Exploring Rural Vulnerability from a Public Utilities' Perspective

Final Report

by

Fred Dunwoodie Stirton and Janet Dwyer,
Countryside and Community Research Institute,
and
Brian Wilson, Rural England CIC

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1 Glossary

Fuel Poverty	When a person or a household is left with a remaining income below the official poverty line after heating their home to the required amount. Household income, household energy requirements and fuel prices all play a significant role in determining fuel poverty (BEIS, 2021).
Priority Services Register (PSR)	A database which utility network operators are legally required to keep. It contains names and contact details of customers who may require additional support and are the highest priority to receive support during a disruption. Households listed on the PSR have someone who meets at least one of these basic criteria, defined by Ofgem (2021) as: • have reached your state pension age • are disabled or have a long-term medical condition • are recovering from an injury • have a hearing or sight condition • have a mental health condition • are pregnant or have children under 5 • have extra communication needs (such as if you don't speak or read English well). Ofgem also states that there are other situations where you will likely be able to register, such as 'if you need short-term support after a stay in hospital' (Ofgem, 2021).
Rural	Settlements with a resident population less than 10,000 are defined as rural. On that basis, rural settlements include small towns, villages, hamlets and isolated dwellings (ONS, 2020a).
Rurality	The level at which something is considered rural. A higher level of rurality implies that the situation is further away from an urban categorisation.
Vulnerability	Vulnerability for this study is considered in relation to public utilities. Someone is considered vulnerable in this context if they require additional support in the event of a stoppage to one or more public utility. Vulnerability is also evident if someone has difficulties accessing public utilities in day-to-day life - for example, due to communication difficulties or financial restrictions.

2 Introduction

The utilities sector has a duty to support its customers in potentially vulnerable situations, especially where they are (temporarily) left without electricity, gas or water due to a fault at the home or in the supply network. Customers who meet the eligibility criteria (see Glossary) can sign up to their utility supplier's or network operator's Priority Services Register (PSR), giving them access to extra help and support. Eligibility criteria for the PSR include older age, disability, long term medical conditions and hearing or visual impairment. Electricity and water utility companies maintain their own PSR[1], although efforts have been made to share information so that PSR lists are complete and coherent and customers do not need to sign up multiple times with different providers.

Among the support available to households listed on the PSRs, there are common, core aspects:

- Advance notice for any planned stoppage to supply, both alerting the household and providing an opportunity for them to raise specific concerns or needs, at that point.
- During a stoppage, providing alternative heating and cooking facilities, deliveries of bottled water, and additional support for people reliant on electrical medical equipment or aids as required (depending on individual circumstances).
- Outside of a utility disruption, specific communication assistance, such as providing accessible information to those with specific needs, and inviting them to nominate a family member or friend as a point of contact.

Rural circumstances can impact on the experience of vulnerability. Isolation may be a particular issue for some rural customers, and rural homes are often older and more costly to heat and/or insulate than their urban comparators (Clarke and Monk, 2012; UK Parliament, 2013). There can be particular challenges in getting repair services and providing information to those who live in outlying rural settlements; not least informing people about the existence of the PSR itself, as something that might benefit them. Looking ahead, for rural inhabitants to reach net zero in line with government decarbonisation targets poses particular rural vulnerability challenges.

Five utility companies – Cadent, GEUK, Southern Water, Wales & West Utilities, and Western Power Distribution – came together with Defra (the Department for Environment, Food and Rural Affairs) to co-sponsor this study to explore the particular rural dimension to vulnerability, as experienced by customers. The study was undertaken by a small team of researchers at the Countryside and Community Research Institute (CCRI) and Rural England CIC.

[1] Gas distribution companies do not maintain separate PSRs but can access electricity companies' and energy suppliers' PSR information.

