence review explored several protected characteristics in relation to utility-related detriment.

For example, in relation to gender inequality, women are more likely to be in poverty than men due to being paid less, working fewer life-time paid hours and experiencing a greater burden of caring responsibilities.[15] Single mothers are more likely than men and other women to be eligible for means-tested benefits (meaning are more prone to experience deeper poverty) and are more likely to be reliant on benefits to supplement income (making them vulnerable to benefits cuts). Single parents are also more likely to pay for energy through a prepayment meter (PPM) and thus be at greater risk of self-disconnection.[16]

Other protected characteristics can then intersect with gender. Black women have a higher chance of being a single parent and working in a low paid job.[17] While women in Black, Pakistani and Bangladeshi households are more likely to have larger families with more dependent children, risking greater caring responsibilities, lower incomes and greater vulnerability to Universal Credit cuts. Women with disabilities are even more likely to be lower paid than those who do not have a disability, and single mothers who are disabled are likely to be more detrimentally impacted by benefits cuts.[18]

As such, intersectionality has an important role to play in determining the level of risk faced by an individual to suffering detriment.[19]

2.3 Section summary

Across utility and non-utility stakeholders, there was a general agreement on vulnerability being conceptualised as complex, multifaceted, and situational, and as relating to individual characteristics, circumstances, and capabilities, as well as structural and market-based inequalities. In the workshops, participants told us how, despite current definitions being problematic and having limitations, it is still important to work towards and with a common understanding or definition, especially in the context of cross-utility or cross-sectoral working. Research further highlighted the need to be aware of intersectionality and protected characteristics when considering vulnerability and service design.

Section 3: Customers in vulnerable circumstances and the risk of detriment

3.1 Introduction

Experiencing vulnerable circumstances, as a customer, can result in particular (and, often, multiple) kinds of risk or detriment. Such detriment generally occurs along common themes, including affordability, communications/accessibility, 'missing out' on support, and personal safety. Each of these detriments can, in themselves, act to increase the nature of vulnerability and harm experienced by individuals and households in multiple ways. For example, affordability detriment may be influenced by the income level and health-based needs of a household and may subsequently result in additional physical and mental health vulnerabilities and/or safety-related detriments. This section discusses each of these detriment themes and explores the intersectionality and complexity of vulnerability and risk that they represent.

3.2 Affordability detriment

This section highlights the range of factors in the current energy and wider utility landscape which can combine to result in affordability detriment for customers. Sometimes such factors can act in isolation, but most often they act through a combination of multiple individual characteristics and capabilities together with structural and market-induced inequalities to increase the risk that a customer will experience affordability problems.

3.2.1 Fuel type

The type of fuel a household uses can influence wider energy affordability. For example, properties which are off the gas grid are some of the coldest and most energy inefficient in the UK, as well as some of the most expensive to heat. These households are often reliant on more expensive fuels such as electricity, or costly fuels from unregulated sectors including oil, LPG or solid fuel. This means consumers can be excluded from engaging with the competitive energy market and accessing the cheapest deals or tariffs. Off-grid households might also be prevented from accessing the support which regulated suppliers are obligated to provide, such as the Priority Services Register.

3.2.2. Income

Low household income can combine with the price of a service/resource to influence vulnerability to problems such as fuel and water poverty. For services such as water and sewerage distribution, tariff options can be extremely limited (measured/unmeasured) which can affect the payment and pricing options available to customers. While some utility companies offer low-income households the option of specially designed tariffs, lack of consistency in such types of support can mean that low-income households, those with larger families and/or those with additional medically related water- or energy- needs can become vulnerable end up paying more to meet their basic utility requirements[20].

It is important to recognise that not all affordability barriers lie within the utility market specifically, but result from a complex interplay of changes to welfare systems, the cost of living, incomes and earnings, as well as market operations. For example, Step Change found that 44% of its clients accessing the charity for debt support were experiencing other vulnerable situations, as well as financial difficulty.[21] Overall, households which can be considered vulnerable and/or low income are more likely to experience personal and unsecured debt.[22] When such debt becomes problem debt (i.e. they are unable to afford their debt repayments), it can be closely related to wider problems such as financial inclusion, family breakdown and poor physical/mental health.[23]

Household Survey Insights

According to the Office for National Statistics, the 2022 median household income in the UK after tax and benefits was £38,100. Only one person (3%, n = 33[24]) reported having a household income within this bracket. Almost half of the sample (48%) reported that their net annual household income was very low (below £18,000). A further 21% of respondents reported a low household income of between £18,000 and £33,999 annually.

Half of respondents (50%, n = 42) reported that they struggled to keep their whole home warm and comfortable. A fifth of respondents (21%) reported that they could not do so. A further twelve respondents (29%) reported that they could keep their whole home warm, but it was hard to do so. The most commonly cited reason for this was affordability, with 81% (n = 21) saying that it cost too much. A further seven respondents (33%) reported that the heat didn't stay in their home well, and four (19%) reported that their heating system didn't work well or was broken. Almost two-fifths of respondents (38%, n = 39) reported that it was difficult or very difficult to afford their energy bills. A further two-fifths (38%) reported that it was neither easy nor difficult. Almost half of householders (46%) reported using other methods of staying warm to avoid putting heating on, over half (55%) have the heating on less often than they would like to save money, and 61% heat fewer rooms to save money frequently (either 'most of the time' or 'all of the time'). Perhaps more concerningly, 11% reported frequently cutting back on food or going without meals 'all of the time' in order to save money for energy costs, suggesting that some householders are facing a 'heat or eat' dilemma, avoiding energy debts by prioritising these costs at the expense of food. A further 18% of householders reported going without other essentials (e.g. toiletries or clothes) frequently.

3.2.3 Meter type

Additionally, the type of meter that a household has can act to increase their vulnerability within the energy market. For example, customers with restricted meters can face barriers in accessing appropriate and affordable tariffs as well as being limited to tariffs that result in higher bills and billing/metering mechanisms that are inappropriate to a household's heating regime and/or water needs. There is also often reduced information available to such consumers around switching tariff/supplier.[25] [26] Prepayment meter (PPM) users face an increased risk of self-disconnection. This can be related to affordability issues, operational issues or accessibility issues (sometimes these will overlap). The practice or experience of self-disconnection can represent significant detriment for health and wellbeing. In contrast, smart PPM can help to eliminate market detriments currently felt by legacy PPM users e.g., access to different tariffs, switching between credit and prepay mode, remote top-ups and reduced costs faced by suppliers to serve PPM households. At the same time, market and regulatory factors can act to maintain existing vulnerabilities through the limited provision of smart PPM tariffs that reflect the lower cost to service, limited awareness raising of the benefits of smart PPM, or replacement of legacy PPMs with like for like.[27] Overall, PPM customers are more likely to live on a low income, be disabled, and/or be a single parent – all identified as key vulnerable groups. They are also more likely to have lower levels of educational attainment than customers on direct debt or standard credit payment arrangements.[28] Again, this shows how specific circumstances and personal characteristics overlap with market operations and structural inequalities to both engender vulnerability and the experience of detriment.

Household Survey Insights

According to the latest Ofgem estimates, roughly four million UK households currently have a prepayment electricity or gas meter, equating to around 14% of households. Eleven survey respondents (35%, n = 31) reported having a gas or electricity prepayment meter in their homes. Of these respondents, nine (82%) reported having no gas or electricity supply due to being unable to afford to top up their meter. Two respondents (18 %) reported that this happened 'all of the time', and one respondent (9%) noted that this happened 'most of the time'.

3.2.4 Tenure

Tenure can both cause and indicate vulnerability in multiple ways. In the private rented sector, tenants may have low or no awareness of property Energy Performance Certificates (EPCs), be limited in the range/type of housing they can access and may face fear (or real risk) of eviction when challenging landlords on property condition or rent increases.[29] Individuals considered to be vulnerable, including asylum seekers, migrants, previously homeless individuals and those on low incomes are even less likely than the average household to report or challenge issues relating to the quality of their rented housing quality.[30] Private rented sector tenants are also least likely to receive available means of energy-related support including the Warm Homes Discount, the Energy Company Obligation (ECO) or energy efficiency grants.[31] Meanwhile, Houses in Multiple Occupation (HMOs) tend to have old and expensive electric heating, uninsulated rooms in roof spaces, non-standard and hard-to-treat building types. Landlords may also sub-meter, with limited market choice for tenants, and extremely high energy bills.[32] Targeting interventions at households in the private rented sector, especially those in HMOs, is further complicated by the transient nature of the population living in this tenure, as high tenant turnover within poor quality housing can make it difficult to engage (and retain engagement of) both tenants and landlords alike.

3.2.5 Physical and Mental Health

Research has shown that health conditions can both engender vulnerability to fuel poverty and make individuals more susceptible to feeling the effects of living in a cold home. These experiences, in turn, can make it harder to cope with illness. For example, unlike other forms of debt, fuel debt has been independently associated with respiratory illness[33]. When it comes to mental health, people experiencing difficulties in paying their fuel bills are four times more likely to suffer from mental ill health[34]. Patients such as those with Alzheimer's Disease or related dementias (ADRD) tend to see competence worsen around independently managing the basic needs of shelter and food, as well as experiencing disturbances in thermoregulation.[35] Dampness is associated with mental ill health even after other confounding variables have been controlled for.[36]

Suffering from ill physical and or mental health can interact in complex ways with other factors of vulnerability. For example, many people living with cancer have increased and often hidden costs (e.g., reduced incomes, increased cost of travel due to more frequent medical appointments and increased fuel bills). These costs impact upon their day-to-day lives, the cost of essentials and their ability to achieve affordable warmth. This can affect their ability to cope with illness and impacts negatively on wider physical and mental health and emotional resilience.[37]

Household Survey Insights

Over half of the respondents to our householder survey (56%, n = 36) reported that somebody in their household had a disability or long-term health condition. Examples included mobility issues, autoimmune diseases, hearing impairments, as well as health conditions which are considered to be worsened by living in a cold home, such as Chronic Obstructive Pulmonary Disease (COPD), asthma, and rheumatoid arthritis.

The majority of householders reported heating fewer rooms to save money. Inadequate heating in the home, amongst other factors, increases the risk of mould and damp issues. Three-fifths of respondents (60%, n = 43) reported having condensation, damp or mould within their homes. This is significantly higher than statistics from the latest English Housing Survey, which estimates that 4% of households across the nation, or 935,000 households, experience damp problems. Mould and damp in the home can have serious health and wellbeing implications, and particularly for young children or those with existing disabilities such as asthma.

Eleven respondents (28%, n = 40) reported that somebody in their household relied upon energy-dependent medical equipment, such as refrigerated medicine or special equipment. Of these respondents, a third (36%, n = 11) noted that they had 'often' had to restrict their usage of this equipment or medicine due to the cost of energy in the previous twelve months. A further two respondents noted that they had had to do this 'a few times', and one respondent noted that they might have to do this in the future.

3.2.6 Personal safety

The ways in which vulnerability 'to' and vulnerability 'from' interact and intersect in complex ways can be seen in the factors which contribute to risk of experiencing carbon monoxide (CO) poisoning. Some individuals are more susceptible to adverse effects from CO exposure than others. In particular, older people, children, pregnant women and their unborn children, and those with breathing problems or cardiovascular disease are all at increased risk.[38] The factors which cause fuel poverty, including living on a low income and living in an energy inefficient property, may also increase CO risk.[39] This is because households on low incomes and in vulnerable situations may be living with older, inefficient and riskier heating appliances, using heating appliances inappropriately (such as reducing ventilation to retain heat) or are unable to maintain or upgrade appliances or purchase a CO alarm for cost reasons.[40] Research carried out by National Energy Action in 2017[41] found that fuel poverty characteristics are present in homes recording elevated CO levels. The research also found that combustion secondary heating is a key source of warmth in homes vulnerable to fuel poverty and a possible cause of CO spikes in such properties. Additionally, it found that households relying on gas and solid fuel fires are often not maintaining them, and that living with a higher risk boiler is correlated with living in an off-gas and rural property. Finally, gas cookers may be a significant source of CO exposure in homes but awareness about CO risk from these appliances is very low.[42]

Case Study: Robert

Intersections and multiplicities of vulnerability

Overlapping vulnerability

Robert is retired, elderly and lives with his wife in a bungalow. They are both in receipt of state and private pensions, which make up the entirety of their household income. Their bungalow is rented from a housing association. The property is in a rural location in a small village, and is not connected to the mains gas network. Robert's home is heated by electric radiators, which Robert finds to be more expensive than other methods of home heating. The housing association recently provided loft insulation and double glazing to the property, although Robert is still waiting on some repairs to his porch which means that there are some draughts throughout the property.

Income

Property characteristics

Fuel type

Recently, heat exchanger systems were installed in the bungalows in Robert's street. However, as these heat exchangers required householders to keep their windows closed at all times, they weren't appropriate for Robert and his wife's needs or living situation. Robert and his wife both suffer from sleep apnoea, and therefore require constant ventilation and fresh air in their bedrooms.

Unsuitability of technology for household medical needs

"I have nothing against heat exchange models. I think in the future, when they've got them a little bit smaller and you can open your windows and live a normal life with them, they'll be brilliant. But I don't think they've quite got there yet, with the model that we were having."

Robert has noticed a sharp increase in his household heating costs over the last winter, as well as increases in the price of other essentials including food.

Affordability of energy and other essentials

"There has been a huge difference there, that has made life a little bit difficult... When we got the bills last autumn – obviously it's online, but I go and look at them when we get them – it had gone up to £300 to £400, and I was pretty aghast at that. But when we got the first bill, that was £600-odd, I thought this has got to be a mistake. And I looked at it and I looked at the smart meter and it said, "No, it's not." So that was rather unpleasant."

In order to cope with these price increases, Robert has started to heat his home to a lower temperature, and for less time. However, as the electric radiators which heat his home have a minimum temperature setting of 19 degrees, he can only set them to this temperature, although he wishes it could be lower. He is also currently on a debt repayment plan with his electricity supplier.

Harmful rationing practices

Affordability pressures of technology type

"The electricity bill is running with a carried forward amount of just over- It varies between £1,000 and £1,500 at the moment. We are slowly chipping away at it, but it's going to be a long time before we get there.... We're very fortunate that the electricity company is being very reasonable about it all."

Misrecognition of vulnerability in current policy and support mechanisms

Robert approached his electricity supplier for financial advice due to his level of debt, who referred him to several government grants. However, Robert found that he wasn't eligible, due to his household income. He feels this doesn't account for the higher levels of outgoings he spends on energy, due to the rural location and living in a property which isn't connected to the mains gas network. His family member is also facing a huge amount of debt due to a faulty electricity meter. Despite an ombudsman stepping in to advise the electricity supplier to address this, has not been resolved.

"Our income is too high to make us eligible, because it's income-based rather than outgoings-based. On paper, it looks as though we should be having a wonderful time, but because we live in the countryside, it's not quite that wonderful."

Limited awareness of support available

However, Robert hasn't looked for support or advice elsewhere, partly because he doesn't know what support would be available or where to go, and partly because he feels like others, including his neighbours, are more vulnerable and in need of this support, whereas he has managed to cope so far.

Reduced likelihood of self-identifying as vulnerable or self-referring for support

"I'd use it as a last resort, because I'm absolutely sure there are people worse off than we are who would probably need it more. I mean, we aren't needing to go to food banks or anything yet. And those sorts of people would need it far more than we do. For us, it's riding the storm, and eventually it should pan itself out."

Different communication preferences within a household (links with protected characteristics and energy justice implications)

"We do have neighbours who haven't got any heating on at all at the moment because they can't afford it, because they've only got the old storage radiators, and they can't afford to run them... It seems totally unfair. So, we are aware that there are people worse off than we are."

If he were to look for support, Robert would prefer to receive this online or via email. Robert used to work in an administrative position so has been working with computers for a long time, although he feels that this is not common for his age group. For example, Robert's wife, who is less confident with computers, would prefer to receive support in a face-to-face or telephone format.

PSR aware

Due to their health status, both Robert and his wife are on the Priority Services Register with their electricity supplier. He has found this extremely helpful in instances of supply issues, which his household is more vulnerable to due to the rural location. In the past, Robert has also relayed this information to his neighbours who are less confident or knowledgeable of what to do in the case of a supply issue.

Community networks

"We had the water supply cut off a while ago, two or three years ago, the whole area had to have the water cut off because there was a big burst. And the water company, for everybody, supplied water bottles, but you had to go and get them. And for those of us on the register, they came and dropped a load of water bottles off at the house. Which was, we thought, very considerate of them."

"And the electricity company, I've got an online thing to contact if I've just got a query and the power is still on. Somewhere, we have a letter in the electricity file that gives us a phone number to call. So, I would be able to find it, but it would probably take me a while."

Medical dependencies on accessing power with severe implications during outages

Due to their health conditions, both Robert and his wife are reliant on specialised medical equipment which requires electricity. Because of this, supply issues are a huge concern, especially as 'mini-cuts' are more frequent in the rural location due to the infrastructure.

Robert is generally in favour of renewable technologies, and feels that more money should be invested by the government to enable households to access these. This would allow several domestic properties to become more 'self-sufficient'. He is also interested in public debates around renewable technologies. For example, he has heard others talking about the downsides of wind turbines, including the potential for noise, or destruction to local wildlife. However, he likes to research these topics online from various sources before coming to his own conclusions.

Engaging with net zero and and a wish to be informed

"If I see one of these comments, I will then research it and find out where it's actually coming from. I don't just think, 'Oh, look at this, this person has said this, therefore it must be true.' It's, 'This person said this, that's interesting, let's see what I can find out about that then.' It's only a sort of A-Level understanding as it were, but I do find out facts rather than just relying on others."

Communication preferences for education and awareness raising

Robert feels that television is the most useful resource for providing information to the general public on issues such as net zero or renewable technologies.

"But if there was more information put on the television, that's the medium that a lot of people use for their information. And there is still a tendency - it used to be in the newspapers – if it's written in the papers, it must be true. And if it's on the telly, it must be true... And of course a lot of older people don't use the internet anyway, so the television medium would catch them. And newspapers are fading out now, they're very expensive for what they are, and a lot of people aren't buying newspapers in the way they used to."

Robert feels that more government intervention is needed to support households in the form of stricter legislation on energy costs, which currently don't account for his own situation due to being based on an 'average' property.

Own voice and perspective

"The government needs to actually govern, rather than sitting there, just sticking plasters on things that come up. And turn around and make some legislation suitable for the current situation. And say, 'No, this is the maximum amount you can expect to make from an average person living in an average house'. Never mind £2,500 as a guess, it should be 'you're not allowed to charge more than that for these people'... It's the idea of governing, rather than reacting. A proactive approach to making things better."

3.3: Communications and accessibility detriment

This section highlights how customers might experience communications and accessibility detriment and considers a range of factors that can increase the risk that someone will be vulnerable to such detriment. Once again, it highlights the intersectionality of individual characteristics and capabilities together with structural and market-induced inequalities in engendering vulnerability and risk of detriment.

3.3.1 Sensory impairments

Customers with sensory impairments may have communication/accessibility requirements which, when not met by utility stakeholders, can affect their ability to access information, services and support. This increases their risk of experiencing detriment within the utility market. How far market operators can identify, understand and appropriately respond to their communication/accessibility needs can have a significant impact on customer experience.

Customers who have hearing or sight impairments may be more likely to experience challenges in accessing and understanding utility communications, including bills. There may also be challenges in relation to reading and understanding a meter. These challenges can impact upon how much a customer is paying for their energy, for example, (with a reliance on estimated billing) and how empowered they feel to manage and monitor their energy use and costs. Such effects can be worsened by a lack of available and accessible information about the energy system (including information on switching tariff or supplier) and energy efficiency. Where customers such as those with sight or hearing impairments face difficulties in having their communication needs understood and met by their energy supplier, the result could be heightened stress, worry and affordability detriment.

3.3.2 Language barriers

English language and literacy barriers can also act to increase the utility-related vulnerability of certain individuals in relation to how well utility bills and provider communications can be understood or engaged with (as well as how far support can be understood or accessed). The availability and provision of communications resources and services in target languages, along with the support of trusted community members can be crucial in reducing the risk of detriment amongst such groups.[43]

Household Survey Insights

In terms of adapted communications from energy suppliers to meet health or disability needs, a quarter of our household survey sample (27%, n = 41) reported receiving at least one form of these. A further 7% reported that they didn't currently receive adapted billing or communications, but that they would like to. The majority of respondents (63%) reported that they did not require such communications. The most common adaptation was 'easy-read English', which was reported by one fifth of respondents (20%,). Five respondents (12%) reported receiving communications in large text. One respondent noted that they received communications in their preferred language. Interestingly, however, one interview respondent clarified that despite English not being their first language, they preferred to receive communications in English due to their own and friends' experiences of receiving poorly translated materials which led to inaccurate messaging.