3 Research Objectives and Approach

The overall aim of this study was to understand better the lived experience of a range of customers in vulnerable situations who live in rural areas of England; to assess the importance of rurality as a factor compounding vulnerability, and to consider in the light of these factors, whether more or better-designed PSR support could be provided. In addition, the following more detailed objectives were agreed with sponsors:

1. To identify the common issues that are faced by vulnerable rural customers and their carers;
2. To explore whether issues vary in a consistent way between different types of rural customer, or by different types of rural area;
3. To explore how far those common issues for vulnerable rural customers arise because of rurality;
4. To see whether the issues identified have different implications for electricity, gas and water companies and to make utility-specific suggestions to enhance rural vulnerability support by the Utilities.

A case study approach was used to sample and understand rural utility customers' experiences, in each case combining desk-based assessment of the nature of rural settlements and their utility provision with the direct experiences of utility customers gathered from a small sample of those with particular vulnerability issues. **Five case study areas were selected to illustrate contrasting types and geographies of rural settlement, and to ensure a geographical coverage that broadly represented the areas served by the sponsoring utility companies** – i.e. from the West Midlands across central England and into the South-west and South-east. Lower layer super output areas aligned to local authority district boundaries were used to specify case study area boundaries.

Four of the case study areas: Thrapston (Northamptonshire), Pershore (Worcestershire), Bridgnorth (Shropshire) and Minehead (West Somerset) were coincident with communities selected in an associated, larger study: *Rural England: Local Perspectives on Community and Economy*, which is funded by Defra and from which relevant additional material was sourced, to help inform contextual understanding. These locations had been chosen to represent a diverse cross-section of the rural population in southern and central England, as part of the Defra study (for which a further 4 case study communities were also chosen in northern England).[2] For this assessment of rural vulnerabilities, a fifth southern England case study area (Storrington, in West Sussex) was chosen so as to ensure that there was a case study in every area covered by the study sponsors.

The research was conducted in the following stages, over a ten-month period.

1. Desk-based research to review existing evidence on vulnerability, disadvantage and rurality; at the national level and then in respect of each of the 5 case study areas, using data available from various published sources;
2. Scoping and design of the survey work in each community, drawing from the findings of stage 1;
3. Conduct of 2 surveys in each community – selected utility customer interviews, and local voluntary, community, and statutory support agency interviews;

[2] For more information on this project visit http://www.ccri.ac.uk/localperspectives/

4. Analysis of the individual and combined findings from steps 1 to 3, discussion and refinement with research sponsors, and reporting.

Stages 1 and 2 were completed by March 2021, stages 3 and 4 by mid-September 2021.

Because of the sensitive and particularly personal nature of vulnerability and rurality as experienced by individuals and households, the study used a combination of data collection from two target groups in the 5 case study communities. This offered a 'deep dive' approach which is important for understanding how vulnerability is experienced and its practical implications.

- In each selected area, a series of interviews (online and telephone) and surveys (online and postal) was conducted with **rural customers listed on the Priority Services Register (PSR)** of the relevant utility providers. A mixture of data collection methods was employed to ensure accessibility and reduce barriers to participation. Whilst it is accepted that not all vulnerable people will be in households that have signed up to the PSR, fieldwork was conducted with those on this database in order to ensure an approach which allowed for properly informed prior consent, and which could be directly related to the specific utilities concerned.[3] In selecting those customers who were invited to take part in the research, samples were drawn from a range of different locations within each case study area so as to include people living in more and less remote rural situations, including isolated dwellings, small hamlets, villages and towns.

- A series of interviews (telephone and online) was also undertaken with representatives of relevant **local support services** in each area. These services were identified through web-searches and available literature (e.g. village newsletters, the local press and radio, and community social media sites) as key 'gatekeepers' in the voluntary, community and social enterprise (VCSE) and public sectors. These interviewees principally consisted of people in local groups such as food banks, churches and local government officers dealing with community well-being and housing or social service provision.

More detail on the stages of the study is given below.

Stage 1: Review of Existing Evidence

Desk-based analysis of existing evidence on the subject area was undertaken at a national and case study level. This established a sound base from which comparisons could be made. Relevant national databases and previous research undertaken on the topic were analysed for this purpose.

Stage 2: Scoping

The research group worked together with the sponsors to scope out in detail the points of definition or topic area to be explored in utility customer interviews. A formal framework for data collection was agreed using the PSR databases held by the utility providers, ensuring alignment with data protection legislation. An interview schedule

[3] Three utility customers participated in the research who were not identified via the PSR list. They were identified by another means by one of the sponsoring providers as potentially vulnerable, and therefore invited to participate. Due to data protection regulations, it was not possible to ascertain if they were also on the PSR. For simplicity this group will still be referred to as 'PSR customers' in this report.

was developed and agreed and a target set for 10 completed interviews/surveys in each case study area (meaning 50 in-depth interviews in total). The agreed topic areas were:

- Household composition
- Utility supply, fuel and water needs and their relation to housing and locational factors
- Ability to cope during utility stoppages and experience of these, if relevant, exploring perceptions and concerns
- PSR knowledge, communication and support
- Future perspectives, environment/locational factors and considerations about the path to a lower carbon / more fuel-efficient future

A copy of the full interview schedule is available at Annex 1.

Stage 3: Data Collection

Postcodes of all households on the PSR in each case study community were analysed and coded as 'deep rural', 'intermediate' or 'market town'. Potential participants were selected from each category, to increase the diversity of rural experiences covered. Where possible, the utility providers also tried to use customers' particular types of vulnerability (represented as a set of standard codes, in their database) to help select a representative sample of contrasting types, however this proved difficult due to the low numbers involved. All those individuals who agreed to participate in the research were then contacted by a researcher from CCRI and asked to take part in a semi-structured interview by phone or video link, or complete a postal or online survey, as they preferred. The interviews were structured along the same themes as the surveys, with key questions asked to every participant, to ensure consistency. However, freedom was given in the interview process to elicit their own particular stories, narratives and nuances, as is necessary for more fully capturing and understanding lived experiences.

Key informant or gatekeeper interviews were held with VCSE and public sector organisations in the five case study areas. For the four areas in the Defra-sponsored *Local Perspectives* project, specific questions within a longer interview asked these interviewees about rural vulnerability and public utilities issues, in particular. In Storrington, which was not part of the *Local Perspectives* project, shorter interviews were undertaken focused upon this topic alone. Interviews were conducted by phone or video link.

Table 1 - Participant numbers, both surveys

	Bridgnorth	Minehead	Pershore	Storrington	Thrapston	Total
PSR customer interviews and surveys	7	11	10	9	8	45
VCSE and **public sector** interviews	15	15	10	4	12	56

Over the period February to July 2021 inclusive, data from a total of 45 PSR customers and 56 VCSE and public sector organisations was collected. The customer interview recruitment process was particularly challenging as a result of PSR data protection requirements, which meant that potential respondents had to engage consecutively with their utility provider and then with the research team, to agree to participate. Thus, at the end of July, researchers and sponsors agreed to finish data collection on the basis that the samples presented a good distribution of respondents across the different types and locations of rural

communities, and that further effort in order to meet the original target of 10 households per community was not warranted.

Stage 4: Analysis

The secondary desk-based analysis was used to contextualise the primary data gathered from interviews and surveys; in particular, when looking for patterns in responses according to the particular situations in each community and by degrees of rurality, accessibility or relative prosperity. All interview notes or transcripts and survey responses were coded and analysed iteratively, to generate and interrogate specific themes emerging from the analysis, combining and contrasting the results across communities and specific personal situations.