3.3.3 Digital exclusion

There are over 5 million people in the UK who have never used the internet, and over 10 million do not have the necessary skills or capabilities for full digital participation.[44] Those who do not have access to the internet, or have limited access , are more likely to be excluded from engaging with competitive markets; less able to deal with increased complexity within the market; excluded from new and existing services (including government services) that are being digitally transferred online, increasing dependency on costly and poorer quality 'legacy services' thus reducing civil participation.[45] Customers without access to the internet can face much higher energy costs than customers that regularly use the internet through paying a combined premium (failing to benefit from the cheapest online deals, being unable to go 'paperless' and having limited access to support like the Warm Home Discount (WHD)). This might push customers who are just about managing into fuel poverty, worsen the severity and depth of fuel poverty, and/or entrench harmful rationing practices and coping mechanisms in others.

The circumstance of being digitally excluded in itself often overlaps with personal characteristics and circumstance, demonstrating the complexity and multiplicity involved when it comes to understanding vulnerability. For example, Ofcom found that those in lower income households are less likely to take-up fixed broadband services and more likely to access the internet through a smartphone instead. This necessarily presents challenges for completing important tasks such as job applications and managing utility provision including energy bills. Regarding age, only 77% of 65-74-year-olds use the internet anywhere, and this figure drops drastically for those over 75 years of age (52%). These groups are also the least likely to use a smartphone to go online (3% of 65-74-year-olds and 1% of over 75s). Being able to physically access the internet can be

a problem for those living in rural areas, where around 30% of households have access to internet connections of less than 1 megabit per second (Mbps). In a large proportion of rural areas, especially in Scotland and Wales, broadband speeds and level of reliable access are significantly lower.

Household Survey Insights

For household survey respondents, email was the most commonly reported preferred format for receiving support (51%, n = 37). This was followed by 'written information' (35%). However, face-to-face or in-person methods of support were also favoured by 54% of respondents. This includes support provided in respondents' homes (32%) and support available within community settings (22%). A further 22% preferred advice provided 'over the phone'.

Aside from email, web-based methods were less-commonly cited as the preferred method of receiving advice. This included 'webchat' and 'webpages or web search' which were a preferred method for only 19% of respondents, respectively. One respondent further noted that 'generic websites' were not suitable for their needs or circumstances, and that support needed to be tailored to their own needs.

3.4 Missing out on support

Under current licence conditions, water companies, energy suppliers and distribution companies are required to maintain a Priority Services Register (PSR), which should be kept accurate and up to date. Suppliers are required to take all reasonable steps to promote the PSR and to proactively identify customers in vulnerable situations, and regulators have highlighted the importance that customers have a good experience with PSR services.

However, Ofgem has outlined concerns that where a PSR is not validated frequently enough or is not sensitive enough to keep up with current information, services may not meet the needs of consumers. There is a risk that inadequate identification of customer vulnerability can add to the barriers that they face in accessing support or engaging with the energy market.

Household Survey Insights

Despite the relatively high prevalence of disability/health conditions reported by respondents to our household survey, only around a third of the sample (32%, n = 41) reported that somebody in their household was on the Priority Services Register (PSR), and 10% reported that they didn't know whether somebody in their household was on the PSR or not. Furthermore, only one quarter of respondents (26%, n = 41) reported receiving at least one type of adapted billing or communication from their energy supplier.

Ofgem also notes that PSR data alone may not adequately reflect the full nature or extent of vulnerabilities being experienced by a customer, and so companies should use the data that they hold internally for a customer to identify those who may need additional support. This might include the use of extra care teams and the provision of training to staff to recognise vulnerability flags.

Ofwat similarly recommends that suppliers build an understanding of the "triggers" that could indicate a customer is in a situation of vulnerability to guide conversations and to identify potential risk. Ofwat emphasises that a list of triggers and risks will not be exhaustive, nor will it be applicable to everyone, and that any customer could be vulnerable in some circumstances.

Ofwat recognises that customers may face barriers in self-identifying as vulnerable in terms of self-perception, a lack of trust in institutions, or access/communication barriers. It emphasises that companies need to recognise and understand such barriers and find innovative solutions to overcome them. This might include fostering a culture of excellent customer care, providing staff training to empower them to use appropriate judgement and to make appropriate referrals, proactive contact with customers using clear, accessible communications. It should also include appropriate data sharing with relevant stakeholders and partnership working.

Household Survey Insights

For respondents to our household survey, the most commonly cited source for help or support with keeping warm and well at home if they needed it was 'family, friends or neighbours' (28%, n = 43). This was followed jointly by 'energy suppliers' and 'a local organisation/charity' with 26% of respondents noting that they would seek support from these organisations. This highlights that local communities are a source of resilience for individuals with support needs, either in the form of neighbourhoods and social networks, or locally based support organisations. Conversely, those who are vulnerable but do not have strong family or social networks were often considered the most vulnerable by respondents.

Almost a quarter of respondents (23%) noted that they would go to a government website for support, whereas a fifth of respondents (21%) reported that they would go to their local council. Respondents were less likely to report being likely to approach their Gas Distribution Network (GDN) or Energy Distribution Network Operator (EDN) for support (14% and 12% respectively). Other sources of support listed by respondents included National Energy Action, Trustmark, Money Saving Expert, or Energy Saving Trust. One respondent noted that they had never had to look for help or support and therefore had no idea what help is available. This, as well as discussions with interviewees, highlights the fact that many respondents take a reactive, rather than a proactive, approach to help-seeking, only considering this in situations where it was required, such as emergency supply issues. Only a minority of interviewees described actions taken to prepare for such situations, for example, through preparing a folder with 'emergency' telephone numbers, or having a go-to contact through their energy supplier.

Case Study: Liam

Energy unaffordability, customer disempowerment and reluctance to engage with support

Personal history

Family circumstance

Health conditions

Income level

Energy affordability

Liam is an ex-soldier who lives in a two-bedroom council flat in the North East of England. He lives alone, but shares part-time custody of his young children throughout the week. He is currently on long-term sickness leave from employment due to some serious health issues in recent years which have left him unable to work.

Generally, Liam finds that his household budget has always been tight, but he has noticed that it is even more difficult to afford essentials in recent months. Liam noticed that his energy costs doubled during the energy crisis last year, and this was despite receiving support in the form of Energy Bills Support Scheme payments directly to his account.

"Even though I wasn't using anything more or anything less, it did, my energy prices just went through the roof.... You always worry and all that, and then also, then the prices go up and stuff like that, and there's [nothing] you can do is there?"

Energy rationing

Coping mechanisms

Young children in the home

When he is home alone, Liam prefers to only use the heating when absolutely necessary, turning it off as soon as the house becomes warm, and making do with blankets, hot water bottles, and heavier clothing instead. He prioritises keeping his home warm when his children are staying, as well as making sure there is enough money in his budget to give them what they need, including their favourite meals, even if this means going without when he is on his own.

"I would rather make sure that my kids have got what they want and what they enjoy doing, and then I'll just backtrack then I'll just struggle... There's been many times I've gone without, and do you know what, people say it doesn't

bother you, but it does in a way, but end of the day we're only human, aren't we?"

Recognising vulnerability during moments of disconnection

Liam recently had a gas leak in his home which was diagnosed during his annual gas safety check, which meant that his gas supply had to be turned off for a week until repairs could be made. Liam felt that the communication from the supplier and the workmen carrying out the repairs was brilliant, and they explained the fault and the timeline for repairs clearly, as well as sticking to their proposed schedule. He was even offered electric heaters during this time to ensure that he could stay warm, but he turned these down as he felt that there could be somebody else who needed these more.

Reluctance to engage with support and self-identify as vulnerable

"Being an ex-squaddie myself, that is drilled into you, obviously pride. There's always somebody worse off than what I am, so I would rather them get the help than me. I just get on with things. I don't ask for help... because there's other people that need that service, rather than me."

Liam often receives communications from his local council in the post on available services and support schemes.

Willingness to engage with information and advice when it is provided

"The council send out a leaflet every winter month and advice saying, 'Try this, and try that, and try this or try that.' And you do try it, and it's like anything, it works for some people, it doesn't work for other people. That's one thing about the Council, they do give you lots and lots of [information]- it could be by leaflet, it could be by email, it could even just be by a normal council letter."

Limited knowledge of net zero but desire to engage if given appropriate knowledge and incentive

He has never heard of net zero, but does occasionally receive communications on sustainable practices or renewable technologies via email or letter. Liam is open to trying renewable technologies if it works for him, but also felt that he was 'old fashioned' and preferred to stick with things that he knew worked for him, unless he could be swayed by cost.

Requires trust and credibility in information and organisations

"If it's for me I'll give it a try. But I don't like change to be honest with you, I'm very old-fashioned, if something works for me, I'd rather stick with something that works for me.... Basically, you try to go for the cheapest one that you possibly can and all that, so obviously you can make ends meet at the end of the day."

He is also wary of scams due to the vast amounts of information he receives in emails and letters, from different sources.

"...you get stuff sent through the post anyway off loads of different people, you get emails, just random emails about this, that, and other, and I'll read them and I'll digest them... But, sometimes you've got to be careful because there's a lot of scams out there, isn't there?"

Reluctant to self-refer or present for support

Own voice, priorities and feelings

Liam prioritises paying his bills, even if it means that he has to cut back on heating or other essentials. Liam is generally too proud to seek out or accept support, as he feels that he can go without and there is always somebody who might need it more than him. He feels a sense of a lack of control around affordability of his bills even when attempting to cut back on consumption, and that the most important aspect of support would be to address the cost of living so that customers' bills were more affordable.

"My mindset, you just grit your teeth, crack on and get on with it. There's nowt you can do at end of the day."

3.5 Personal safety detriment

3.5.1. Faulty appliances

In situations where a household is vulnerable to adverse outcomes, responses to that situation by organisations such as networks can further entrench existing vulnerabilities or create new situations of vulnerability depending on the response. For example, when gas appliances or installations are deemed to be unsafe and therefore disconnected by an engineer, a household faces the risk of being unable to access heating, hot water or cooking. If a household faces barriers to rectifying their faulty appliance – for financial or other reasons – there is a risk occupants will move out of one vulnerable situation (living with an unsafe gas appliance) into another (living in a home without adequate provision for heating, cooking or hot water). It is therefore critical household vulnerability is identified when gas equipment is made safe and vulnerable households are provided with the appropriate level and form of follow-up support.

3.5.2. Gas disconnections

Research carried out by NEA[46] has found that there are four key factors emerge which impact on both the duration and severity of a situation faced by a householder following a gas disconnection:

- low income can limit the ability of a householder to replace or repair a gas appliance;
- low income owner-occupiers and private tenants renting from negligent landlords are at greater risk of a prolonged period without essential heating and cooking facilities relative to the social rented sector;
- occupants with a mental or physical health condition or disability exacerbated by living in a cold home are at increased risk in cases where they have no access to a functioning gas heating appliance;
- and occupants with a communication/learning/memory impairment are vulnerable due to being unable to adequately cope with a disconnection, including not properly understanding why they are being disconnected from supply, next steps to take and how to access follow-up support.

Ultimately, research has shown that when an engineer makes safe a gas appliance, one risk to health and safety can be replaced by another if households in vulnerable situations are not provided with essential follow-up support.

3.5.3. Coping mechanisms

Households who are struggling to afford their energy or who are struggling to adequately heat their homes may resort to unsafe coping mechanisms and practices, such as using ovens to heat a room, burning unsafe fuels indoors or bypassing meters – all of which pose significant risk to safety. At other times, households may restrict their use of hot (and even cold) water, posing the risk of poor personal hygiene and corresponding physical, mental and social effects.[47]

Section 4 Vulnerability in the context of future energy system transitions

4.1 Introduction

This section explores how possible changes to future energy systems during the low-carbon transition may engender customer vulnerability and risk of detriment in different and complex ways. It also examines how recent crisis events (Covid 19 pandemic, energy and cost-of-living crisis and extreme weather events) impacted upon changing and emerging vulnerabilities as well as the support provisions available. It draws on these lessons to highlight the multiplicity and intersectionality of the ways in which changes to the current system could impact upon customers. Understanding vulnerability and risk of detriment in such contexts will not require simple, one-size-fits-all approaches. Rather, approaches will need to be responsive and pre-emptive, inclusive, and subject to continual review and revision.

Section 4.2 Building an understanding of future energy systems and risk

4.2.1 Risk forecasting

Ofgem recognises that the energy market is experiencing rapid and extreme change as a result of "digitalisation, decarbonisation, and decentralisation"[48], and that we need to build understandings of how these changes may represent new risks for customers and create or interact with vulnerabilities in new ways.

Ofgem highlights the risks of innovation within the energy market/sector as relating to:

- Vulnerable customers being unable to respond to changes or with limited/no awareness of the implications of changes for them.
- Inappropriateness/inaccessibility of new time of use (ToU) tariffs for customers unable to shift their patterns of energy consumption.
- Requirement for upfront investment may exclude customers experiencing affordability issues/low incomes.
- Improved visibility of energy use may act to increase rather than reduce practices such as self-rationing.
- Distributional unfairness if innovation system costs are shared across the energy market.
- Bundled products/services can place customers at detriment if unaffordable/unsuitable for need.
- New innovations may not fall under the remit of the regulator, limiting customer protections.

4.2.2 Future risks to affordability

The Phase 1 evidence review and stakeholder consultation highlighted the possible affordability pressures of alternative heating fuels and technologies for customers. Currently, a modern gas boiler is a relatively cheap way of heating a home. In addition, many households living on a low-income value the responsiveness of gas heating, which can be switched on for a limited period during the day or evening to heat their homes or a single room. This is particularly valuable for households who use gas PPMs to control their energy costs. Cleaner forms of energy such as using electricity for heating can be more expensive as the unit price of electricity is significantly higher than the unit price of gas. Moving towards a low-carbon heating technology may therefore result in a greater level of everyday affordability pressures as well as a high upfront costs for some households.[49] Stakeholders noted that, on cost basis alone – either that of adopting a new technology or the cost of services provided through the technology – large numbers of customers in vulnerable circumstances could be excluded from equal and fair participation in the energy transition: *"anything that involves a cost or increased cost will exclude huge numbers of customers and they will suffer as a result."*

Fuel poor homes are more likely to find energy unaffordable and are often in debt to their energy supplier. If they are in arrears, and using a credit meter, this can mean that switching between suppliers is difficult to achieve. This is particularly important in the context of changing the main heating technology to a heat pump, as the most suitable tariffs, for example variable time of use tariffs, are not universally available through all suppliers. This means that they cannot make optimal use of their new heating technology and could therefore face higher costs than if they could switch. Additionally, if they are moving away from gas for heating and cooking, low-income households who use PPMs and who have built up debt on their meter must have paid off that debt before the gas connection is capped. A particular problem here is the buildup of debt that can occur from the continual accrual of standing charges, even after they have self-disconnected.[50]

Such risk of detriment could be compounded when taking into account that most low-carbon technologies require properties to meet a minimum level of thermal efficiency before they will operate correctly and efficiently. Indeed, expert workshop attendees noted the importance of *"getting it right from the start"*, ensuring that a fabric-first approach is taken and identifying which technologies/solutions are right for different households. This would be in addition to ensuring installers are able to identify and currently install the most appropriate technologies for a customer and their own particular circumstance and property. This would necessitate adequate and appropriate monitoring and enforcement of installation

standards by approved contractors and ensuring contractors themselves are trained to identify and respond to customer vulnerability and make appropriate referrals. For example, heat pumps have a higher efficiency in more efficient properties, and it will simply cost more to heat a thermally inefficient home using a low-carbon fuel due to current price differentials. This necessitates a fabric first approach to improve the thermal efficiency of properties before a low-carbon heating system is considered, but the challenges of doing so can be exacerbated by parallel issues such as damp and mould, or the intrusive and tricky nature of some forms of insulation (e.g. internal wall). This means that upgrading the least energy efficient homes comes at a considerable cost before customers are even able to access the technology in question: *"We have ageing housing stock that would require significant investment before low-carbon technologies could be installed."*

Case Study: Amanda

Accessing low-carbon technologies, ongoing affordability

Tenure

Amanda lives alone in a three-bedroom property. Her young adult daughter recently moved out of her home. Amanda rents her house from a housing association and lives in a semi-rural area in the North East of England.

Accessing low-carbon technologies

The property is a new-build and has a high energy efficiency rating. Amanda's home has solar panels for hot water, which were installed on the property by the housing association before she moved in, at no cost to herself. Whilst Amanda is in favour of trying out renewable technologies, she feels that she would be otherwise unable to access these technologies due to not owning her own home. She also believes that the cost of many renewable technologies, including solar panels, electric vehicles, and air or ground source heat pumps, are likely to be too expensive for lower and middle-income households.

Reflections on low-carbon affordability

Views on energy justice

"I think this whole net zero thing has to be affordable for everybody, or else it's not going to work."

Improvements to thermal comfort, hot water management and general living conditions through low-carbon technologies

Due to the new build specification, Amanda finds that it is much easier to keep her home warm in winter and cool in summer, and free of damp and mould, issues she had experienced in previous, older properties. Although this contributes to a reduction in bills, she does find that the solar water heating water system occasionally needs a manual input or boost, particularly during winter months when there is less sunlight. This is less of an issue for Amanda, as she also has an electric shower, meaning she rarely needs to boost the hot water system.

"Basically, the boiler is a gas boiler and it's a complicated system because it's actually a Housing Association house. It was built to be energy efficient, so there are solar panels on the roof, but they heat the water up and it only works when it's sunny, basically. In the winter, you don't really... The water doesn't really heat up very well."

Despite this, Amanda has noticed a recent increase in her energy costs, as well as the general cost of living. Amanda doesn't like to borrow money, but she has found that her income no longer covers her household budget, meaning that she has recently had to use credit cards to pay for shopping, and take out a short-term, high-interest loan with her bank to cover bills. She did find that the Energy Bills Support Scheme (EBSS) payments helped her somewhat to afford the increase in energy costs over the last winter

Increasing cost of energy and other essentials

Getting into debt

"Actually, even though the prices really went skyrocketing, it wasn't too bad for me, because we got that extra payment. That, kind of, offset everything that they were charging me anyway, so I actually managed alright... I would have really struggled without that payment, for sure. It's a constant struggle, to be honest. Because I work in the public sector, the pay is not in line with the private sector, so it is a constant struggle to keep up with bills."

Importance of financial support

She has also had to cut back on several things she previously enjoyed, such as Netflix, as well as shopping around to find the cheapest deals.

"I've cut things out. I've cancelled things, like Netflix. I had an Audible account, which I cancelled, just little things like that. I changed to a SIM-only contract on my phone. I rang the broadband company to try to get a cheaper deal, just lots of little things like that. Just I started shopping at Aldi instead of, like, like Morrisons and things like that, just little things that add up."

Rationing and cutting back

Amanda prefers to look for information and advice online, particularly using trusted websites, rather than seeking out advice from local organisations or other services. She particularly finds that this method is more efficient and allows her to get information on a range of topics at once. However, Amanda feels that others who are vulnerable and perhaps less confident with the internet would benefit from more in-person and telephone advice and support from local services.

Desire to acquire knowledge independently through trusted available sources

"I would tend to just go online, to be fair, and just see what support is available. I quite like the advice that the Money Saving Expert, Martin Lewis, gives, so I always go to use his site for ideas and things... I think because he deals with such a wide variety of situations and things. He deals with everything, from mobile phones, to your broadband, to your gas bills. I think, for elderly people, I think they like to speak to a person, or on the phone, or just be face to face with somebody, so I do think that Citizens Advice are probably one of the best places to go, for sure. I've used them in the past, many years ago, and they were very helpful."

Recognition information and advice needs of others

Amanda feels that there is a particular gap in terms of financial support available for households like her own, which are made up of lone-person or lone-adult households relying on a single income to pay all bills. Amanda feels that she is unable to qualify for financial assistance for most things, despite struggling to afford all her bills whilst working full-time.