4 Findings Part One: Review of Existing Evidence

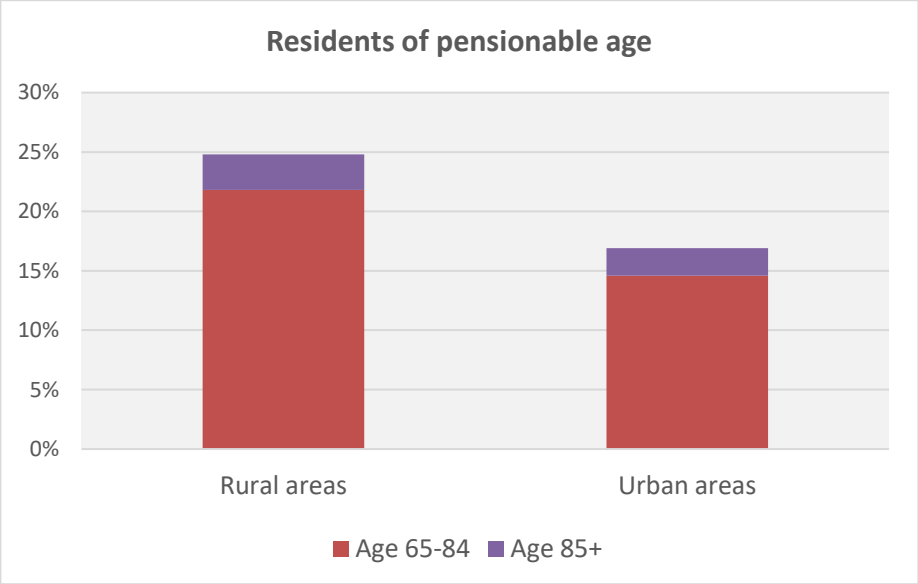
To contextualise rural vulnerability in relation to public utilities, existing evidence was analysed in three steps:

1. Exploring existing quantitative data on rural vulnerability in national datasets. Groups characterised as potentially vulnerable according to the criteria of the Priority Services Register were explored in a rural context, including additional issues associated with vulnerability where relevant data existed
2. Profiling the case study areas, including analysis of socio-demographic trends
3. Evaluating existing evidence from prior studies commissioned by utility providers on vulnerability issues.

4.1 The National Context for Rural Vulnerability

National data suggests that residents in rural England tend to be older, with fewer very young children, with similar levels of overall health and welfare compared to residents in urban areas, but with higher levels of those factors of vulnerability that are particularly associated with age, isolation and basic service infrastructure (e.g. transport, communications).

Figure 1 - Pensionable age



Source: Office for National Statistics (2020a), population estimates for 2019

The age profile of rural England is noticeably older than that of urban areas (ONS, 2020a):

- 25% of resident population in rural England was of pensionable age (65 and over, 17% in urban areas);
- 3% of resident population in rural England was aged 85 or over (just over 2%, in urban areas).

In 2019, a smaller proportion of children were under the age of 5 in the rural population (ONS, 2020a):

- Slightly less than 5% of the resident population in rural England was aged 0 to 4.
- Just over 6% of the resident population in urban England was aged 0 to 4.

Disability, long-term health problem and sight loss

A measure of residents in rural England with a limiting long-term health problem or a disability is only available in 2011 census data (ONS, 2013), which shows little difference between rural and urban populations. In both populations, approximately 18% of residents had a limiting

long-term health problem or disability. In terms of those whose health problem or disability limited their day-to-day activities a lot, the figure was slightly higher than 8% for those living in urban areas and slightly lower than 8% in rural areas.

The Royal National Institute for the Blind (RNIB) gathers data at a local authority level about sight loss. Figures for 2020 show that the proportion of people living with sight loss is relatively high in predominantly rural areas, probably reflecting the older age profile:

- 4.0% of people (some 490,000) living in predominantly rural areas have sight loss.
- 2.9% of people living in predominantly urban areas have sight loss.

To illustrate by the upper and lower extremes of the range: sight loss is four times as prevalent in North Norfolk (affecting 5.5% of the population) as in Tower Hamlets (affecting 1.4% of the population) (RNIB, 2020).

Mental ill health

There is limited data available for mental ill-health in rural areas. Relevant findings from Rural England (Wilson, 2017) are:

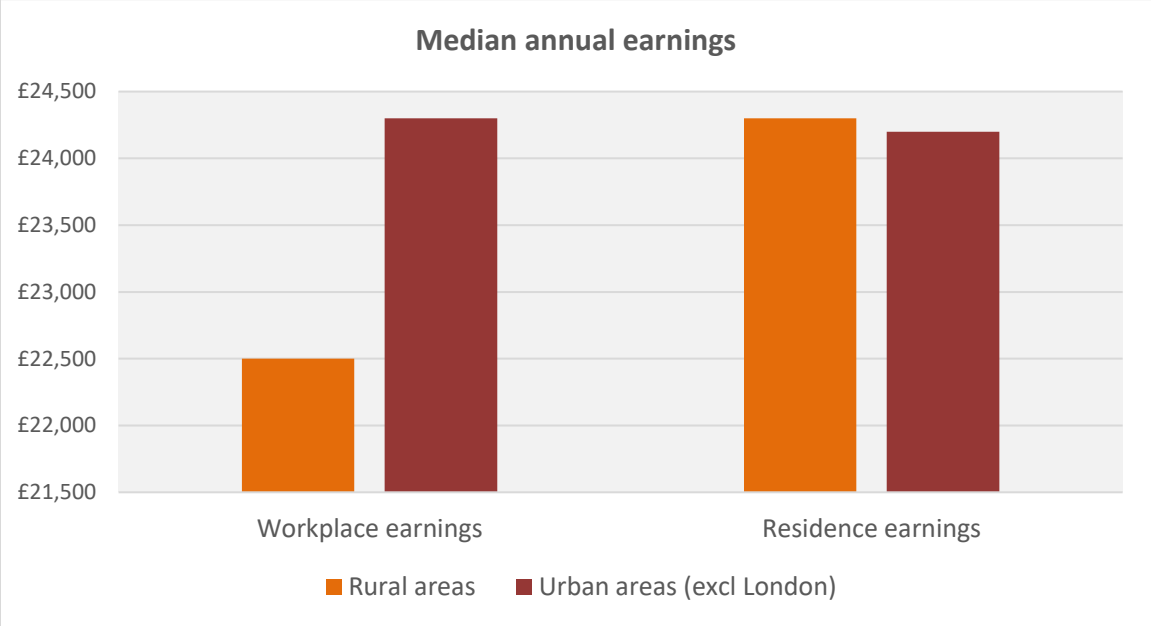
- Overall, prevalence of mental ill-health is lower in rural areas than in urban areas.
- Within rural areas, the prevalence of mental ill-health is higher in the most sparsely populated rural areas.
- There are specific concerns about mental ill-health where it occurs in farming communities. Farmers often fail to seek help and have the highest suicide rate of any occupational group.
- Previous research identified factors suggesting mental ill-health may be under-reported in rural areas, including the stigma attached to it in small communities, and a relative lack of access to mental health services.
- Rural areas have relatively few mental health professionals and fewer of all types of services including early intervention teams, crisis teams, assertive outreach, day care and psychotherapy.

Wage levels

Median wage levels for jobs located within rural areas are lower than those in urban areas. However, if wages are counted at the place of residence of the worker (rather than their place of work), the difference disappears (see **Figure 2**). This indicates that some rural residents commute to better-paid jobs in urban areas. Using the place of work measure, we can say that (ONS, 2019a):

- The median annual wage in rural England in 2019 was £22,500.
- The median annual wage in urban England excluding London was £24,300, and in London £36,800.

Figure 2 - Median annual earnings



Source: Annual Survey of House and Earnings, (ONS, 2019a)

Cost of living and fuel poverty

The cost of living is complex to interpret from available data since the level of household expenditure may reflect disposable income as much as cost of living. The 2018 ONS Living Costs and Food Survey shows (ONS, 2019b):

- Rural households spent on average £547 per week (excluding any mortgage payments).
- The four categories of largest expenditure for rural households were transport, recreation, housing/water/fuel, and food and drink.
- For rural (unlike urban) households, transport represented the largest category of expenditure, accounting for 12.5% of disposable income.
- Housing/water/fuels was the third largest category of expenditure for rural households, accounting for 8.5% of their disposable income.