Own recognition of limited available support for those who are in work but financially struggling

"I think there's, like, a middle ground. There are people who are on very low incomes or unemployed, who get help, and then there are people in the middle who are on quite low incomes, but not quite low enough to get help. I think there's a gap there where they do need help, especially single people. It's really difficult to manage to live in a house on your own, with quite a low salary, and pay for everything and have a normal life, basically."

4.2.3 Future distributional and recognition injustices

There is a risk that some of the most vulnerable members of society could be excluded from adopting, and benefiting from, new technologies and services in the home on a cost basis alone. Several utility and non-utility stakeholders shared concerns for the impacts this could have on vulnerable customers and service users. This included concerns around the potential distributional injustice of recouping the costs of technological innovation through levies on bills, disproportionately affecting those who are least able to take up and benefit from such technology in the first place: *"The cost of new technologies will be recouped eventually from the consumer. For vulnerable and low-income households this is unacceptable, unfair and unnecessary as many will not benefit from the new technology."*

It was also noted that the ways in which new technologies/ services are made available on the market, could further exclude some customers from equal participation. For example, the offer of products as bundles *"removes flexibility and can exclude some customers."* Again, the critical challenges associated with digital skills and digital exclusion in future energy scenarios were highlighted: *"It's important that alternative communication methods are available for those who are digitally excluded. [Poor] information could lead customers to self-disconnect and more choice can be confusing."*

Stakeholders reiterated the importance of not approaching 'vulnerability' as a homogenous experience, and of including customers and service users in the design and development of new technologies so that they are appropriate and accessible to all: *"Vulnerability of varying clients needs to be taken into account to include them in the upgrade to new technologies and varying energy systems."* Furthermore, stakeholders highlighted the energy justice implications of new technologies, fuels and service provisions falling outside the remit of relevant regulators and, subsequently, customer protections: *"harnessing of different types of energy opens the flood gates for more smaller energy companies who are less regulated and less power from government bodies to influence the trade."*

Further recognition injustice can occur should future technologies and services not be designed to take different household, property and area characteristics into account from the concept design stage. For example, recent research[51] on the links between low-carbon technologies and rural fuel poverty by NEA has highlighted at least six ways in which the characteristics of rural areas interact with low carbon alternatives to create fuel poverty risk: low household incomes; limited connectivity (digital, transport, and social); limited access to essential services; old and hard-to-treat housing stock quality; sociodemographic characteristics, especially with regards to ageing populations; and the greater prevalence of more extreme weather conditions.

To compound such issues, there is currently an advice provision gap, whereby energy advisors may not currently have the knowledge to be able to support fuel poor households with decarbonising their heating. This includes pre-installation advice, such as accessible explanations about the nature of different low-carbon technologies. It also includes advice during and after an installation has taken place, such as support understanding new heating controls, switching to a more suitable tariff (e.g., away from an Economy 7 tariff), capping a gas supply, or simply getting familiarised and comfortable with the way in which a heat pump maintains an ambient temperature throughout the home. It also relates to customers with particular needs receiving appropriate advice around suitable services such as time-of-use tariffs e.g., customers who are dependent on electricity for medical devices (as well as the needs of such customers being taken into account during the design of such services).

Household Survey Insights

The majority of respondents to our household survey (71%, n = 35) reported that they did not have any renewable or low-carbon technologies in their homes. For respondents who reported having renewable or low-carbon technologies, 11% noted that they were already installed when they moved into the home, a further 9% had added to existing ones in their home, and 9% had chosen to have new technologies installed to their home for the first time. The most commonly cited reason for not having renewable technologies in the home was affordability, with a third of respondents reporting that they couldn't afford them (33%, n = 27). This suggests that the cost of these technologies is a key barrier for such households. A further eight respondents (30%) noted that they rented their home or had a landlord who objected so couldn't have these technologies installed.

A fifth of respondents noted that they didn't understand these technologies or didn't know how to get them (22%), and a further four respondents (15%) noted that other things were a bigger priority in their lives. Two respondents (7%) reported that they didn't trust these technologies. Three respondents further noted that whilst they might have intended to have these technologies installed, they had not yet got round to doing so (11%).

Three respondents provided other reasons for not having these technologies installed. This included the practicalities and logistics of having them installed, for instance, the requirement for plumbing work to the home or difficulties in finding a contractor to carry out the work. Another respondent noted that they would have to persuade other householders who weren't as on board with these technologies. Another respondent noted that some renewable technologies would be pointless to install in a home with poor insulation, and that more priority should be given to improving the energy efficiency of homes.

Case Study: Alan

Inaccessibility of the low-carbon transition

Alan lives alone in a privately owned house in a rural location. His adult children moved out of the home last year. He is employed full-time. His house is located rurally and is not connected to the mains gas network. Instead, Alan relies on an oil boiler to heat his home, as well as solid fuel wood fires. He pays by direct debit for his electricity. His house is an old stone-built property which is poorly insulated, and there is some damp and condensation in the property.

Property and location characteristics

Single person household

Fuel type

Alan has found that his budget is becoming more difficult to manage due to rising costs in energy and other essentials. He tends to wear more clothing in order to avoid having to put the heating on in his home and has to be more strict in terms of budgeting for other essentials including food. Alan has also found that his elderly parents have noticed the increase in costs of living recently, and have started to go to bed earlier than they usually would in order to avoid putting the heating on.

Affordability issues

Coping mechanisms and rationing of essentials

Impacts on wider networks

"I tend to shop in different ways than I used to. I don't really do big shops anymore, I'm much more precise about exactly what I'm going to buy in terms of food. And with the energy side of things, it wasn't too bad a winter last year, but yeah, I've got throws and I bought some of those snuggle top things that you can put on. So, chucking on a dressing gown as well, and stuff like that. I suppose keeping the heating and stuff off as long as possible."

Alan received the Energy Bills Support Scheme payments and additional Alternative Fuels Payment (£200) which went directly to his bank account, which he found a straightforward process. While this was helpful in terms of affordability, Alan's children had recently moved into a rented property with a prepayment meter, and struggled to access the EBSS vouchers or find out who their energy supplier was. They were unfamiliar with prepayment methods, and found that the meter cards and the vouchers were still in the previous tenant's name, which meant that they could not top up their meters at all until this issue was resolved. They also had to look up where to use the vouchers to top up their meter on the internet.

Tenure

Meter type

Accessibility of support

Payment infrastructure issues

Alan is very knowledgeable about where to go for support or advice if he were to need it. He knows of a range of local organisations and charities, and would be confident in receiving information or support in most formats. Due to the rural location, his area is more prone to extreme weather and supply issues. As a result, he has prior experience of this and feels confident that he would know what support was available.

Knowledge and awareness of support

Community and household resilience

"I would have known people that worked for the local authority that I could have contacted, people that worked in the Council for Voluntary Service, that were coordinating some efforts. And other organisations that were involved in different things. Churches Together were doing stuff. And then the other ones, like Citizen's Advice, the Law Centre. So I suppose different types of organisations for personal support, and then those for the other support relating to damage of property, insurance, all that kind of business"

He feels that there is a range of local organisations and charities which are able to support people in these instances. He also feels that the local parish council is particularly well-prepared and often has pre-determined action plans of what to do in cases of supply issues.

Trusted local gatekeepers and partnerships

"Where I live, it's very rural, so it would be community-based support, maybe organised by the local parish council or the local village hall, centred around there. In this part of the world, I know some parishes have got parish plans for what might happen if there is a crisis, a flood or a major accident in the area, who would be involved. And they do try as much as possible. I've had things through my letterbox, to tell you about perhaps who are the local contacts."

Alan is aware of net zero, and takes an active interest in the subject although he doesn't consider himself an expert in the topic. He is signed up to a newsletter with a local sustainability and climate change action group which he feels is a useful way to keep informed on key issues. Although he holds a generally positive attitude towards them, he doesn't have any renewable technologies in his home as he feels that they cost too much.

Alan believes that much more needs to be done by decision-makers and politicians to reduce customer costs and ensure energy efficiency. He also feels that a review of pricing is necessary in order to incentivise renewable technologies or more sustainable fuel sources such as wood.

"A priority would be ensuring that people's homes are warm. That's one. And the second priority is there needs to be proper rationalisation of these world gas prices and mad increases in costs, that appear strange to us average customers. That people can blame all kinds of things in the world on increasing our energy prices. If I get a bill through and it's all renewable energy, why am I paying the top rates on it? If it's not gas or crude oil or something, what's all that about?"

Engagement with net zero

Exclusion from participation

Affordability barriers

Own voice on being empowered to engage with net zero in an equal and just way

4.2.4 Digitalisation of services

Inaccessibility of technologies, services, and support does not relate solely to affordability. Throughout the scoping study, the digitalisation of utility services now and in the future was discussed at length. Designing and delivering services that were as inclusive as possible – including digital and non-digital formats – were areas of significant focus across all elements of Phases 1 and 2. Stakeholders called for focus on digital literacy and access to equipment, and how digital exclusion can create barriers to accessing technology, services or support which can be experienced disproportionately by vulnerable and low-income groups: *"Digitalisation will be dependent upon internet coverage and digital literacy levels, and this should be invested in by utilities if they want to move people online. Utilities should pay careful attention to the digital literacy rates and access to digital equipment for certain protected groups, like people with disabilities, who can often have disproportionate barriers put before them."*

Stakeholders highlighted that there are key ethical questions relating to what greater digitalisation in the future means for different groups. For example, smart technologies and the Internet of Things could represent inclusion and suitability challenges for customers suffering from cognitive impairments or who have reduced digital skills/understanding. This means the implications of new technologies, controls and systems for different customers, their characteristics, circumstances, and varying requirements need to be considered right from the design stage.

4.2.5 Summary

In summary, under current plans for decarbonisation, customers could be vulnerable in different ways to a range of potential negative financial, distributional and accessibility impacts. However, while it is possible to anticipate potentially detrimental implications of planned or likely scenarios, the experience of recent years provides important lessons regarding how we can or should recognise, understand and respond to vulnerability and detriment during unplanned, unanticipated and, in fact, crisis moments. Such learnings are key to incorporating appropriate flexibility, responsiveness and planning into approaches to addressing and recognising vulnerability during the future energy transition.

4.3 Recognising, understanding and responding to vulnerability in moments of crisis

In recent years, events such as the Covid 19 pandemic, the current energy and cost-of-living crisis, and extreme weather events have entrenched existing new vulnerabilities as well as creating newer, emerging vulnerabilities and circumstances in which customers can suffer risk of detriment. Being able to understand vulnerability, risk and detriment in such recent scenarios acts to reveal wider learnings about identifying vulnerability during unanticipated and crisis events, as well as revealing effective ways of being prepared to adapt and respond to those circumstances in order to support customers. As such, those events carry learnings relating to building vulnerability provisions and vulnerability safety nets into services no matter the future scenario.

4.3.1 Covid 19 pandemic

The Covid 19 pandemic showed how wider events can impact upon customer vulnerability, while the way in which companies respond to them can likewise act to mitigate or heighten the risks and/or harms experienced by customers. For example, during the Covid 19 pandemic, customers experienced changes to their pattern of energy use at home, reduced incomes and higher levels of debt. At the same time, customers reported that energy suppliers were more difficult to contact.

Ofgem notes that, in particular, customers with a health problem/disability, a PPM or those who do not have a smart meter were most likely to report being unable to contact their energy supplier. For those that were able to contact the supplier, they reported consistently lower satisfaction with the supplier response.[52] There was a large reduction in the number of suppliers providing quarterly meter readings for Priority Services Register (PSR) customers, increasing the risk of high estimated bills and/or bill shock following inaccurate estimated billing as well risking customers falling into debt. Ofgem also highlighted discrepancies between the number of companies providing third party billing/bill redirection services as part of the PSR compared to the proportion of people living in the UK who are likely to require such services. Another concern related to a lack of increases to customer service resourcing in order to meet high demand during the pandemic. This often meant customers were unable to contact suppliers or were unable to do so in a timely manner.[53] Ofgem also highlighted the risks of limited, proactive customer contact by suppliers during this time and the risk this posed in relation to the identification of vulnerable customers, bill payment, meter readings and customer debt. For example, despite the increases to the number of customers in need of support during the pandemic, Ofgem expressed concerns that comparable increases were not seen in the number of customers being added to the PSR.[54]

NEA also found that the Covid 19 pandemic resulted in:

- an increase in energy and water use due to people spending more time at home;
- reduced incomes;
- increased affordability issues and rising debt (leading to energy rationing);
- reductions in smart meter/ECO installs;
- and difficulties in accessing support, especially where house holds were digitally excluded or spoke English as an additional language.[55]

Not only did these effects act to increase vulnerability among households but the impact of the pandemic and resulting lockdowns on support organisations themselves reduced their ability to provide essential services, further adding to household vulnerability. For example, two thirds of support organisations surveyed by NEA noted that the crisis had a significant or very significant impact on the type and range of services they were able to offer and more than three in four had to change the way they delivered services to vulnerable households.[56]

Overall, it is clear that the impact of wider events such as the Covid 19 pandemic interact with pre-existing inequalities and can act to exacerbate them, while the effects of those inequalities themselves can act to heighten the risk that those groups will suffer detriment. Overall, the more protected characteristics that a group or individual has, the greater risk that they will be negatively impacted by events like the pandemic.[57] Reflecting on situations like those posed by the Covid 19 pandemic and lockdown periods enable us to better understand gaps and issues within the consumer-utility stakeholder relationship as well as ways in which individuals and communities experienced inadequate support.

4.3.2 Energy and cost-of-living crisis

Fuel poverty is caused by often complex interrelationships between low incomes, poor energy efficiency and energy prices. The cost-of-living crisis experienced in the UK since 2021 has acted to deepen the poverty experienced by those already surviving on low incomes and struggling to meet the cost of their energy, as well as pushing more households over or towards the poverty line. As a result, many customers find themselves to be experiencing extreme financial crises and prolonged affordability issues across multiple essential costs (including energy, food, housing, council tax, communications and transport), sometimes for the first time. In October 2023, Ofgem released figures showing that energy debt stood at £2.6 billion – the highest it has ever been[58]. NEA found in 2022 that households living with deficit budgets were living in extreme and desperate

circumstances – rationing food and self-disconnecting from utilities.[59] NEA furthermore found that large numbers of some of the most vulnerable households were falling through the gaps of national or local assistance schemes and missing out on much-needed support.[60] [61] Unprecedented pressure on the capacity of frontline support organisations arose as a result of extremely high case volumes and complexities. Beyond the need for targeted government support in this situation, there is an important role for utility regulators, networks and suppliers as well as local authorities, landlords, third sector organisations, emergency services and health practitioners to support households, using the resources at their disposal.[62]

4.3.3 Extreme weather events and preparedness

Some customers may experience heightened vulnerability during times of extreme weather events. Here, the risk of service disruption and the nature of utility company responses can have a significant impact upon the extent and nature of detriment that a household suffers. In November 2021, Storm Arwen brought wind speeds of up to 98mph and saw a red warning for wind being issued by the Met office. The storm caused large numbers of faults in Distribution Network Operator (DNO) networks across the country, and over a million customers lost power. Although 82% of customers were reconnected within 24 hours, 40,000 went without electricity supply for over three days and 4,000 were off supply for more than a week.

Ofgem found that the impacts of prolonged outages on customers (48 hours or more) were:

- cold indoor temperatures resulting from inability to use heating systems/appliances – especially in older/inefficient homes;
- going without water supply for drinking, cleaning and personal hygiene due to inability to power water pumps;
- adverse mental health outcomes arising from increased stress and worry;
- and financial losses due to spoiled food items and the need to source alternative heating and cooking equipment, food or transport.

Not only would certain households have been more vulnerable to experiencing this detriment in the first place, due to their particular personal characteristics or circumstances, but the experience of such detriment in turn would have acted to adversely affect their own capabilities and resilience.[63] It is also important to consider the potential extreme adverse impacts on households with existing ill health conditions and, in particular, those dependent on energy to power medical devices.

Ofgem found that customer vulnerability to experiencing detriment as a result of the storm was linked to:

- a lack of proactive and sometimes inaccurate communications with customers (including vulnerable customers on PSR) before, during and after the storm;
- poor promotion of clear and accessible information on available welfare support for customers;
- poor performance of call centre services during and following the storm;
- failure of telephone systems to cope with demand;
- website architecture failure following increased traffic;
- the length of time taken for compensation payments to reach customers;
- issues with infrastructural resilience of power networks;
- current regulatory standards and guidance focussing more on interruption prevention rather than power outage response;
- customer restoration times being hindered by limited network mutual aid practices and limited levels of remote monitoring on lower voltage networks;
- and varying deployment practices with regards to generators.

It becomes apparent that the way in which utility infrastructure companies both prepared for and responded to the event added to the risk that certain customers in vulnerable situations would experience detriment (or additional detriment), and that such detriment would in turn further impact upon that customer's capabilities and circumstances. Once again, this example highlights the intersectional nature of vulnerability and the interrelationships between multiple causal factors.[64]

Household Survey Insights

Respondents to our household survey were asked how confident they would feel in the instance of a supply issue. Generally, householders were most confident with knowing who to contact for support in the case of a water supply issue, with two thirds of respondents (67%) reporting that they would be 'very' or 'fairly confident'. This was closely followed by electricity supply issues, with 64% of respondents reporting this level of confidence. Only just over half of respondents (54%) reported feeling 'very' or 'fairly confident' about gas supply issues. However, a similar proportion of respondents reported feeling 'not confident at all' in the case of electricity supply issues (17%) and gas supply issues (16%). Only 11% of respondents did not feel confident at all with knowing who to contact in the case of a water supply issue. In interviews, respondents were better able to describe how they would cope in these situations if they had previously experienced a supply issue. These issues were

more commonly experienced by interviewees who lived in rural areas which were considered to be 'off grid' and supplied by older infrastructure. In one instance, a householder described the proactive nature of his local council in preparing for such supply issues, due to the greater risk. Furthermore, concern around supply issues was highlighted particularly by householders with disabilities who relied upon energy-dependent medical equipment. However, other householders who had not experienced these issues before were unable to describe what they would do in the case of a supply cut. One interviewee suggested that, for households who were less digitally connected, correspondence via post every so often to remind householders of where to go in the case of a supply issue might be useful.

Case Study: Pauline

Building resilience through community networks

Pauline lives in a three-bedroom property rented from a housing association in the North West of England. She is a full-time custodian for her grandchildren, aged between 9 and 16, who live with her in the property. She has Chronic Obstructive Pulmonary Disease (COPD) and arthritis. Although she is not on the Priority Services Register (PSR), she does receive her billings in easy-read English.

Family circumstances

Young children

Single custodian

Pauline uses a prepayment meter (PPM) for both her gas and electricity. She has found that it is increasingly difficult to afford her energy bills, and she is having to top up more regularly than she used to despite attempting to use less energy. She received financial support in the form of vouchers through the government Energy Bills Support Scheme over the winter of 2022/23, which she found easy to access by topping up her card at her usual payment point. Whilst this made her bills more affordable at the time, she still struggles to afford her bills. She does not want to get into debt by borrowing money, so she avoids this and tries hard to ensure that there is no debt on her meter by cutting back on consumption and other essentials where possible.

Multiple physical health conditions

Not on PSR

Communications needs

Meter type

Longevity of support

Affordability issues

Rationing of energy and other essentials

"I try not to go down that path. If I haven't got it we just do without."

She has noticed a drastic change in her cost of living recently. Rising costs have meant that she has had to cut back on some things including essentials, as well as leisure activities for herself and her family. She also prioritises heating her home when her grandchildren are home from school, often turning radiators off when they are at school and she is home alone.

"I used to try and take them to the cinema or something every week or so and that. We've cut that out. We just stay at home and do something at home."

"The radiator in my room is knocked off. I never have that on. Once they go to school, I knock the radiators off. When they're due to come in, I'll put them back on."

Health needs

She requires constant air flow throughout the house due to her COPD, which also impacts her ability to heat her home properly and means that improving the insulation of her home would not be a sufficient solution.

"Because of my COPD, every window in my house is open, whatever the weather. I get moaned at for it. Apart from the kids' bedrooms... Me personally, I don't like sitting in a room without air running through, so that doesn't apply to me because it doesn't matter how insulated my house is, I don't think, my windows are permanently open."