In the latest available data for households from 2018, 12% of rural compared to 10% of urban households were categorised as being in fuel poverty (BEIS, 2020a). The average fuel poverty gap is £690 in rural areas, more than double the national average of £334 for fuel poor households.[4] This is likely a reflection of higher utility bills.

Access to services

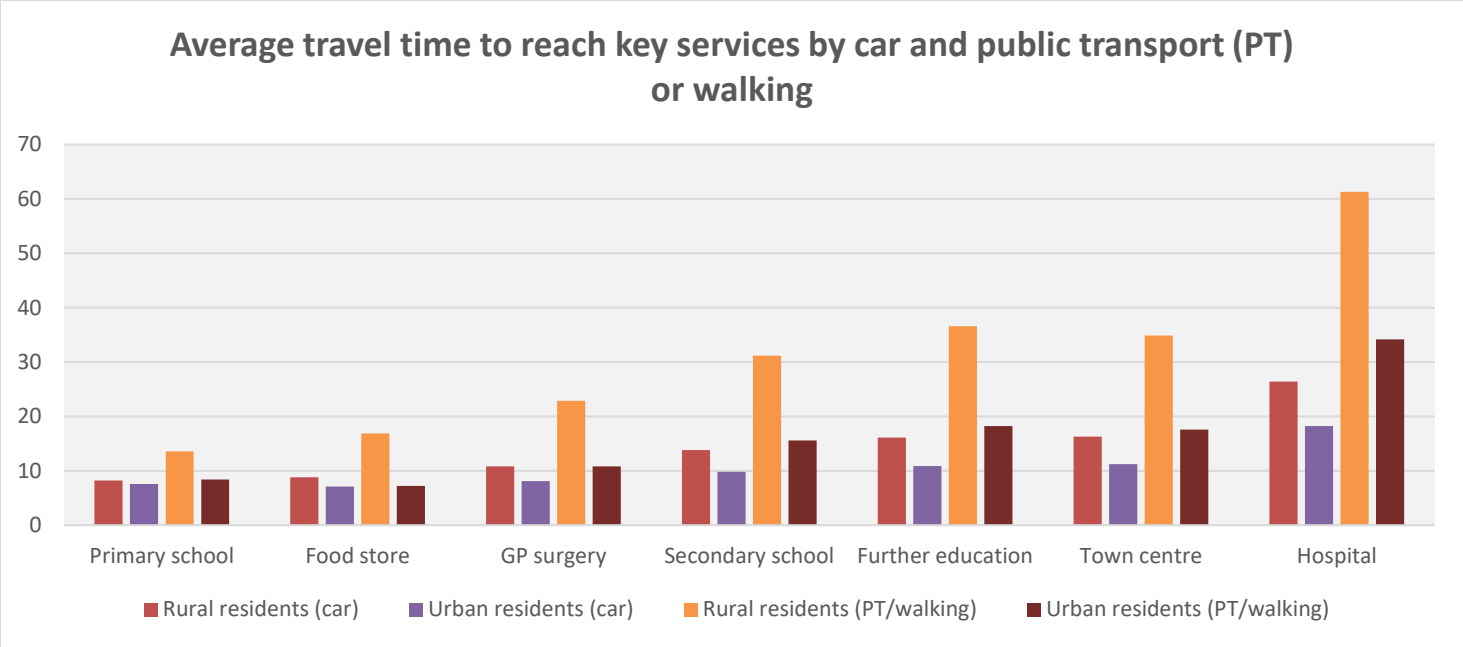
Rural residents need to travel further to reach key services than their urban counterparts (Figure 3):

- Rural residents spend more time travelling to reach all services measured, by either car, public transport or walking.
- The rural-urban difference in travel time is less for local services (e.g. food shops, primary schools) and more for higher-tier services (e.g. further education, town centres, hospitals).