Community support networks

A few years ago, Pauline's neighbourhood experienced an electricity supply disruption. During this time, her immediate community rallied together to help each other out and offer support. Pauline used her gas cooker to cook hot meals for her neighbours who only had electric cookers. She felt that there were neighbours, particularly elderly couples who had no immediate support networks, who wouldn't know what to do in the case of a supply issue and who would be particularly vulnerable.

"We just got on with it, because I had a gas cooker and that, so I was cooking for myself and my family and some of the neighbours who had electric cookers. We just rallied around in the little cul-de-sac I used to live in."

Knowledge of available support and who to contact

Other than knowing that there is a helpline number on her gas and electricity PPMs, Pauline wouldn't know what to do in the case of a supply issue, but her first instinct would be to ask neighbours or family members.

"I'm lucky, I've got good neighbours yes... I've got an elderly couple at one side of me and the couple at the other side are very young. I think the ones on the right might know, but I don't think the old couple would know. They've got family. I think we'd just ask between ourselves."

Digital exclusion

Offline communication methods

Pauline does have a home internet connection, but this is mostly for her grandchildren and she doesn't feel confident using the internet or accessing websites. She prefers to get information and advice through her grandchildren or from family, friends and neighbours. She has never looked for support on energy issues, but feels that she wouldn't know what local services or organisations would be available to provide this. If she were to receive support from organisations or services, she would prefer to do so in her own home or over the telephone, especially as she sometimes struggles to leave the house due to her health issues.

Engagement with net zero and interest in becoming better informed

Although Pauline isn't familiar with the term net zero, she is interested in learning more about renewable technologies and sustainability issues. She believes that information on key topics in letter form would help her to better understand these issues, and that her grandchildren would be particularly interested in these topics.

"They're very big on the environment and that [my grandchildren]. I can get feedback off them... [I'd prefer information] in postal letters I think, so I could read it and then I could discuss it with the boys. They could read it. We work as a team, us three."

Own voice – expectation of tailored support and communication, recognition of individual uniqueness

Pauline feels that it is key for decision-makers to consider that her own situation, as well as that of other households, is unique and that tailored support is therefore crucial.

"I think everybody is individual and they don't look at it like that, they look at everybody as a whole, where everybody is not a whole. I'm not the same as Joe Bloggs on the next street, financially, physically, every way possible, but they seem to put everybody in the same category, from the richest to the poorest, which I think is a bit unfair."

4.4 Summary

It becomes apparent throughout the secondary and primary data analysis carried out for this research that, across the different scenarios analysed (Covid 19, energy crisis, extreme weather, future energy transitions), the nature of vulnerability remains constant. It is relational, situational, dependent on personal circumstances and capabilities as well as being affected by structural, market and policy mechanisms. It is also apparent that the interaction of multiple factors can act to engender risk of detriment and actual harm for customers, and that detriment generally occurs along the lines of particular themes. For example, affordability, communications and accessibility, missing out on support, and personal safety. As such, a key learning to arise from studying the real/potential impacts of those scenarios on customers (as well as assessing responses to them) is the need to always put vulnerability-related considerations first during any strategic and practical planning – that includes understanding who is or could be vulnerable, what their needs are likely to be, the kind of detriment that they are likely to suffer under current/future circumstances and how best to vulnerability-proof services and responses in both pre-emptive and reactive manners.

Section 5: A 'vulnerability-first' approach

5.1 Introduction

This section describes the ways in which some utility companies have begun to take a 'vulnerability first' approach to strategic planning and delivery, incorporating vulnerability gap mapping and analysis, working with partners, PSR development, impact assessment tools, ongoing research, vulnerability pathway development, funding provision for services and training.

> *"The tricky bit for us is trying to think about the future and what needs to happen with innovation while at the same time, there is a crisis happening now. It's hard for me to focus on looking too far into the future, even though I want to."*

The importance of getting things right now, in response to an unanticipated crisis, was highlighted by expert workshop attendees. The difficulty in planning for an abstract future in the midst of a crisis was also highlighted – demonstrating the importance of being aware of vulnerability and comprehensively building a vulnerability focus into all services and products right from the start. A vulnerability-first approach would ensure the resilience of vulnerability support services by enabling them to adapt and flex to planned and unanticipated future scenarios.

5.2 Understanding and identifying changing and emerging vulnerabilities

One utility stakeholder described their ongoing work to regularly review mapping data (from multiple sources such as third sector partners, the ONS and publicly available health records) and their PSR data to understand where vulnerability gaps in their service provision and/or ability to identify such customers exist. By identifying those vulnerability gaps, they can develop a focus for their business planning:

> *"Since, say, the start of the current cost-of-living crisis, but probably even before that, back during Covid when we had a lot of businesses that went under and there was a period when people were without jobs, we started focusing more on fuel poverty because we had a feeling that was gonna rise based on some of the work that we had done internally, it was giving that indication. So, we focused on that and moving into our next price control when we wrote our business plan. Consumer vulnerability made up a bigger part of our business plan that it had done before and a lot of that was around fuel poverty and providing that additional support to people that are vulnerable when they're without power. So, for example, people who are medically dependent on electricity is going to be a really big focus for us for the next five years, alongside the extra work that we're picking up around fuel poverty."*

Here, utility stakeholders have used data mapping and PSR information to identify the range of customers likely to need support in particular situations and where there are gaps in existing vulnerability provision. Targeted approaches have then been used to contact those customers/households in relevant areas to make them aware of potential risk/detriment and how to access support.

Expert workshop attendees also described ongoing work to identify and understand emerging vulnerabilities. Here, utility stakeholders hold workshops with relevant partner organisations to understand and identify possible risks from future energy systems to different kinds of customers in different situations:

> *"In a future energy system, where we might have different ways of paying for energy and possibly periods of time where energy is very expensive or during which we have restructured access to energy, the issue of medical devices came up and how those situations could be difficult for people who are reliant on energy for medical devices."*

This kind of ongoing work to regularly review emerging and possible future trends and work with partners to understand potential impacts on customers, and identify emerging or changing vulnerabilities, is crucial to taking a vulnerability first approach to the future.

It was also noted that there are large numbers of newly vulnerable customers who, in the context of Covid and the energy crisis, are struggling to cover bills and are not eligible for benefits: *"Those people have never been in this situation before, and there is not really the policy infrastructure to support them yet, which is quite concerning."* Discussions highlighted the difficulties in identifying vulnerability that can be transient, shifting and perhaps suddenly present for a customer who in previous interactions with a service has not given indications of struggle or vulnerability. Challenges here pertain not only to identifying those customers but in educating and raising awareness among customers that they may be struggling and are able to receive support. Some stakeholders had done work on emerging vulnerabilities to understand how future energy systems might put certain customers at risk of detriment. For example, time-of-use systems being inappropriate for those who are reliant on medical devices. They were also considering how they could trigger vulnerability at particular times such as powercuts and blackouts, and how best to provide adequate and appropriate reassurance and support to customers.

Stakeholders furthermore highlighted a need to think about the implications of vulnerability in changing situations. They also highlighted the implications for vulnerability services depending on the situation in question, for example, some customers may experience heightened vulnerability during a power cut. This means working to understand the shifting implications of vulnerability and support services according to the circumstances in question.

Such work often involves input and insight from multiple teams, such as energy futures or customer protection teams. Research

programs also take on importance, with one workshop attendee describing how they use an ongoing consumer tracker survey to understand issues affecting consumers and their behaviours, information from which feeds into consumer protection programmes. At the same time, informal mechanisms such as consumer protection advisory groups helped feed consumer voices into those processes.

The importance of incorporating a recognition and understanding of protected characteristics into how organisations/services shape their understanding of vulnerability became apparent in our stakeholder CFE. One utility respondent noted the importance of understanding the role of race and religion/belief in the context of not only day-to-day service provision, but importantly in relation to increasing cultural and behavioural awareness and sensitivities during emergencies, service repairs, and replacement activities. Another respondent highlighted the value of research in the area that has illustrated disproportionate risk to certain forms of disadvantage and detriment according to certain characteristics, including race, for example:

> *"...Shelter released a report showing that non-white households were more likely to experience fuel poverty and live in damp houses - we therefore tailor our approach to reflect this vulnerability. Likewise, we know disabled and older people are more likely to experience fuel poverty, so we offer tailored help for this cohort of our customer base."*

While not a protected characteristic, language ability was noted by several respondents as being closely linked with race and religion/belief, and that this presented an area of key focus and an area that presents a particular set of challenges in their work supporting vulnerable consumers:

> *"Where English is not a first language or where someone might come from a country where there is not the open market for energy that we have, our language, terminology, systems and processes can be a barrier to people either getting the best deal for their energy or can lead to them not even knowing how to give a meter reading or how to register to pay bills."*

Another stakeholder highlighted that while protected characteristics might indicate increased risk of vulnerability, that it is important not to make assumptions about clients and service users and to utilise such framings to ensure effective training and education in service delivery:

> *"We are aware of the inequalities and disparities experienced by different groups within our communities. We do not immediately assume a vulnerability, but we are aware that there could be an increased risk to vulnerabilities for these groups. We try to be equitable in our provision through educating ourselves and our volunteers on inequality, safeguarding and current issues affecting these groups."*

The development of an Impact Assessment tool was highlighted within the CFE response. This can be used to assess inclusivity, diversity, and impact across a wide array of elements of service delivery. The participant explained that the tool assesses:

> *"...the likely impact of an initiative on people. It is an assessment to assist with the design and development of a new product, service, process, policy or event. It supports the person or project responsible for a new initiative in building equity into their design by considering all the diverse groups of people that will use or be impacted by the new initiative. [It] supports considerations around fairness, helps identify any barriers to participation and promotes thinking around solutions that will mitigate risks to inclusivity. This covers both strategic and operational activities..."*

Workshop discussions indicate that a vulnerability-first approach involves assessing how each proposed action, step or development may adversely affect customers, especially looking through a 'detriment lens'. I.e., how might this affect health, how might this affect safety, affordability for different customers in different situations (including protected characteristics)? How might different customers struggle to engage with, understand or access this? Once that understanding is there, preventative steps should be taken to build risk mitigation into a process right from the start, rather than having to be addressed afterwards.

5.3 Vulnerability intervention pathways

Other ways of embedding a vulnerability-first approach include the development of 'vulnerability intervention pathways'. This requires consideration of who vulnerable groups are, the factors which can make them vulnerable, the types of support they might need and who the key partners are that those groups are likely to encounter. Vulnerability intervention pathways can then be designed with those different groups in mind. For example, one attendee discussed creating an intervention pathway for pregnant women, whereby GPs or midwives could automatically enrol them on the PSR. Such partners could not only have a role in getting customers on the PSR but could have a nuanced understanding of how customer vulnerability in contexts like pregnancy could shift and change over time (for example, throughout the different stages of pregnancy and in early parenthood). Others had identified the challenges faced by park home residents and mapped out appropriate pathways for educating and raising awareness among residents around how they may be at risk and where to access support. This includes working with the Independent Park Home Association and using traditional notice boards in sites.

Likewise, one attendee described how their organisation had worked with communities in Stornaway and the Outer Hebrides. They highlighted that previous work had showed them that communities in the north of Scotland can show high levels of resilience. In more rural communities, local resilience groups

formed by local volunteers can be key partners to engage should there be an emergency in an area, as well as for providing information to cascade within communities about, for example, the priority service register or support projects. As such, partnership with local resilience groups and forums has become a key way for them to engage and support such communities at a grassroots level. It was also noted that directly operating at such a grassroots level themselves, as a network, can present challenges in terms of simply having the staff numbers and capacity to be able to personally and directly engage residents living in communities that span huge tracts of rural land. As such, partnering with groups who do have that community presence can ensure networks can reach out to communities via trusted intermediaries.

5.4 Working in partnership

Attendees highlighted how working to raise awareness and engage individuals or organisations that would be touchpoints for everyday life can help get information and support out to individuals, as well as identify those who may be vulnerable but not be identified via traditional or mainstream routes. As such, they emphasised the importance of raising awareness amongst schools, healthcare professionals, faith bodies and religious leaders, for example.

At other times, utility stakeholders had seen that the best way for them to support customers in vulnerable situations was to directly fund services that were able to offer them the practical assistance they require. Workshop attendees discussed the impact of the energy crisis on customers and highlighted the affordability issues that were having significant impact on people's lives:

> *"There are children going to bed fully clothed as they can't keep warm; people burning inappropriate fuels to keep warm inside households; people who are medically dependent on electricity who are facing a choice of you know, do you keep a dialysis machine running for 8 hours twice a week, or can they get away with half of that? You know, these are the choices that people are making now."*

It was agreed that the energy crisis had let to a startling increase in demand for services, with some services being flooded with requests for help and self-referrals following media appearances. Such services had to respond rapidly by setting up new systems for coping with extra demand and for identifying other potential sources of support for those customers they were unable to accept, as well as mechanisms for making those onward referrals. For many customers, their situation had become so desperate that "they are trying to get help wherever they can" – including from schemes they see mentioned on the news. Utility network attendees also noted an increase in calls to their emergency service centre from customers unable to get through to their energy supplier:

> *"They're calling through to the emergency service centre that's there for power cuts and its leading to some quite difficult conversations. You know, customers have said that they feel suicidal because they can't get through to their supplier...."*

Utility stakeholders recognised a duty of care to customers in such situations and outlined the steps that they had taken to try to ensure customers could receive and/or be referred to the most appropriate support services for them:

> *"We do what we can to support that. Around the affordability, there's limied things that we can do. But, we try and get around that by referring customers to a third party service that we pay for, and can then provide them with that support and point them to places where they can get emergency top ups from charities, talk through energy efficiency advice and help them with benefits checks."*

This demonstrates the importance of establishing strong, long-term strategic partnership working across sectors to ensure that, whenever a customer reveals a vulnerability or requests support, they can be directly referred in to the most appropriate place to receive that support. Here, although the utility network was unable to directly support with affordability assistance or energy supplier issues, they provided funding to their referral partner organisations to better enable and equip them to give appropriate support to such customers:

> *"We have to refer people back to their supplier, but we will have that conversation to say that we can refer them to [a partner organisation] which is a free service for customers, it's chargeable for us. But you know, we'd much rather pay that knowing that customers are getting the support they need. We also provide support through the energy efficiency advisors that we pay for [in partner organisations], and so we refer people that way. And we've also now, when customers are in really adverse situations, we will mention fuel bank who provide emergency top ups."*

While partnership and collaboration are therefore crucial to getting the right support to customers, strengthening those links through sponsorship, grants and donations can increase the resilience of those community partners to provide the services to which utilities are linking customers.

One stakeholder furthermore described how they had taken steps to reassure community partners about the process of accessing such funding and in working with their organisation. They did this to enable as many groups as possible to take up the offer, develop their services and cement referral relationships:

> *"We had to do a few webinars and we have also had to reassure smaller organisations that we were going to be easy to work with; that we would make the application process as simple as possible and make sure that they were always in*

credit; that there was something in it for them; that it's not just going to cover their costs but that there would be some long-term benefits for them. Because some smaller charities might think the process would be hugely onerous for them, and so yes, there can be some barriers like that to people applying for funding. I guess that's a best practice thing for the networks, to make sure there's a welcoming and two-way conversation."

5.5 Summary

What these experiences and examples indicate is that, to plan for addressing vulnerability in the future, the key is to work to understand the type of detriment/risk that different customers are facing now (or are likely to face in a given scenario) and the nature of vulnerability associated with that. Next comes ensuring that appropriate mechanisms are put in place to limit and address those risks. Such processes should be clearly, comprehensively and consistently built into every aspect of planning and service delivery to customers. Recognition of risk/detriment should continue to be assessed and adapted to the situation as scenarios and effects on customers change in future. This is about future-proofing services to customers in vulnerable circumstances by ensuring that vulnerability and risk of detriment awareness and preparedness is built into every aspect of service delivery and development across the industry. Here, it is essential that monitoring, research and consultation activities are ongoing to continue to be able to identify emerging vulnerabilities, gaps in existing service provision and to take a vulnerability-inclusive approach to planning.

Section 6: Reducing the risk of detriment

6.1 Introduction

Insights gained through stakeholder consultation during each phase of this research revealed good practice methods for addressing existing types of detriment from which customers may be at risk. Such examples provide excellent insight as to the kind of strategies and services that utilities and their partners should take into account when identifying, empowering, and providing support to customers in vulnerable situations both now and in the future. This section discusses that good practice according to the following themes: debt and affordability; communications and accessibility; missing out on support; partnerships and collaboration; and personal safety.

6.2 Debt and affordability

6.2.1 A need for support

In 2021, NEA found that across council tax, water and energy sectors, each sector follows different principles and guidelines for debt management.[65] This can become confusing for customers, making it difficult to understand and manage their debt journey across multiple sectors. NEA recommended that, as debt levels rise, essential service regulators should work together to establish and implement 'ability to pay' principles within sector specific licence conditions.[66] Crucially, a consistent approach across sectors would make it far easier for customers to understand the debt collection process and would offer the opportunity to address issues holistically instead of each bill being considered in silo.[67] Ofwat likewise argues that there is a business case for inclusive and excellent customer care, which includes appropriate affordability support.[68] Offering tailored and flexible payment options becomes key here – both in terms of method, frequency and level of payment. When it comes to supporting customers experiencing debt/financial difficulty, Ofgem[69] furthermore highlights the importance of proactive communications with customers in debt or arrears; the use and establishment of appropriate payment plans; consideration of the impact of direct debit payment increases on consumers; taking into account the customer situation.

Indeed, debt, affordability, and ability to pay practices were identified as a current priority area for networks and other stakeholders. As evidenced throughout this report, affordability and debt are going to be of significant concern for customers in vulnerable circumstances in the short- and medium-term future.

For organisations with direct billing and charging relationships with customers, stakeholders regarded the following as important or very important elements of providing debt and affordability support to customers:

- Follow ability to pay principles when discussing and agreeing payments and debt-repayments with customers.
- Never knowingly disconnect a vulnerable customer from supply at any time of year.
- Take customer vulnerability into account when considering use of High Court Enforcement Officers for debt recovery.
- Customers are offered appropriate social tariffs.
- Offer packages of support to customers who are switched to a PPM for debt reasons.
- Put debt matching/payment matching schemes in place.
- Build 'breathing space' into debt repayment policies.
- Issue alerts for PPM customers at risk of standing charge build-up.
- Having a social tariff in place including mechanisms to limit detrimental impacts of unfair standing charges.

Stakeholders repeatedly emphasised that, although there are excellent examples of good practice in relation to some of the above from utility companies, practice across the sector is variable and inconsistent, and without appropriate sector-wide enforcement.

However, stakeholders also expressed a need to better understand the role and function of utility networks in identifying and addressing customer affordability issues, especially where direct billing relationships may not be in place.

6.2.2 Income maximisation services

Stakeholders emphasised that debt-related and financial support needed to be addressed with both the immediate and long-term view in mind. Overall, the provision of income maximisation services and benefit checks were regarded across all elements of Phases 1 and 2 as a vital component of support that should be provided through utility networks. The potential to alleviate financial hardship and the often huge and significant positive impacts this has on people's lives, not just in relation to income, could not be understated by any of the participants. For example, one Expert Interviewee told us that in the last decade they have, through benefits checks and home energy checks, been able to support nearly a quarter of million older people and assist them in accessing an estimated £413 million in unclaimed benefits. While this was the largest example provided of financial gains secured for individuals, such examples were shared by many of the participants in Phase 1. Benefit checks in particular were described as more powerful than crisis support, such as vouchers, because of the long-term impact of an increase to regular income.

Several stakeholders noted the importance of having a

"dedicated team that can work with customers to maximise income and ensure they are getting all benefits that they are entitled for". Workshop attendees highlighted the difference they had seen benefits advice and support make to customers in need and emphasised the importance of providing such support to customers either directly or through referrals:

> *"What has really opened my eyes in the last few years is just the amount of benefits people are entitled to but they aren't claiming. A lot of projects we've got are trying to help people identify and almost encourage them to claim as a lot of people feel they don't want to be a burden on society. But you know, we hold their hand through the process and we've seen some real great case studies of additional money in people's pockets and back payments as well. It makes a huge difference to their overall health, well-being and social standing."*

Supporting households with their finances at the earliest opportunity can reduce the overall cost to serve that customer. It may remove the need for more resource-intensive support to be provided later on or, depending on the stakeholder in question, avoids the need for collections procedures further down the line. The difficulty is often recognising who needs an early intervention. Doing so would involve exploring data-sharing opportunities to notify other sectors of financial difficulty, allowing them to proactively offer support at an early opportunity and possibly preventing the customer falling into deeper financial difficulty. At other times, where customers are identified as being eligible for support for social tariffs (in water) or Warm Home Discount (in energy), a financial vulnerability flag could be shared notifying the other sector, allowing them to make proactive contact with the customer. This would reduce the need for the customer to make contact with multiple organisations, often having to provide the same detailed level of financial information when explaining their situation.[70]

Case Study: Karolina

Unmanageable costs, cutting back, health needs and language barriers

Karolina lives in a rented property with her husband. She works part time and also provides unpaid care for her husband, who is long-term disabled and cannot work due to his ill health. Her adult children have moved out of the home. Karolina pays for her gas and electricity using a prepayment meter.

Caring responsibilities

Health needs

PPM

Karolina has always found her household budget to be tight due to their low income, but recently this has become even more strained due to increases in living costs. She has a current application for Universal Credit, but as this has not yet been processed, she relies on the money earned from her part-time work.

Struggling to meet costs and access financial support

"I can't pay bills because I don't have enough money...I'm working only part time and my husband is very poorly. That's why I don't have enough money for everything."

Income doesn't cover essential outgoings

"I've applied now for Universal Credit. I don't know what will happen because I've just applied, whether it will help me or not ... because I don't know what to do."

Uncertainly about how to access support and application outcomes

Keeping her home warm is a priority for Karolina, as her husband's health is worsened by the cold. She also prioritises preparing healthy, home cooked meals for this reason, although she sometimes goes without meals to ensure her husband is fed.

Health-based heating needs

"I'm always cooking. My husband is taking a lot of medication. That's why he needs warm cooked meals... I'm maybe sometimes eating only bread."

Karolina has debts on both prepayment meters due to the increase in energy costs, even despite receiving vouchers as part of the Energy Bills Support Scheme. She also has had to top up her prepayment meters much more frequently, and has even had to borrow money from her children and friends to enable her to top up.

Fuel debt

Limited impact of recent support

Informal financial coping mechanisms

"I need to always find time [to top up] every week, £20, and even then I need to borrow money to top up because I don't have enough money...I borrow money from my kids if I don't have any money, or my friend".

"I have debt... Every time I top up it's taking £5 for that".

Karolina can only afford to shop for food once every two weeks, when she gets paid. As hot meals are a priority for ensuring her husband stays well, she cuts back in other areas, not buying new clothing, using blankets or heavy clothing where possible, and only heating one room in her house.

Rationing of essentials

"Now everything is very expensive. That's why it's hard to live... I'm not buying many clothes. I'm older and I don't need many clothes... only underwear and sometimes I need shoes."

Coping mechanisms

Limited awareness of support

"I put on a blanket if I'm cold, what can I do? ... I come in, get a little bit of something to eat and sit down for TV and go to bed. I don't know, there is nothing much I can do. There's not much money, that's why I can't put on central heating. If I'm doing something, I'm okay, If I'm cooking and something warm to eat."

Karolina has no idea about what support is available to help her financially, and she has not sought any help as a result. She speaks English as a second language, so sometimes struggles to understand some terminology.

Language barriers

6.2.3 Identifying newly struggling customers

Several CFE respondent and workshop participants highlighted the needs of those who are not in receipt of benefits but who are still experiencing energy vulnerability and living on low incomes. It was stressed that the numbers of individuals falling into this category – who might be classed as 'newly vulnerable'- are rapidly rising and represent a key area of concern. It was noted that such customers can often only be identified once their situations have reached crisis points, but that the factors which lead to them becoming vulnerable to detriment will come into play much earlier on:

> *"People in general who are not on benefits but who work in low-income jobs are also very vulnerable to experiencing fuel poverty - if they experience short-term illness, or need to start caring for someone they can find themselves in a financially difficult situation, but they are often not supported or eligible to receive support until things get bad."*

One respondent discussed work to identify such customers that has explored the use of segmentation analysis which matches housing type to food poverty as a proxy for fuel poverty, allowing them to identify target groups for preventative campaigns ahead of winter:

> *"we have a focus on insecure accommodation, private rented issues and we have devised a local proxy for poverty that includes fuel poverty. This targeting will be useful prior to winter as we can work in a more preventative way".*

New tools developed for use within the financial sector, such as the Morgan Ash Resilience System tool[71], were also highlighted by workshop participants. This tool is specifically for use by mortgage advisors and firms in meeting the Financial Conduct Authority's requirements, as part of their 2022 New Consumer Duty125. Although this tool has only been recently introduced, it provides a potentially useful example for exploring transferability to work with energy customers. Another CFE respondent argued for the importance of establishing data sharing relationships with local authorities, particularly in relation

to missed payment flags, in order to identify those who may be struggling financially:

> *"[It is] important to work closer with local authorities and share data on missed payments. The work with Urban Tide[72] is strong but this dataset should be shared with public sector partners not private sector agencies who sell products to the public sector. This needs more careful thought and a better strategy."*

Case Study: Stefan

Increasing financial struggles, language barriers

Tenure

Stefan lives in a terraced property which is rented from a private landlord, in an industrial town. Both Stefan and his partner, whom he lives with, are in full time employment. Stefan moved to the UK from his native country in 2019, just before the COVID-19 pandemic began. The property is heated by a gas combi boiler, and Stefan pays for his gas and electricity by direct debit each month. With the property being privately rented, Stefan takes great care to ensure the house is kept clean and well-ventilated to ensure it stays free of mould or damp.

Personal history

"Luckily I have the right knowledge not to let [mould and damp issues] happen... I take care of the house. Even the agent from the agency told us she loves the way we take care of the house."

Individual knowledge and capabilities

Although Stefan is not currently in debt, he feels that managing his household budget has become increasingly difficult. In order to pay all his bills, he has had to budget more strictly, as well as cut back on some things, including not buying clothing, eating fewer meals, or cooking cheaper meals. He feels that the situation is unlikely to become any easier, and so he is also trying to save for colder winter months ahead. He also feels that this sense of struggle with increased living costs is shared by most others, including his family in his native country.

Rationing and cutting back

"We had to reduce our expenses because everything has gone up besides wages... Basically we had to go into our savings. It's getting worse and worse... The weather is changing really and the bills are coming, so I need to put something aside for those times."

Increasing costs

"I don't have any debt, and I don't have a credit card. I'm trying to live by my wage. The system tells me, "In order for your credit score to be higher you need to get a credit card." You want to put me in debt just to get my credit score higher?"

Limited options for financial management

Although Stefan received EBSS payments in the previous winter, and this did help somewhat, he feels that his circumstances will only continue to get worse unless further financial support is put in place. Stefan hasn't sought financial support or advice before, but feels that he may be forced to do so in the near future.

Increasingly likelihood of reaching out for support

"I'm trying to make the best situation possible but it's becoming worse and worse. I'm afraid that that stuff is going to come to a point where I'm going to ask for help, which I don't want to."

In full-time work but struggling to make ends meet

"Well of course I'm frustrated on the side, because I already work full time. I'm a hard worker. For the last two and a half years with my employer I've never missed a day ... because I want to keep my job to have money to pay my bills. But it's getting worse and worse. They don't increase wages. I don't know where we are going to get in this situation."

He particularly has noticed a sharp increase in his energy bills.

"Soon I'm going to pay more on energy and gas than my rent, which is outrageous."

Unmanageable energy bills

He believes that local councils should be a first contact point for providing support and information to households, particularly as he feels that most households pay high rates of council tax. However, he is also cautious in that he has seen instances of local councils providing poorly translated information, and as a result, despite being bilingual, he prefers to receive communications in English to ensure messages are communicated as clearly as possible. Stefan knows others who do not speak English as a first language who would benefit from high-quality translated information and communications.

Inaccessibility of non-English language communications

"I have seen a letter from [local] Council to somebody, to a friend of mine in my language, and it wasn't accurate. I don't know who translated. The information wasn't accurate. It was really, really bad. I prefer it in English. Because they made the translation with Google translate, obviously it's a big mistake. But yes, I know elderly people over here, I think they struggle with some words."

Stefan has heard of net zero and takes an active interest in the subject, preferring to do his own research into the science behind the subject online. However, he feels that the current targets and actions to reach net zero by 2050 are unachievable.

"It's hard for me to believe my country or this country is going to get there soon [achieving net zero]. I don't think so...They have a goal but they didn't think it through."

He also feels that finding trusted, credible sources of information is tricky, which is why he prefers to research topics using several sources, particularly online.

Interest in net zero

"I'm interested in everything. I mean every subject is an improvement of my knowledge. Sometimes I have the feeling, I don't know, the information is not on a trusted site, or it's hard these days. Everybody is lying on something."

Desire to be informed about net zero from trustworthy sources

Generally, Stefan feels that financial support should be a priority for all households, for example by raising wages in line with increased living costs. However, he also thinks it is important that those who cannot work, for example elderly or disabled individuals, are prioritised for support, as he feels they are more vulnerable.

Recognise own need for support but views vulnerability as something which is experienced by others

"To be honest in that case with elderly people and people with disabilities they shouldn't worry about bills, because this country they should care. I don't know how to put it. They should pay for them, because at that point those elderly people, they've paid taxes. They've worked for this country. You know? I'm happy I have two legs and two hands. I can go to work. I'm healthy. But in their case, it's not a choice."

Whilst Stefan does not consider himself vulnerable at present, he also acknowledges that future vulnerability is likely to affect us all with age.

"When I'm going to be old I'm not going to be able to do much. If I am not going to get help we are going to struggle ... because you never know. What goes around comes around. Someday maybe we are going to be in their place."

Personal interpretations of vulnerability – something in the future, even though struggling now

6.2.4 Crisis Funds

Company-specific crisis and trust funds offer a vital lifeline to customers in debt who are struggling to find support. Helping to resolve today's immediate crisis for a customer e.g., through crisis financial support can enable bigger and wider conversations to happen by creating breathing space and building customer trust. First early interventions can be an important part of a customer journey.

Utility CFE respondents and workshop participants told us about many forms of crisis support they provided to relieve some issues of affordability such as credit vouchers, food vouchers, and other forms of direct financial support. Partnership working was noted as a key element in supporting individuals who may have a low income or struggle with affordability for other reasons (such as higher than average energy costs due to health, for example). In particular, this involved working with multiple partners across a variety of sectors, including health, education, local authorities, and others, to ensure the reach of a service or schemes was as wide as possible.

6.2.5 A whole-person approach

Stakeholders emphasised that the factors which cause a household to fall into debt, and the impacts of debt, can be multiple (and not only relating directly to utilities). As such, support should aim to be holistic, and take a whole-person approach.

In providing debt-related support, one participant explained that this must, wherever possible, go hand in hand with wider support such as mental health related support and be developed with adequate customer consultation that meaningfully engages those directly affected. Expanding referral networks to meet multiple and simultaneous customer needs is important for delivering holistic outcomes for customers which support the whole person, and companies should be encouraged to do so:

> *"If you are going to proactively contact people at risk or experiencing debt it needs to be helpful, not hounding, and have information about local mental health support. If people are experiencing problems paying their bills it will likely be because of a range of contributing factors, that might take time to overcome. Utilities are something we really need and so a person isn't likely to choose not to have them anymore - the relationship between utilities and their customers is different to most other markets, there is a responsibility to protect the welfare and wellbeing of clients over the long term and so solutions need to be co-produced with customers so that the current situation is resolved but also so that resilience is built for the future."*

A whole-person approach might also mean enabling customers to build rapport/relationships with designated contacts at a company, and that any approaches to contact should be empathetic. It was emphasized that the personnel interacting with vulnerable customers should be seen as facilitators between large companies and those companies, and their behaviours and attitudes can be crucial to helping a household feel supported and accessing support.

It was also highlighted that each customer is unique, and customers will follow different routes into support. Enabling multiple routes of access into support and taking a flexible approach to identifying vulnerability and making referrals can help ensure services are responsive enough to recognise customer need in multiple and different scenarios/interactions.

6.3 Communications and accessibility

6.3.1 A requirement for support

A major element in understanding what constitutes 'effective' support for vulnerable energy consumers in both phases of research concerned the ways in which organisations and services communicate with the individuals and communities they serve/support.

Communication and access form major elements of providing good customer service. Detriment can be caused when suppliers do not offer enough variety in communication methods (by focusing only on digital methods of communication, for example, or by not providing alternatives to digital/telephone cased communication) as well as when companies present data and information in a complex manner.

Certain methods were regarded by stakeholders as essential to providing a good service for customers experiencing vulnerability.

6.3.2 Direct communication platforms

In workshops and with interviewees, a free phone number for customers to use was described as essential, and almost all the utility CFE respondents reported having a free phone line in place. However, stakeholders also noted that free phone numbers do not work if a customer has no credit on their phone, highlighting a need to work with Ofcom and mobile networks/ telecommunications providers.

None of the utility CFE respondents reported having a specialist phone line for intermediaries – something that was raised by non-utility workshop participants and interviewees as an element of support they would welcome. Indeed, several participants highlighted missing components in the provision of effective support and communications between energy actors and customers. These missing components are specialist phone lines, and more streamlined working, for voluntary, community and social enterprise (VCSE) organisations. As one non-utility CFE respondent explained:

> *"We have customers who cannot communicate with an energy company for a number of reasons including mental health and communication issues - being able to communicate through a third party is very important. We understand the intricacies of GDPR, but this needs to be prioritised" Another told us that they have "...really struggled when helping people in the past to explain my relationship to the person in question".*

Having recognised points of contact would help to overcome this existing barrier in provision and make support more efficient and effective. There was, however, one positive example of a specialist phoneline for intermediaries being provided by an energy supply company, which highlighted that this enables services to resolve issues much more quickly:

> *"We are lucky that some energy companies allow us a direct line number to call. This can quickly resolve the situation and can speak to a human being rather than a web chat."*

Nearly all non-utility respondents regarded specialist communications platforms for those with sensory impairments as very important, but only half of the utility CFE respondents reported having such platforms in place. This was discussed in more detail in the Expert Workshops, where examples of best practice included targeted services for people with hearing and sight impairments as well as autism friendly services. One Expert Interviewee shared details of work programmes focused specifically on those with sensory and/or cognitive impairments with a key aim of increasing awareness and knowledge around safety. An important aspect of this work was the review and adaptation of existing resources and approaches to better serve and support different groups that may experience heightened risk of vulnerability. Respondents described a range of accessible forms of communications including textphone, text relay for hearing loss, British Sign Language, and the provision of forms in Braille. A number of communications were targeted specifically at those for whom English was not their first language. This included use of translation services, such as Interpreters Live[73] , and software tools, such as Recite Me.[74] Stakeholders highlighted the importance of working with key third sector and charity partners to assess service accessibility according to a range of customer sensory requirements.

6.3.3 A multiplicity of methods

A large proportion of non-utility CFE respondents regarded allowing customers to state and update communication preferences as very important, while only 60% of utility respondents reported having this in place. Having choice over communication preferences and several options to choose from was described as *"giving [customers] the power"*. There was a clear message from stakeholders across both phases of research: with communications there would never be a one-size-fits-all approach and to best serve all customers, especially those more or most vulnerable, organisations and schemes must have multiple channels of communications that are flexible and responsive to needs.

In praising the responsiveness of many services during the shift to remote working during Covid 19, one participant warned that such shifts to remote and online ways of working could not replace traditional and much needed forms of in-person and community-based types of support for vulnerable consumers:

> *"Research we have undertaken shows just how important maintaining different channels of communication is. Especially with Covid 19 and the digitalisation of many*

services, it is vital that other channels are maintained for those digitally excluded, for those living in more remote/island communities etc. Vulnerable people, for a range of reasons, often need to be able to speak to an advisor directly, and someone who is trained to deal with people with specific needs."

Emphasising the valuable role of in-person support further, the same participant highlighted some of the current challenges with telephone and online support, including lengthy call wait times, automated responses and predetermined answers which link to web-based information:

"Free telephone lines are very important, but call wait times can be long and automated options to direct calls can be unclear or confusing. Conversely, web chat services are often unhelpful and do not solve the underlying issue, particularly when they are automate / use AI and often just link to web info."

Another described the importance of the human-element in telephone (and in-person) support, that online forms of communication – albeit still a dialogue – cannot offer: "Most vulnerable people need contact that is relational not transactional, so phone support is vital." Despite the calls for wide-ranging forms of support and customer communications, participants did nevertheless recognise the challenges with in-person support: "…face to face advice visits are the best approach but resource intensive and need to be targeted".

Several respondents and workshop participants talked about the specific forms of communications that are needed, or should be protected, for different demographic groups or individual needs. For example, one told us that "…not everyone is able to read and so I think having an audio function on all bills would be great because people might not necessarily admit to that". Another, highlighting again the issues of digital exclusion, stated that: "… some people still prefer paper bills because they do not have access to the internet or face digital literacy issues". Others highlighted the benefits of video advice services, which show customers how to use new technologies, for example, or of talking bills whereby bills are explained to customers over the phone.

The challenges of supporting customers and clients who do not speak English as a first language, or at all, was again highlighted as a key area of concern and opportunity to develop more effective support:

"Choice is essential given the variable situations that those we work with have. Most important is being able to communicate in a language that they understand. Google translate and such are not accurate for making contractual arrangements, or dealing with difficult situations".

Place-based approaches to tailoring communications and resources to relevant languages were regarded as essential – for example, ensuring interpreters which specialise in relevant and diverse dialects are used, or that written and spoken resources are provided in a target language to account for varying literacy levels. Ultimately, this is about taking the time to understanding the communities in question. It was recognised that although such approaches can be expensive for a company, it is essential that they are built into communications strategies from the outset. Within this, it is important to identify local organisations/community groups that can support, and to be creative with how you reach households (for example, reaching out to English for Speakers of Other Languages (ESOL) providers).

Issues associated with difficulties in making contact with an energy supplier and subsequent experiences of poor customer service were highlighted by participants. Failing to provide a system whereby any customer, but especially vulnerable customers, can make contact with ease and without cost was described as essential:

"Energy companies are very busy. This leads to frustration on part of the consumer when trying to get in contact with them. We have reports of customers waiting on the phone for over 45 minutes. This is an unacceptable level of customer service. Our own advisors struggle to get in contact with some energy companies for case work as they don't offer a direct line case work number. Others only use email and then reply generically with no mention of what the query was for which makes case work and getting issues resolved very difficult. Some clients don't have access to web or email so can't use online accounts, but yet they are forced to do so by energy companies as it benefits them in cost cutting. Some clients complain about being put through to call centres who struggle to understand them and vice versa and disconnect the call as the signal goes down."

Others described ways in which customers could be better empowered to understand information provided to them by utility companies and to engage with companies from a more empowered standpoint – this might include finding ways to make information more accessible through the use of plain numbers services, for example.

While this example relates specifically to energy suppliers, there are clearly opportunities for the sector more widely to identify how best to prevent customers experiencing communications barriers in this way, and to minimises the risk of people falling through the gaps. One shared an example of a local banking service being co-located in a library, considered a safe space to encourage relaxed and positive engagement.

"Where a customer has other issues, it can be difficult for them to get to a point that they request help, if there are obstacles in the way like long waiting times, getting

constantly disconnected, using all their available credit, being unable to communicate effectively they will stop trying to seek support as they will deem it not worth the hassle".

Offering a potential solution to this problem, one respondent shared an interesting example of WhatsApp being used to overcome issues with long wait phone times:

"[I was] recently made aware of a utility company operating a WhatsApp messaging service for clients to register for gas and electric, the response is immediate allowing us as support workers and clients not to be held on the phone call for over an hour before getting through and being cut off and having to contact again. Most clients who are digitally included use WhatsApp because it is free, and they are usually on limited income. This would be a great service apart from telephone calls."

It was also noted that platforms such as WhatsApp are becoming an increasingly popular method of contact due to the encryption services included.

One attendee highlighted the importance of the British Standards Institution ISO standards for inclusive service provisions and the accompanying Kitemark certification as a way to encourage consistency.

Stakeholders highlighted that companies should take steps to ensure all methods of communication offered are equally accessible to customers.

6.3.4 Summary

Overall, expert workshop attendees highlight that information needs to be provided in multiple formats to reach as many different groups as possible. Stakeholders shared examples of best practice communications approaches for vulnerable customers. These often included effective interpretation services, provision of useful written information to accompany face-to-face advice, community-based engagement events, 'making every contact count' approaches to foster effective partnership working and linking key services, use of text messaging and social media, community notice boards, newsletters, and magazines.

6.4 Missing out on support

6.4.1 Who is vulnerable?

There was considerable focus throughout Phase 1 on which demographic groups represent the 'customers in vulnerable circumstances' supported by utility stakeholders. CFE respondents, workshops participants and interviewees were mostly in agreement as to which groups are typically regarded as facing disproportionate risk to vulnerability and, largely, this reflected details from numerous sources identified in the evidence review. Almost all CFE respondents selected all 'typical groups' presented as options for those that should be classes as 'vulnerable'. In the workshops and interviews, however, this was interrogated further to draw attention to some demographic groups of particular concern in the current context and in planning work for the short and medium term.

6.4.2 Demographic groups of concern

It was agreed that there is an ongoing need to review the potential to better support or support for the first time certain groups that may have been overlooked or who are less well understood and supported. Those that may be classified as newly vulnerable were a particularly important group. Other examples where it was felt more work is needed included supporting those with cognitive and sensory impairments (i.e., dementia, autism, etc.), those who are digitally excluded, those with physical and mental health conditions (and those reliant on medical equipment), carers, refugees, those with no or limited English language skills, older people, off-gas households, future bill payers, and, relatedly, children and young people.

Refugees, and more broadly those who do not speak English as a first language, were highlighted as a particularly vulnerable group at present:

"The new refugees are not likely to be in a position to afford much at the beginning of their new householder status. This is where good advice at the beginning is so important. As time goes on, they will be in the same position as others of similar status other than being a refugee. They are least likely to know where to go for good advice."

Also of concern were those that are future bill payers, and it was acknowledged that work to raise awareness and prepare this group is vital:

"...the other audience we've been looking at is sort of future bill payers as well. You know, how do we reach the sort of youngsters who before they know it will have be out and in their own homes where that's at university or in jobs so?"

Above all, however, was a shared and significant concern around how services and organisations can best prepare themselves for supporting those that may have never experienced energy- or financial-related vulnerability before. Referring to this group as the 'newly vulnerable', one workshop participant explained:

"I think the biggest cohort is going to be people who've never experienced any vulnerability in the past or never considered themselves as vulnerable. I think a lot of people who have traditionally struggled, they're just about managing or whatever group they are, will be used to trying find solutions if you like. Whereas we're going to be pushing an entirely new very big cohort of people into vulnerability or into a

predicament, if you like, who would never have considered themselves to have any issue in the past. I don't know what they're going to do."

6.4.3 Using the PSR to identify vulnerability

The majority of non-utility respondents outlined that in their routine work they raised awareness of utility Priority Services Registers (PSRs) and supported clients and service users in signing up, at times doing this directly on behalf of the person. Several utility stakeholders discussed working with other local partners to raise awareness of PSRs. One respondent also mentioned encouraging clients to update their PSR status, not just working to support individuals signing up for the first time, but also notifying where there may have been changes in circumstances.

There were some critical reflections on the PSR, however, with one non-utility respondent highlighting how, *"it does not take into account level of vulnerability and is overly single dimensional"*. Another noted that: *"The PSR service is helpful, but we believe the service to be variable. There is a lack of awareness around it, and we believe there are many people that should be on it who are not. It is unclear of the success of the PSR, what it's measures of success are, and how it is monitored."*

One respondent, representing a digital inclusion charity, explained that they viewed the PSR as beneficial and had considered whether to develop a version of a PSR, and advocate for the use of it, by broadband/mobile data companies. However, non-utility respondents largely reported that there is a lack of awareness of the PSRs and that they do not go far enough to support their own clients.

Among the 12 CFE respondents who identified as a 'utility distribution or supply company', seven stated they had a PSR in place. Asked about the regularity of PSRs being maintained, the majority (six) stated that this was at least done whenever a change in a customer's circumstances was reported. Three stated that this was updated on (at least) an annual basis and three said this was done biannually. Two stated that this was not regularly updated. There were a range of different ways in which respondents described PSRs being maintained: some used direct mail, follow-up phone calls and emails; others used the operational workforce to update PSRs when attending properties. One CFE respondent described this more targeted process:

"We take in delta updates on a daily basis via Xoserve…if we are working in a street, we can identify PSR customers and focus our up-front comms on that group and prioritise getting gas back on or completing reinstatement. We can use it to identify all households with young children for example, and then target these with messages."

This was described by one interviewee as a critical way in which networks are able to identify and respond to vulnerability. Where 'boots on the ground' are able to update PSRs while taking steps to ensure targeted support reaches individuals and communities in need, also supporting other organisations and services across energy and beyond.

In terms of updating and in cases removing clients from PSRs, respondents explained that only after substantial efforts to make contact were individuals taken off a register. One described this process as a 'cleanse', completed every two years whereby if a customer does not respond after the first point of contact, they are automatically enrolled on the PSR for a further two years and only then removed if subsequent contact can still not be made.

Expert workshop attendees noted that the PSR and having identifying markers of whether someone may be struggling are extremely important in identifying customer vulnerability. This can also be combined with looking at customer debt and missed payments information. Importantly, the staff members that customers speak to in call centres were highlighted as playing an important role in being able to have those conversations around how individuals are coping and identifying where a customer may be in need of support. As such, those staff members needed appropriate vulnerability training alongside ongoing emotional and mental health support: *"It's about making sure you have a wider culture of supporting your staff who are involved in those conversations."*

However, other attendees noted that the categories/codes used to identify vulnerability through the PSR do not capture all vulnerabilities. Frustration was also expressed that category and code lists are not consistent across suppliers, and that those codes are not shared between suppliers when a customer switches, meaning they need to go through potentially difficult conversations again or that their vulnerability may not be identified. Frustration was also expressed that PSR information is not automatically shared across utilities. In addition to incorporating a flag or code for level or severity of vulnerability into the PSR, some stakeholder suggested the development of an 'extra care register' to help segment customers by need depending on the stakeholder/situation in question. Stakeholders also felt that PSRs should incorporate resilience scores to enable identification of differing priority needs within the register. Stakeholders expressed concern that the PSR enables different companies to do different things to support customers in different scenarios – for example, for networks companies PSR can be crucial to supporting customers in an outage. The more a PSR expands, the more difficult in becomes to target, direct and prioritise help to the customers at most risk during an outage. Hence there is a need to ensure PSR codes and sure PSR codes and categories can reflect stakeholder use needs to make sure help goes where it is most needed in different scenarios – so be responsive and usable by stakeholders as well as responsive to customer need.

The importance of sharing data on customer vulnerability across the energy sector was highlighted. It was noted that companies are in fact working towards a centralised PSR with a UK landing page, so that all information is contained within one source both for purpose of customer registration and in accessing that data from the utility side. The development of a UK PSR website was also highlighted, representing a collaboration across utility networks to provide a single place through which any customer can sign up to the correct PSR for their postcode. It was noted that data-sharing was of particular importance when ensuring a consistent journey for customers, and it was seen as being especially important to remove obstacles such as having to sign up for the PSR anew each time you change supplier. It was highlighted that GDPR regulations enable data sharing when in the best interest of the customer and that more work should be done to further this. The importance was stressed of having a centralised vulnerability database for approved organisations to be able to access in a confidential manner and understand the needs of a person. This would help ensure that any organisation coming into contact with that person can understand their needs and facilitate access to support. It was highlighted that such a service would need to be flexible and nuanced enough that it would be of use to the different companies involved by enabling them to determine customer need in relation to their own specific services and interactions with a customer. This would involve work to map vulnerability needs and capabilities against likely PSR-relevant interactions with a company, and for suitable and appropriate filters and categorisations to be applied to such a centralised, national register.

However, it was noted that *"there's such a churn of people experiencing transient vulnerabilities that the PSR is only ever a guide. You know, you need to knock on the door and see what you see."*

Case Study: Melanie and Robert

Dementia, customer service accessibility and identification of vulnerability

Melanie lives rurally with her partner in the South West of England. Over the last five years, she has provided ongoing support and care to her elderly father, Richard, who has faced serious health problems including being diagnosed with Alzheimer's disease. Melanie was granted Lasting Power of Attorney (LPA) meaning that she took full responsibility for her dad's financial and medical decisions and managing his household due to his diagnosis and cognitive decline.

Although Richard has recently moved into a care home due to his increased support needs, he had continued to live alone in an ex-council property, which he purchased with his wife after serving in the British Armed Forces for forty years. Due to his significant support needs, Melanie was forced to make the difficult decision to give up her full-time job to become a full-time unpaid carer, meaning that her household is now fully reliant on her husband's income.

Both Melanie and her brother live a number of hours away from their dad's home, meaning that she has to travel long distances, as well as relying on the support of neighbours in the council estate where he lived. Despite him being on the Priority Services Register, Melanie has found that support and information has been relayed more quickly from neighbours than from suppliers during times of crisis:

"[Dad's neighbours] will text me before even the energy [supplier] would, because it's quicker and faster, isn't it? So, you're, kind of, relying on community, even though I'm remote, over 200 miles away. I rely on them more than I would rely on... That says a lot. It's just the community is there, begging to be supported, so what they do is they support one another and they go inward thinking."

Alzheimer's disease

Changing life circumstances

Caring responsibilities

Changes to income

Multiple vulnerabilities within a family support network

Reliance on community networks

Challenges in accessing appropriate support

Dealing with the emotional impact of her dad's worsening health alongside managing his household has caused a great deal of stress for Melanie in a difficult time. This has been exacerbated by the wealth of barriers she has faced in attempting to access appropriate support and advice across a range of areas including utilities, social welfare, and health and social care services. Melanie has experienced poor customer service from her dad's utility suppliers, including a lack of tailored support for vulnerable customers and a lack of knowledge and awareness of LPA amongst customer service representatives:

Vulnerabilities and support needs of carers

"When you're then dealing with the health side of things with looking after a parent, then you're going through even more trauma and hoops. But just focused on the energy side, with the gas ... he had the account already, but then just to get them where I was able to deal with it, it almost felt I went through, "Please, can I speak to somebody about a vulnerable person?"... They've got it all on their website, how simple it is, but actually when you're dealing with vulnerable people, because you're not named on the account, they won't do anything."

Poorly accessible customer services

She had previously received conflicting advice via telephone about whether or not she would need an LPA, at one point being told that this wouldn't be necessary to be named on her dad's utility accounts, but later finding out that this was in fact needed. Melanie wanted a refund on the large amount of credit which had built up in her dad's account so that she could make a savings fund to contribute towards his future needs. However, she struggled to achieve this, eventually leading her to give up trying to reclaim this money altogether.

Poor recognition of Lasting Power of Attorney

"I was thinking ahead. I was the one thinking ahead, but at the time there was no dedicated team. I don't even know if there is now, actually, and that was five years ago. So, I still don't know, even now, because I gave up."

Inaccessibility of customer credit

"Certainly, from the perspective for my dad, I think it was just appalling, the experience. You end up giving up. You just think, "Oh, I'll leave them with the bloody money, then," because it's just too hard a fight... It makes you tremble, the thought of calling, because it's not consistent, the information. Then you have to escalate. You have to fight, and I'm a person that will ankle-bite my way to get, you know, but I know that many just... I've done it myself. I just think, "I can't be bothered", but he has a significant amount [of money in credit] in there. It's just his money."

Disengagement from customer

Melanie found that there was a lack of proactive response from energy suppliers during the energy crisis in terms of supporting vulnerable customers, although she felt that they had been proactive in other areas such as in terms of installing a smart meter in her dad's home, which made her question the intentions of this activity.

Inconsistency of communication

"There was no writing to you. There was no proactive help. You would go onto Money Saving Expert or Martin Lewis. You would do all the research yourself... But they were quick enough to push the smart meter. They wanted that in. I had to travel from [area] to be there to let them in."

Similarly, Melanie had experienced poor customer service from the water company which supplied her dad's home, when they lost record of her LPA on their system:

"I had a bad experience with them [water and sewage company], for example, just being able to say, "My dad no longer lives at this address." They said, "Send me a Power of Attorney," so it's like, "Well, you had that." Then they said, "Well, we haven't got it on system." You get that a lot. This is just another example, but it happens."

Poor recognition of Lasting Power of Attorney

Melanie felt that there could be better identification of vulnerable customers and better sharing of this information among different services, such as health and social care, energy suppliers, and utility companies. However, she acknowledges that different technological systems and databases made this challenging, although she feels that it would avoid duplication of effort on behalf of customers and households in attempting to access support and information.

Lack of data sharing

"Look at the age groups. Look at the data. Look at the age groups and think, "Okay, these are probably vulnerable. They're old. They're all over retirement," or something. They have that data, so they could run a report and just think, "Okay, we'll get in touch. We'll be proactive," but, of course, they won't, because the processes... Everybody just follows the process. There's no process for that, so what they do is just cream off the profit and the interest from it, in my opinion. So, I have no kind words."

Lack of centralised systems

Poor identification of vulnerability

Melanie highlighted the difference that could be made by just one positive experience with a customer service representative who was knowledgeable about vulnerabilities, when she was finally forwarded to a specialist team within a utility company.

"I then wrote in and complained, and that same day they did actually call me back and say, "We're putting you over to a specialised team," which sounded like an escalation team, but the person I spoke to dealt with vulnerable people, so I thought, "Well, that's new." So, you need many of this woman because she knew all the facts. She sounded like she was quite long term in the business and so she knew all of the processes, but she also knew what the laws were, so it made it easier... There's one, out of many, in five years that actually spoke sense. I got my refund within a week. To manage my expectations, I was told ten days, but I got it within a week, so I was actually really impressed. They actually don't cut off your water, which is what you think they do."

Importance of accessible and reachable specialised vulnerability teams

Melanie has also received support from charities such as Age UK and Macmillan, for example, in terms of information around benefits entitlement for her dad. She believes that many charities are being overwhelmed in attempting to 'fill the gap' of support needs which are not being met by the government or suppliers. She feels that more responsibility should be placed on government, suppliers and regulators to ensure consistent support and advice, as well as proper funding for these services.

Need for centralised support provision

"Not even the charities help, not even. They can't. They're just full up because it's [the energy crisis] not being managed by, I suppose, the government, and they're not controlling the energy."

Overwhelmed support services

"I think it's just I can't believe how complex they make things. I think that there is no doubt in my mind, knowing information technology, that they can do this on purpose, and they can do more. They can simplify things, but it's not within their gift to do it, because they're either self-serving themselves, which we know that this government does, but I think it's a way of distracting, getting the charities to do the heavy lifting, and overloading them with the 60 million or 70 million we've got in this country, and a fair share of that now destitute."

Own views on support needs and provision

Melanie's case highlights the struggles faced by highly vulnerable individuals and particularly the challenges faced by individuals with cognitive or memory limitations, as well as their relatives and carers.

6.4.4 Identifying vulnerability beyond the PSR

Utility and non-utility stakeholders set out a range of ways in which they and their partners identified vulnerability beyond the PSR. The following methods were cited as being used, with varying depth and frequency:

- Staff training on identifying/understanding vulnerability
- Data-sharing agreements with external partners
- Conversations with customers
- Proactive written communications with customers
- Data/information sharing with internal teams
- Customer account information
- Customer affordability flags
- Proactive online communications with customers
- Proactive telephone-based comms with customers

It was noted that, where stakeholders can broaden their service offering to support customers directly, they should do so. However, it is also about recognising when onward referrals are most appropriate and ensuring that, when external referrals are made, they are done as effectively as possible.

6.4.4.1 Data sharing

An area described as being of critical importance in the current context, and in looking to future opportunities, was the potential of data and information sharing. The model of data sharing found in the current WHD scheme was described as a useful starting point for understanding how this could operate for other schemes and in a way that would reduce vulnerability for a wider pool of energy customers and communities. It's based on core and wider or broader groups, and working with data held by the Department for Work and Pensions (DWP) and Her Majesty's Revenue & Customs (HMRC) as well as property data held by Valuation Office Agency.

Data matching and sharing were explored in detail in the workshops and in the interviews, with access to customer data of this sort and options as to what organisations and agencies are permitted to do with it being noted as key barriers. Although only a small sample (12), it is worth noting that none of the utility respondents reported having experience to date with identifying vulnerable customers using customer usage data such as that offered by smart meters. The benefits and challenges of accelerating the smart meter rollout, for the most vulnerable consumers and energy suppliers, is well-evidenced. The potential of smart meter data for better targeting of support and overall better outcomes for the most vulnerable households has been noted in the recent government consultation.

It was repeatedly asserted by stakeholders that work needs to be done to overcome real and perceived barriers to data sharing through General Data Protection Regulations (GDPR).

6.4.4.2 Enabling customer self-identification

Expert workshops noted that the groups which often present with risk of heightened vulnerability are those who find it difficult to access adequate information and support which could help them to self-identify as vulnerable or which could help lever in the support that they need. These were generally classed as the elderly (especially those in ill health) who have limited digital skills and engagement and who are unlikely to self-identify or self-report as being in a vulnerable situation. It also included those with limited or no English-language skills. Tenants living in the private-rented sector were also being highlighted as being particularly vulnerable to neglectful landlords.

As well as drawing on PSR data and other proactive methods of identifying vulnerability discussed above, workshop participants and interviewees discussed the importance of building into

schemes and services the capacity for individuals to self-identify and make self-referrals. This was also explored in the CFE, and utility respondents were asked about the different ways in which they raised awareness of support, specifically that which individuals could access via self-referral. The most common way in which utility respondents raise awareness of self-referral mechanisms into services and schemes is via partnerships and work with third-sector agencies, as well as websites and online content. The use of media-based communications such as TV and radio was less-frequently reported, which could perhaps present a key opportunity for future work. The use of media-based communications for this purpose was not raised by workshop participants or interviewees either.

CFE utility respondents described other ways in which awareness raising of self-referral was being done by their organisation. This included targeted adverts via social media channels (specifically Facebook) and wider social media campaigns. Community engagement events were also noted as another approach utilised. Again, relating to the strengths of using 'boots on the ground' to support work on vulnerability, one respondent noted engineers being able to support households with sign-up via a phone app during or following work being undertaken at the property.

Stakeholders additionally suggested working to enable customers to self-identify as needing support, especially in cases where customers may be unlikely to recognise themselves as such or even to identify with the concept of vulnerability. Here, helping customers to understand how the scenarios in which they find themselves could mean they could receive extra help or support, and who to contact, could be important.

At other times, stakeholders identified key areas where there has so far been little action to engage and enable identification of vulnerability. For example, discussions highlighted the potential for targeting educating, training and awareness raising at private landlords, to foster a sense of duty of care towards tenants and to enable them to put tenants in touch with support should they observe signs that they may be struggling.

6.4.4.3 Partnership working

Referral partners can act as a one-stop shop for vulnerable customers for whom it is very difficult to reach out and take that first step for support. The more points of contact they have and more repetition required, the more likely it is that they will disengage from support – there needs to be a 'tell you once' approach for the customer and make sure partners in the network can take a whole person approach to identifying and supporting need. Everyone needs to work together to support customers – not every customer is the same and they won't all take the same route into support, so networks need to be set up to enable that shared responsibility and duty of care. Ultimately, a 'making every contact count' approach is required.

Overall, it was felt that being part of a strong referral network of partners and, where possible, providing funding to those partners to enable them to deliver appropriate support, was crucial in identifying customers in vulnerable situations. For example, one utility network attendee described how they were funding projects to support unpaid carers with advice and a support toolkit. Others were supporting the fire and rescue services to ensure homes were carbon monoxide (CO) safe. By being part of a network, partners could identify other vulnerabilities or signs that customers are at risk/struggling and refer on to other parties within the network – for financial advice, for example. By working in this way, customers in vulnerable situations who are difficult to identify or to reach are more likely to be identified by a trusted partner who can then use the network to ensure they get the right support via a trusted intermediary.

One distribution utility discussed how they are increasing their range and depth of work with partnerships; in particular, working with NHS trusts, local resilience forums and parish councils to identify and recruit customers into the PSR. Indeed, expert workshop attendees had had some success in reaching elderly people in ill health by making links with NHS organisations from which they could receive referrals for energy efficiency and income support. They also highlighted the importance of making information and resources available offline and in appropriate and accessible formats (e.g. large font letters and leaflets, providing printed resources in braille and in other languages). It was noted that often a bit of paper could act as a physical prompt to someone to get in touch once they have some time to sit, read and take notice. At other times, partnership working with key trusted organisations working in communities and in people's homes could help relay crucial messages to hard-to-reach groups. For example, working with the fire service to encourage people to take up the offer of CO home safety checks during home visits. It was also noted that, when it comes to health-related vulnerabilities, education and awareness raising were particularly important. These help people with newly diagnosed or chronic health conditions to understand how those conditions may make them vulnerable in certain situations and in which ways, helping them to be able to self-identify as vulnerable and present for support when needed.

Once again, stakeholders highlighted the essential requirement to overcome real/perceived GDPR barriers to data-sharing, to enable such relationships to be the most effective.

Conversely, it was also noted that, with regards to energy, there is so much information out there for customers to deal with that it can be difficult for them to understand what is being said and to keep track of available support. Hence, it was acknowledged that working with other partners in the sector to streamline the information being provided and ensure clear signposting for information and support is provided to customers is extremely important. Likewise, they felt it was important that local partners could experience a more comprehensive or joined up service,

rather than feeling that they must communicate with different utility bodies separately and starting from scratch each time.

One workshop attendee described how they run a disability energy support service which is a dedicated, tailored helpline for disabled people to be able to call and book appointments, and to receive appropriate advice. Others had been focusing on education and awareness raising in schools and higher education, so as to enable children and young adults to understand issues. This had involved developing new resources such as gaming apps and helping children to understand how they could take messages home. It was noted during expert workshops that there is also a role for regulation in enabling consistent cross-sector working by potentially placing an obligation on utility networks and suppliers to actively engage in such partnerships and networks.

Stakeholders furthermore noted that customer need, rather than following a seasonal pattern, now tends to be year-round (with corresponding year-round demands placed upon support services). Actions to support and work with partners should, therefore, likewise be year-round, rather than stop-start (including any funding that is made available).

Stakeholders also highlighted key individuals who can play a part in ensuring customers receive the support they need. It was felt, for example, that Housing Associations are well placed in communities to understand customer need and vulnerability and so a lot of Housing Association safeguarding referrals come back from contractors. They are in homes regularly and are known faces, and can make housing officers aware. However, it was felt that is important to also know what the limitations of those contractors are and who is best placed to take on the referral.

6.4.4.4 Place and locality

Importantly, workshop attendees described the importance of locality and place in understanding how approaches to identifying and supporting customers in vulnerable situations might need to be tailored:

> *"[previously], we [networks] used to tackle vulnerability based on maths. We never really looked at regional variations…we did a lot of work to understand where our vulnerability gaps were and say where do we actually need to focus?"*

By taking this place-based approach, the network identified places within its area of operations where large number of customers do not speak English as a first language. Establishing contacts and relationships with key gatekeepers in those communities, as well as producing resources in population-relevant languages, represented an important part of helping those customers to access support when it was needed:

> *"We tried and tried for a long time to get into that area and eventually we had a member join our team who was then able to reach out to religious communities to spread the message that there are people who need this extra support during power cuts, who need access to extra support with fuel poverty – how can we work with you to reach those people? And it's at that point that we started to create campaign material translated into languages that we know will work in those areas. And we continuously work with those religious leaders in those areas and consult them. First of all we will say there's an issue, for example a storm coming, and discuss how best to reach people to let them know what we are doing to support them, what help is available, but also what they can do to help themselves. So, it has taken a lot of trial and error, but I think by doing that and reaching out to those groups, it is helping us to shorten that gap."*

To help avoid anyone missing out on support, some utility networks had partnered with organisations who were able to overlay data onto postcode mapping that might indicate concentrations of different kinds of vulnerability. Targeted approaches were then taken to contact residents in those areas/properties to make them aware of support that they may qualify for. This was aimed to enable customers to access support by raising awareness and providing an accessible route of communication through which to do so.

6.5 Partnership and collaboration

6.5.1 Common partnerships for utility stakeholders

In each phase of research, utility stakeholders provided extensive detail on the types of partnerships they held and the work that they did to maintain and strengthen those partnerships in supporting vulnerable individuals and communities. The CFE showed that the most common partnerships for utility companies are with local authorities, customer and consumers groups, Housing Associations, and other community groups. Around half of the utility CFE respondents also worked in partnership with third sector agencies, fire and rescue services, and health and social care partners. Less common partnerships included those with schools and educational institutions, policing services, and landlord associations – all of which represent areas that may warrant further exploration.

Utility respondents described partnerships with local authorities and housing providers that were focused on work that can facilitate customers accessing affordability support, such as referrals and data-sharing: *"…help promote affordability assistance schemes…[and] the passporting of vulnerable customers automatically onto our social tariff, utilising financial data held by the LA to deem them eligible for support"*. One utility stakeholder discussed a PSR data sharing scheme with a local fire service which was being used to identify those that may be eligible for social tariffs and other related support,

such as crisis funds and household support. Another stakeholder described the benefits they had identified for smaller, local organisations in working with larger utilities, namely in how, as a larger, better resourced and in some cases a more established service, they could support with collecting evidence and demonstrating impact for future funding.

6.5.2 Non-utility stakeholders and their partnerships with utilities

Non-utility CFE respondents were asked to elaborate on the types of partnership working they engage in with utilities, and the value that these ways of working have for their organisations and the individuals and communities they support. Examples included academic/industry partnerships that were viewed as helping to make sense of academic research and turn insights into action research. However, it was noted that further work is needed to bring together not just academic insights and industry, but also the work of policy actors. An Expert Interviewee described the value of working groups, with examples involving cross-utility and cross-network groups, as well as cross-sectoral groups involving housing providers, local authorities, and third sector agencies to coordinate fuel poverty support. Working in partnership was described as enabling agencies to adopt a 'joined up approach' that was beneficial to various elements of their work. For example, data sharing and matching, raising awareness of services, signposting, and consistency in information and advice. One respondent noted the benefit of working collaboratively on joint funding bids (i.e., redress funding, Warm Homes Fund, Local Authority Delivery Schemes and Home Upgrade Grants). Other ways in which experiences of positive and impactful partnership working was noted including working with the health and social care sector to implement vulnerability assessments and for discharge processes.

6.5.3 Partnership on a local level

Partnership working on a local level was deemed particularly effective by all stakeholders, but it was agreed that it faces significant challenges, notably with funding:

> *"...funding is crucial to deliver our services as is the insights and reach these partnerships give us to engage with their clients in need. Local intelligence and specialist expertise is essential given the industry/environment is changing rapidly and we need to remain responsive and up to date. The relationship is reciprocal, we also share the learning and insights we gather to inform our partners."*

In terms of responding to unexpected events and emergencies, having effective partnerships, particularly at the local level, were described as useful mechanisms through which referral pathways and connections between services could be set up at pace. However, some services are only funded/operational seasonally, typically during winter months. Due to rampant rises in need for support from customers in vulnerable situations, it was noted that there is a need from a cross-utility and cross-sector perspective to work towards year-round planning and delivery of support.

One utility respondent discussed the coordination of a 'Social Issues Expert Group' and a 'Future Fairness Panel', highlighting efforts to work collaboratively and the benefits of doing so with stakeholders in a cross-utility and cross-sectoral way. This involved hosting workshops with community partners – an activity reported by a number of the utility respondents – and in-depth service user feedback collection processes. Another group, the 'Customer Engagement Challenge Group', provided customers with the opportunity to challenge plans and shape future activities.

6.5.3.1 Covid 19 and partner relationships

Stakeholders discussed at length the ways in which their organisations and services had had to adapt during Covid 19 and some of the lessons learned from this for future service delivery. For example, one CFE respondent, echoing the views of several, noted the challenges in rapidly shifting communications methods to remote working and the impact this had on building trusted relationships with local partners and clients. One non-utility CFE respondent explained how Covid 19 has resulted in many people leaving volunteer roles to seek paid employment, leaving service with less resource at a time of rapidly increasing demand.

There were, however, some positive examples shared in terms of best or innovative practice in supporting vulnerable individuals and communities in response to the Covid 19 pandemic. For example, mutual aid type activity, via mechanisms such as the NHS Responders, were noted as a valuable resource to communities during this time, and one that has continued beyond the lockdowns where *"...a number of volunteers in food banks and soup kitchens have remained on site to help people who have been struggling"*. Another participant discussed the *"...variety of methods used to compensate for the disruption caused by Covid 19"*, with key examples of best practice including more efficient and effective forms of online support and communication, the simplification of processes for accessing support, and additional assistance such as with broadband access and the provision of laptops.

6.5.3.2 Partnerships for the future

Participants were also asked about partnership working that is specifically focused on anticipating the impacts of changes to future utility systems on vulnerable customers and possible solutions. In one case, anticipatory work in relation to the impacts of price cap changes were explored with existing partners and funders on an ongoing basis. Another stakeholder described a Social Issues Expert Group that meets bi-monthly to coordinate insight and action against a number of future scenarios, referred

to as 'horizon scanning'. A utility respondent also shared an in-depth overview of a large-scale programme of work, which included quarterly meetings with stakeholders, partners, and community members to not just review current priorities but to anticipate and prepare for emerging issues. Some companies make use of stakeholder-mapping tools to help them engage with relevant partners and make informed strategic and operational decisions around meeting customer needs both now and in the future.

6.6 Personal safety – responding to vulnerability in crisis and emergencies

6.6.1 Responding to vulnerability during an emergency outage

A major part of the work that energy networks do directly with customers centres on safety, and safety-related activities can represent critical opportunities for identifying need and appropriately supporting customers in vulnerable situations. Indeed, throughout Phases 1 and 2, there was a focus on the ways in which utilities (and non-utility stakeholders working in partnership with them) respond to moments of crisis or emergency, and what this means specifically in terms of protecting the most vulnerable individuals and communities.

Highlighted as important were:

- Data-sharing relationships between utility companies and relevant external partners to identify vulnerable customers
- Welfare and support communications in multiple formats (by utility companies or their trusted partners) before and/or during the service outage/disruption
- Alternative goods/equipment offered as appropriate to the customer (e.g. alternative cooking/heating/hygiene facilities, alternative water supplies, portable generators)
- Data-sharing relationships between utility companies and relevant external partners to coordinate support provision
- Regular service updates provided in multiple formats
- Automatic financial compensation procedures
- Alternative accommodation offered as appropriate to the customer
- Home welfare and support visits (by utility companies or their trusted partners) before and/or during the service outage/disruption
- Voluntary enhanced financial compensation procedures
- Emergency survival/care packages offered to customers (by utility companies or their trusted partners
- Support for customers to quickly access emergency repairs/replacements

Among non-utility respondents, the predominant focus in relation to service outage and disruption was on approaches that reduce or avoid the impact on health and wellbeing. As one explained: *"...off grid moments have risk to life hence this is a first priority"*. As another noted, *"...outages often impact issues like medicine storage or medical equipment usage, therefore it is very important that this cohort of customers is kept informed and support accordingly"*. Throughout the scoping study, participants stressed the importance of support targeted towards vulnerable consumers where there was a risk to health or dependency on medical equipment, or where a lack of adequate support would disproportionately affect this group.

Utility stakeholders discussed at length the processes in place for severe weather events, highlighting a need for the types of support being provided to be varied and wide-ranging, and adaptable to people's needs at times on a case-by-case basis. The deployment of welfare vans and provision of hot water, charging points, and accommodation were noted as key examples of innovation. Being able to provide codes for purchasing takeaway food where people are unable to leave the house was also noted as a novel approach that utilises the potential of digital services – where individuals are able, feel comfortable doing so, and have access. This was described as a work in progress and an area under review at present, mainly in response to unexpectedly damaging storms in the last few years.

It was also noted during workshops that there is a need to better understand why some forms of support, such as emergency alternative fuel and food sources provided during a service outage, are not taken up by customers. Specific examples included food, refuge, and other support being provided in moments of crisis, such as power cuts, and these were noted as presenting opportunities to better understand where community resilience in an informal sense kicks in, and where/how utility networks may be able to strengthen, support and reinforce existing community support mechanisms.

6.6.2 Working towards a safe energy transition

Expert workshop attendees emphasised the importance of ensuring that the most vulnerable are not left behind when it comes to the net zero transition, and that low-carbon services and products are designed with those groups in mind right from the start, in order to ensure it is not just early adopters who can access benefits. Expert workshop attendees described the importance of understanding how different customers facing different kinds of vulnerability might encounter safety issues from new technologies, and of developing tailored plans and

approaches to help them. For example, working with the fire and rescue services to improve CO safety in elderly households. Or working to raise education and awareness of tenant rights and landlord obligations in the private rented sector (among both tenants and landlords), as well as facilitating access to support for tenants.

In terms of the energy transition, ensuring people have access to appropriate information and education to enable them to understand their options and make the most appropriate choices for them is essential:

> *"People need a simple list of what their options might be and to consider what funding might be available...there is an issue of public awareness and building trust if you are going to reach people. Otherwise, you're just picking off individuals, when this going to affect whole communities. We did some work looking at people's awareness of what they need to do to improve the energy efficiency of their home, and discovered that a lot of people weren't very aware or didn't know where to look for the information, or didn't really trust the information that was available for them."*

It was considered essential that people be fully informed of the implications that low-carbon technologies, products or services might mean for them and their own personal situations in order to help them make the most appropriate decision and access appropriate support:

> *"There is putting the measures in place, but there's also actually the thing that goes hand in hand and making sure the right people are reached and that is education and information."*

For example, in the CFE it was noted that one utility stakeholder had promised to provide customers on the PSR with a smart energy plan every two years, although little detail on this was provided.

It was felt that there is a need to broaden what's available to customers with particular needs both in technological terms but also educational terms. For example, a customer with COPD (or another condition reliant on adequate ventilation in the home) may express reluctance to take up a new low-carbon technology due to the need to insulate their home. We need to think about how to tailor installations and access to appropriate new technologies so that they are suitable for such health-based requirements, but also educate customers around insulation and ventilation and debunk myths that may limit engagement and take-up, when required.

Important here is education and awareness raising among local organisations and partners that are most likely to be working with those individuals who are currently least likely to engage with or have appropriate access to information around net zero and the low-carbon transition. This enables them to provide accurate and appropriate information that can empower those customers. Also important is ensuring installers and engineers are trained in the technologies to be able to install them correctly for the most appropriate properties and household situations, as well as providing information and advice on how to use and control those technologies which is appropriate and accessible.

> *"How can we make sure that any efforts that companies are doing to sort of push us in that direction are not going to disadvantage or leave behind vulnerable groups."*

> *"More people are having this low-carbon technology installed without checking the network in the area and the safe amount of loads that can come into their house, or changing the fuse on a charging point. So, it's trying to make people aware of the fact that if they get that installed, they probably need to speak to the distributor otherwise it could cause too much load and problems on the network such as power cuts or problems in their home such as the capacity popping."*

Stakeholders further highlighted safety concerns for customers reliant on analogue phone services for communication during and following the switchover to digital phone services. They also highlighted the risks to customers during outages should mobile phones or phone signals fail. This again signals an important role for telecommunications providers in vulnerability proofing and support planning.

Stakeholder feedback furthermore raised the notion of customer empowerment. If households are to meaningfully engage with, respond to, understand and relate to future energy scenarios and low-carbon technologies, work needs to be done to enable them to build that knowledge in an accessible and meaningful way. This is required for both households and the intermediaries that work with them and forms an important part of addressing vulnerability and reducing the risk of detriment for customers. Respondents and workshop participants stressed the importance of ensuring that:

> *"...clients are engaged and aware of what this is and how this will affect them and how to manage these services once in place and to get the best results for them on their limited income and have the support in place via agencies who they can refer to for support alongside the energy company."*

For example, one attendee described how the safety implications of not understanding or misusing new technologies meant education and awareness raising among both customers and installers was essential:

> *"In the transition to net zero we want to make homes as energy efficient as possible. But one of the consequences is that you make the houses less ventilated. So, you've also got to make sure that appliances are serviced and correctly*

installed, that people are using them correctly, that people are educated on the risks of using appliances in certain ways, that homes don't become sealed boxes to keep in the heat whilst reducing air flow."

Importantly, it was emphasised that such considerations formed part of a joined-up approach to address each stage of a customer journey and experience:

"The main thing is that you've got to have this joined-up approach that when you're looking at energy efficiency and the cost, you've gotta make sure you think about all the other elements as well, and that other people are educated and make sure they understand the risks and the risk is reduced."

Similarly, workshop attendees described how the current energy crisis has brought safety concerns and messaging around staying safe to the fore. Affordability issues have led to an increase in dangerous and unsafe responses and coping mechanisms, such as misusing appliances, burning unsafe fuels, and tampering with meters. This had obliged stakeholders to examine how they educate around safety and raise awareness, as well as enabling customers to access support. In situations where unsafe appliances are identified, utilities and other partners worked to set out their own roles to reduce risk and vulnerability by, for example, committing to funding/replacing those appliances for the services that can do so. One attendee described how they were doing just this:

"We know that people have stopped doing some of the basic stuff like getting appliances serviced. It's a concern to us, and our engineers are very much looking out for any danger signs like that. So, we have got a project [with a partner] where we can step in and get a gas engineer to do basic repairs or even replacements."

Part of this pathway means understanding the knock-on effects that affordability and/or awareness issues might have for households in different vulnerable circumstances and how that detriment is or could be manifesting, understanding the support required, training engineers to identify vulnerability and make appropriate referrals, and ensuring partners are appropriately funded to deliver support and refer in.

Crucial to this sort of vulnerability planning is linking in with key partners who can help raise awareness, educate and enable safety – for example, fire and rescue services supporting with CO safety during home visits or GPs and midwives discussing CO risks with pregnant women. A workshop stakeholder described the value of local vulnerability forums, where multiple local community partners and services would come together and discuss the most vulnerable cases with each other and the most appropriate solutions (and ways of providing them) – such forums could be particularly useful in communicating across sectoral boundaries: *"Sometimes different partners don't really communicate because we deal with different problems. The forums could bring you together and provide a different focus."*

Section 7: Best practice guidance

7.1 Introduction

This section presents a number of best practice guidelines for utility stakeholders for understanding, identifying and supporting customers in vulnerable situations both now and in the future. Each guideline has been developed using insights gathered at each phase of this research.

Within each guideline, most recommendations are addressed to utility-related companies (including suppliers and network operators across energy, water and communications services). However, there are also recommendations which cannot be implemented without action from UK government and respective utility regulators (Ofgem, Ofwat and Ofcom). We have summarised recommendations to policymakers and market regulators from across all six guidelines within the table below.

In order to ensure the guidelines are consistently and adequately implemented across utility sectors by all relevant actors:

UK government	**1.UK government** should introduce and implement a 'Help to Repay' debt repayment scheme to provide debt relief and offer repayment matching to customers facing insurmountable levels of debt. **2. UK government** should examine how deeper price protection for low-income, vulnerable, and fuel-poor households can be introduced. This could take the form of a mandatory social tariff to provide an affordable price of energy for low-income and vulnerable households. The focus of this should be to ensure that the targeting of such a scheme goes beyond just those households that receive means-tested benefits.
Utility regulators	**1. Utility regulators (Ofgem, Ofwat and Ofcom)** should use the tools available to them to ensure cross-sector consistency and compliance (by networks, service providers and service suppliers) in implementing Guidelines 1-6 and supporting vulnerable customers. **2. Utility regulators (Ofgem, Ofwat and Ofcom)** should work together to ensure all utility-related companies have in place affordability procedures and policies that will mean current best practice is consistently and reliably implemented across all utility sectors and by all utility actors. **3. Utility regulators (Ofgem, Ofwat and Ofcom)** should work with Information Commissioner's Office (ICO) to clearly and explicitly set out to utility-related companies and their strategic partners what customer data they are allowed to share, when, how and with whom, in order to support customers in vulnerable situations. **4. Utility regulators (Ofgem and Ofwat)** should work with Ofcom and mobile network providers to enable customers with no phone credit to be able to access freephone numbers. **5. Ofcom** should identify and address any gaps in how telecommunications networks and providers ensure customers in vulnerable circumstances can access suitable communication devices/ procedures during digital service outages or disruptions, particularly in light of the pending analogue-digital switchover.

Guideline 1 Understanding vulnerability

When identifying and assessing whether a customer may be in vulnerable circumstances, utility-related companies should take into account:

Individual and personal factors	1. Changing customer circumstances and situations. 2. Individual abilities for adapting or coping with changes. 3. Temporal and space-based considerations (vulnerability can be transient/temporary). 4. How different aspects of utilities (access, use, affordability) might affect and be affected by the basic capabilities of a household.
Structural factors	1. Whether policies or market mechanisms adequately reflect, understand diverse needs and potential impacts for different customers. 2. How markets and policies could create distributional inequalities which disproportionately and adversely affect certain households. 3. Whether support mechanisms are equally accessible and open to all customers.
Intersectionality	1. Whether consideration has been given to the social determinants of health and how they can intersect with other factors to engender health-based vulnerabilities 2. The ways in which vulnerability 'to' and vulnerability 'from' can interact and intersect in complex ways 3. The multiple, complex and overlaying factors which can increase the likelihood that someone will experience vulnerability and be at risk of different kinds of detriment 4. Intersectionality with protected characteristics

Guideline 2: Taking a 'vulnerability-first' approach

Identifying and understanding vulnerability	1. Ongoing research to review, identify and understand emerging or changing vulnerabilities and to track issues affecting customers and their behaviours. 2. Data mapping from multiple sources to understand vulnerability gaps in services. 3. Ongoing workshopping and research with partners to identify current and future energy systems risk and impacts on different customers in different circumstances, including assessment of where certain customers may face disproportionate risk of detriment. 4. Coordination and cooperation of multiple internal teams to gather insight and develop appropriate services (e.g., energy futures, customer protection teams). 5. Establishing/continuing to work with consumer protection advisory groups.
Strategic and practical planning	1. Applying a 'detriment lens' to strategic planning to understand how proposed changes might result in unanticipated and/or disproportionate harms for different customers. 2. Building risk of detriment mitigation into a process from the start. 3. Business planning which is focused on addressing vulnerability gaps, year-round. 4. Using Impact Assessment Tools to assess inclusivity, diversity and impact across strategic and operational activities. Incorporating recognition and understanding of protected characteristics, including cultural and behavioural awareness, into business as usual and emergency response operations. 5. Developing 'vulnerability intervention pathways' to support identified vulnerable groups in tailored and targeted ways. This requires consideration of who vulnerable groups are, the factors which make them vulnerable, the types of support they might need and who the key partners are that those groups are likely to encounter. 6. Developing diverse targeted and tailored approaches to communicating with customers in ways which recognise individual needs and place-based characteristics.
Partnership and Collaboration	1. Working with internal teams and multiple external partners to enable a joined-up approach in identifying and supporting customers in vulnerable circumstances, including establishing appropriate referral relationships. 2. Participating in local vulnerability and/or resilience forums, to allow multiple local community partners and services to come together and communicate across sectoral boundaries. 3. Engaging with individuals/organisations that are trusted intermediaries and touchpoints of everyday life (e.g., schools, healthcare professionals, faith bodies and religious leaders) to provide customers with information and guidance in accessing support. 4. Showing a duty of care by helping to increase the resilience of community and third sector referral partners to provide crucial vulnerability services to customers – this might include partnerships where in-kind services and resources are provided, data sharing, intelligence and research services, professional training and development collaborations, and sponsorship, grants or donations. Relationships and actions should reflect year-round customer need for support. 5. Ensuring community partners are enabled to take up the offer to develop their services and cement referral relationships by developing appropriate partner engagement strategies and resources.

Guideline 3: Debt and affordability

For companies with direct billing and charging relationships with customers	
Debt	1. Follow ability to pay principles when discussing and agreeing payments and debt-repayments with customers 2. Take customer vulnerability into account when considering use of High Court Enforcement Officers for debt recovery 3. UK Government should introduce and implement a 'Help to Repay' debt repayment scheme to provide debt relief and offer repayment matching to customers facing insurmountable levels of debt. Until such a scheme is in place, suppliers should demonstrate compliance with best practice by putting in place their own debt matching/repayment schemes. 4. Build 'breathing space' into debt repayment policies
Affordability	1. UK government should examine how deeper price protection for low-income, vulnerable, and fuel-poor households can be introduced. This could take the form of a mandatory social tariff to provide an affordable price of energy for low-income and vulnerable households. The focus of this should be to ensure that the targeting of such a scheme goes beyond just those households that receive means-tested benefits. Until such mandatory protections are in place, suppliers should demonstrate compliance with best practice by ensuring customers are offered appropriate social tariffs, not limited only to customers in the social security system. 2. Implement mechanisms to limit disproportionately detrimental impacts of standing charges for customers with PPMs. 3. Ofgem, Ofwat and Ofcom to work together to ensure all utility companies and networks have in place affordability procedures and policies that will mean current best practice is consistently and reliably implemented across all utility sectors and by all utility actors.
Customer service	1. Never knowingly disconnect a vulnerable customer from supply at any time of year. 2. Offer packages of support to customers who are switched to a PPM for debt reasons. 3. Issue alerts for PPM customers at risk of standing charge build-up. 4. As far as possible provide customers (and/or their support intermediaries) with a designated relevant customer service contact for their case (who has received appropriate vulnerability training).

For all utility-related organisations (with billing and/or non-billing relationships with customers)	
Debt	1. Enable customers to access professional debt advice and support via signposting, referrals and, where possible, provide funding or in-kind support to partners who are able to provide such services. 2. Proactively identify/contact customers in or at risk of debt/arrears through the use of appropriate data sharing with external partners, internal data-matching, monitoring and mapping activities. 3. Expedite meter installations where possible and ensure they are appropriate to customer circumstances.
Affordability	1. Enable customers to access professional income maximisation support via signposting, referrals and, where possible, provide funding or in-kind support to partners who are able to provide such services. 2. Ofgem, Ofwat and Ofcom to work with Information Commissioner's Office (ICO) to clearly and explicitly set out to utility-related companies and their strategic partners what customer data they are allowed to share, when how and with whom in order to support customers in vulnerable situations. 3. GDPR teams and professionals within utility-related companies to work with relevant internal teams and external partners to put in place and develop long-term data-sharing relationships which are demonstrably GDPR compliant, and which can ensure customers in vulnerable circumstances can be identified and supported 4. Make crisis/trust funds available to customers.
Customer service	1. Take a holistic, whole-person approach to debt and affordability support by signposting/ referring customers to wider forms of support such as mental health-related services, local wellbeing initiatives including links to social prescribing, food and fuel banks. 2. Offer vulnerable customers a bespoke/tailored service package at no extra cost. 3. Consider applicability of new tools currently being used in other sectors (e.g., the Morgan Ash Resilience System Tool, developed for the financial sector) to assess customer characteristics, potential vulnerabilities/harms and identify steps to mitigate detriment. 4. Develop long-term data-sharing relationships with partners to ensure consistent recognition and awareness of customer vulnerability across organisations and sectors.

Guideline 4: Communications and accessibility

Meeting diverse needs	1. Provide specialist communications platforms, services and resources for those with sensory impairments. 2. Ensure services, communication platforms and resources are autism and neurodivergency friendly. 3. Ensure services, communication platforms and resources are disability friendly. 4. Ensure services, communication platforms and resources are suitable for those for whom English is not a primary language. 5. Work with specialist partners and community organisations to ensure services and resources are accessible and inclusive and that they can be appropriately tailored to target groups where required.
Being accessible to all	1. Provide a freephone number for customers, including from mobile phones. 2. Work with Ofcom and mobile network providers to enable customers with no phone credit to be able to access freephone numbers. 3. Consider the use of free encrypted messaging services where appropriate. 4. Provide a specialist phone line for intermediaries from the third and VCSE sectors. 5. Continue to provide in-person, telephone, written and community-based types of support alongside web-based platforms.
Customer Service	1. Make information and resources available for those with limited or no English literacy skills. 2. Ensure plain number adaptations are available for customers with limited numeracy skills. 3. Allow customers to state and update communication preferences. 4. Maintain multiple channels of communication that are flexible and responsive to needs, at no extra cost to the customer.

Guideline 5: Support for all

Priority Services Register (PSR)	1. Use innovative, accessible and targeted strategies to proactively raise awareness of the PSR directly with customers and via specialist and/or local partners, and support them in signing up (where appropriate, doing this directly on behalf of the customer). 2. Use innovative, accessible and targeted strategies to better enable and encourage customers to update their PSR status and notify about changes in personal circumstances. 3. Repeatedly review and update PSR vulnerability codes in line with work on emerging and changing vulnerabilities. 4. Incorporate extra care flags or resilience scores into PSR services which can take into account level or severity of customer vulnerability and which can help utility companies to segment customers by priority need depending on the stakeholder/situation in question. Companies would need to map vulnerability needs and capabilities against likely PSR-relevant interactions with them to enable suitable and appropriate filters and categorisations to be incorporated. 5. Ofcom to require telecommunications networks and providers to develop and maintain a PSR to ensure customers in vulnerable circumstances can be best supported during service outages or disruptions and to enable inclusive, accessible and vulnerability-appropriate methods of communication and billing with customers. 6. Companies should continue to work towards a centralised UK PSR and UK PSR website to improve PSR visibility, accessibility and consistency for customers as well as facilitating data-sharing to identify vulnerability, mitigate risk of detriment and provide support between relevant companies and partners.
Beyond the PSR	1. Better support, or support for the first time, regularly overlooked and/or less well understood demographic groups (including: those that may be classified as newly vulnerable; those with cognitive and sensory impairments; those who are digitally excluded; those with physical and mental health conditions; those reliant on medical equipment; carers; refugees; Gypsy, Roma, Traveller and Nomadic communities, those with no or limited English language skills, older people; off-gas households; private rented sector households; future/recent bill payers; and children and young people. 2. Engage in strategic, long-term, GDPR-compliant data-sharing relationships with internal teams and external partners to coordinate and target support and information provision to customers. 3. Use PSR data together with other internal data sources and external data provided by partners through data-sharing relationships to identify early indications of affordability problems for customers. 4. Enable customers to self-identify as requiring support (and self-refer) through education and awareness raising campaigns and strategies (including multiple methods of communication and relevant specialist and/or place-based partnerships to reach target groups) 5. Provide comprehensive and regular vulnerability training to customer service professionals and call centre staff to enable them to better understand vulnerability, identify vulnerability flags and potential support requirements when conversing with customers. Ensure staff simultaneously have access to appropriate mental health and wellbeing support. 6. Make use of British Standards Institute ISO standards and accompanying Kitemark for inclusive service provisions to encourage consistency

7. Conduct regular stakeholder mapping and engage in long-term key strategic and place-based partnerships to enable identification and support of customers in vulnerable circumstances. Including with organisations such as local authorities, universities and research institutions, local and national policymakers, customer and consumer groups, housing associations, community groups, third sector organisations, fire and rescue services, health and social care, schools and educational institutions, policing services, landlord associations.

8. Facilitate and enhance cross-sector working by participating in arenas such as social issues expert groups, future fairness panels, local vulnerability forums, local resilience forums, customer engagement challenge groups.

9. Take a ‘making every contact count’ approach to foster effective partnership working and link customers with key services.

Guideline 6: Personal safety

Personal safety during a service outage	1. Engage in long-term, strategic and GDPR-compliant data-sharing relationships with all relevant internal teams and external partners to identify vulnerable customers and coordinate appropriate support provision. 2. Ensure effective vulnerability data-sharing and service update relationships are in place with telecommunications networks and providers, particularly important in light of the UK transition from analogue to digital landlines from 2025. 3. Work with telecommunications companies to ensure customers on the PSR are aware of and have access to the alternative emergency communication method that should be provided to them by their telecommunications provider in case of a digital service outage. 4. Provide regular service updates communications in multiple formats to customers (directly by utility companies and via relevant trusted partners) before, during and after the service outage/ disruption. 5. Provide welfare and support communications in multiple formats to customers (directly by utility companies and via relevant trusted partners) before, during and after the service outage/disruption. 6. Offer alternative goods/equipment/accommodation, including emergency survival/care packages, as appropriate to the customer/community in question (directly and via relevant trusted partners). 7. Have automatic and voluntary enhanced financial compensation procedures in place. 8. Offer home welfare and support visits where appropriate to the customer (directly or through relevant partners) before, during and after the service outage/disruption. 9. Provide support for customers to quickly access emergency repairs/replacements. 10. Ensure all steps are taken to identify customers who face disproportionate risk of detriment as a result of a service outage prior to and during an event and have in place procedures to ensure they do not go without the support they require. 11. Ensure that during an outage, support and communications are targeted towards vulnerable customers at risk of suffering disproportionate detriment or harm due to their personal circumstances, for example, where there is a risk to health or dependency on medical equipment. 12. Undertake further research to understand why some forms of support are not taken up during an emergency and identify partnership pathways for strengthening, supporting and reinforcing existing informal community support mechanisms. 13. Severe weather and service outage events should see support provided which is varied, wide-ranging, adaptable to individuals' and community needs on a case-by-case basis.

A safe and just transition to net zero	1. Take a 'fabric first' approach to energy efficiency improvements. 2. Take steps to identify and address practical and cost-related barriers to households in vulnerable circumstances being able to equally and safely access, install and use alternative heating and renewable technologies. 3. Take household situation, circumstances and capabilities into account when identifying low-carbon technologies/solutions for a property. 4. Take steps to understand how different customers facing different kinds of vulnerability might encounter safety issues and develop tailored plans and approaches to help them. 5. Training contractors, installers and engineers to identify and respond to customer vulnerability (and make appropriate referrals for onward support). 6. Training contractors, installers and engineers in low-carbon technologies and appropriate installation requirements and methods. 7. Monitoring and enforcement of approved low-carbon technology installation standards 8. Provide or partner with services that can encourage and enable customer safety via the provision of appropriate personal and/or financial support and/or new physical measures as well as repairs/ replacements. 9. Include customers in service/technology design and development to improve accessibility and appropriateness to different characteristics and circumstances. 10. Work to ensure new technologies and services fall within the remit of independent and approved regulators with enforcement and monitoring powers. 11. Provide training and education to partners around decarbonisation to enable them to support vulnerable households during the transition. 12. Link with partners who can help raise awareness, educate and enable safety e.g. fire and rescue services. 13. Commit funding to repair/replace unsafe appliances for customers or work with and fund the services that can do so. 14.Design communications strategies and resources and engage in partnerships that can help raise awareness and build customer and support intermediary knowledge around net zero, low-carbon transition and future energy systems in a meaningful and accessible way, to enable them to engage and make informed decisions appropriate to them, their individual needs and their circumstances.

Appendix A: Existing vulnerability commitments and principles of good practice for utilities

There are a number of utility-related strategic policies and guidance documents currently available which set out the expectations placed upon utility companies in terms of vulnerability commitments, as well as outlining principles of good practice and specific licence conditions. The following tables detail the guidance and conditions for suppliers as set by the utility regulators.

Communications		
Ofgem (Licence conditions)	**Ofwat (Principles of good practice)**	**Ofcom (Vulnerability guidance)**
Emphasis on providing accessible information on how to contact suppliers/ transporters/distributors, how to contact Citizens Advice customer service, consumer rights, accessing assistance and how to report a gas leak/dangerous fault	Contact with customers should be proactive and use clear, accessible, tailored and flexible communications	Publish policies on treating customers fairly which are accurate, kept updated, easy to understand, easy to find and clearly signposted with information provided in different formats and through multiple communication channels Provide a range of methods through which customers can inform/update about vulnerability/needs Offer a wide range of communication channels to all customers and take into account preferred customer communication channels and ensure communications are clear and accessible, and easy to navigate Make customer interactions with frontline staff and customer service advisors a positive experience

Identifying vulnerability

Ofgem	Ofwat	Ofcom
Maintaining and establishing a Priority Services Register (PSR) for domestic customers, free of charge	Companies should build understandings of vulnerability triggers and build them into wider, flexible understandings of vulnerability	Inclusive and broad definitions and understandings of vulnerability that recognise diverse experiences, multiplicity and transience
Active promotion of the PSR and steps to proactively identify customers in vulnerable situations	Companies should find innovative solutions to overcome barriers to customer self-identifying as vulnerability	Identify vulnerable customers by raising awareness of support and help available and ask all customers whether they have specific access or customer service needs
Use of internally held company data to identify customers who may need additional or tailored support	Foster a culture of excellent customer care	Train employees on identifying vulnerability
Use of extra care teams	Staff training to use appropriate and sensitive judgement to make referrals	Record customer needs in line with data protection procedures and keep records up to date
Staff training to recognise vulnerability	Companies should make use of appropriate data sharing with relevant stakeholders and partners	
Making extra effort to identify and meet the needs of vulnerable consumers in relation to gas safety and gas safety checks		

Responding to vulnerability		
Ofgem	**Ofwat**	**Ofcom**
Not disconnecting vulnerable customers during the winter or anyone for whom all reasonable steps to recover debt via a PPM have not been made	Collaborate and partner with other utilities and third-party organisations to identify and assist customers in vulnerable circumstances	Proactive senior level engagement Be responsive and sensitive to vulnerable circumstances
Providing information to customers before installing a PPM and take steps to ensure a PPM is safe and practicable for the customer	Company leadership should have an understanding of all customer needs and reflect those in corporate strategies and company culture	Actively promote full range of extra help, support and services available to customers
Meeting social obligations reporting requirements on number of domestic customers in debt, disconnections carried out and the number of domestic customers on the PSR	Companies should be agile and proactive in scanning the horizon, responding to policy changes, conducting impact assessments and being responsive to customer needs	Signpost customers to other appropriate support agencies and build links and relationships with those stakeholders
Compliance with the Smart Meter Installation Code of Practice (SMICoP)	Companies should analyse potential impacts of external factors in responding to customers' changing needs	Help and cooperate with third parties (e.g., relatives or carers) who support vulnerable customers
GDNs must provide fuel poor households with a gas grid connection (where a gas connection is considered to be most appropriate means of assistance) under the Fuel Poor Network Extension Scheme		Use customer feedback to improve services going forward

Affordability		
Ofgem	**Ofwat**	**Ofcom**
Adherence to 'Ability to Pay' principles	Appropriate affordability support should be provided	Act fairly in the face of problem debt and wherever possible prevent customers from being disconnected
Offering wide range of payment methods, including cash and PPMs	Introduction of a social tariff or debt write-off scheme (which is well-targeted and well-administered) should be considered	Make social tariffs available to low-income customers
Ascertaining and taking into account a customer's ability to pay when calculating payment instalments	Tailored and flexible payment options	
Providing customers experiencing affordability issues with energy efficiency information		
Complying with rules to protect customers having PPMs force-fitted under warrant for debt recovery purposes and a prohibition on warrant changes (installations are banned entirely for the most vulnerable customers, and there is a cap of £150 for warrant costs relating to PPM force-fitting for debt recovery)		

Another useful resource to note is Energy UK's Vulnerability Commitment which requires signatory suppliers to adhere to three principles.[75] These are accessibility (communications and access to supply), collaboration, and innovation.

In terms of the accessibility of communications, signatory suppliers are required to make it as easy as possible for customers in vulnerable circumstances to access suitable additional support and to share relevant information. This includes providing a customer service phoneline that does not incur premium rate charges and providing a free phone number for customers in financial hardship; providing at least one other type of communication option as well as a phone communication; enable all customers to receive paper billing communications where appropriate to them; implement improvements to billing communications based on customer feedback.

With regards to accessibility of supply, signatory suppliers are required to never knowingly disconnect a vulnerable customer at any time of year; only use High Court Enforcement Officers for debt recovery where appropriate for a vulnerable customer and take into account how such action may exacerbate vulnerabilities; provide a package of support for customers who are switched to a PPM for debt reasons and ensure they are able to able to continue to access their energy supply immediately after a switch; take reasonable steps to alert PPM to standing charge build up risks.

When it comes to collaboration, suppliers commit to work in partnership with customers, consumer groups and experts to improve outcomes for customers in vulnerable circumstances. This includes having strategic and practical plans for signposting and referring customers to third-party support; sharing learnings and best practice; raising awareness of the support that vulnerable customers can access from their energy suppliers.

Finally, in terms of innovation, signatory suppliers are expected to go beyond minimum licence requirements to provide support to vulnerable customers; invest in improving support for vulnerable customers and show how services and innovation are informed by an understanding of vulnerability characteristics within the customer base.

End notes

[1] Consumer Vulnerability Strategy 2025 | Ofgem

[2] Vulnerability focus report - Ofwat

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[5] Butler, D. and Sherriff, G. (2017) 'It's normal to have damp': Using a qualitative psychological approach to analyse the lived experience of energy vulnerability among young adult households. In Indoor and Built Environment Vol.26(7):964-979

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