[4] The fuel poverty gap is the reduction in a fuel bill that the average fuel poor household needs in order to not be classed as fuel poor

- The rural-urban difference is much greater for travel by public transport or walking than by car; also, the chart doesn't cover frequency - public transport services are typically less frequent in rural areas, which is an additional barrier.

Figure 3 - Accessibility of services by car, public transport and walking



Source: National Travel Survey (Department for Transport, 2018)

Digital connectivity

Digital connectivity - both fixed broadband and mobile networks - remains an issue for some rural users, especially in smaller settlements or outlying locations. ONS data for Great Britain from 2019 (ONS, 2020) show 10% of rural households could not access the internet, compared to 7% of urban households.

4.2 Profile of Case Study Areas

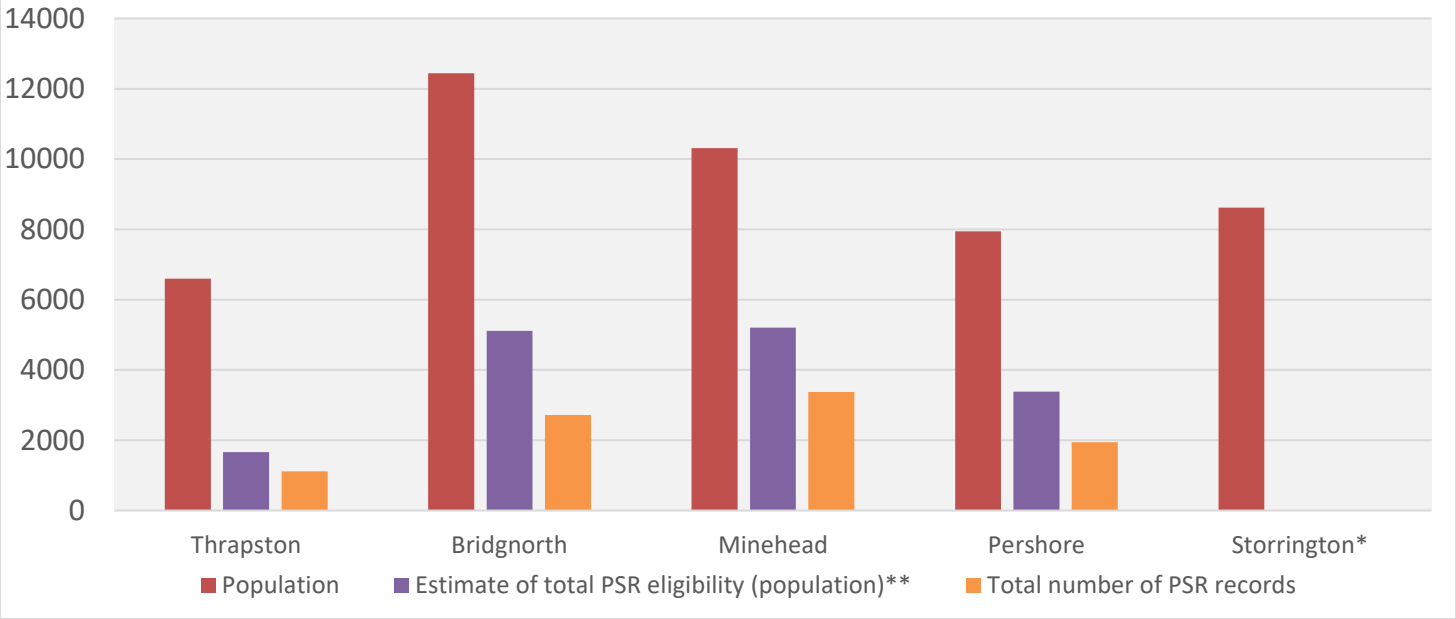
The case study areas were selected to offer different perspectives due to their geography or sociodemographic make up. Analysis of the data shows contrasting age and health profiles, small differences in indicators of deprivation, and evidence of uneven access to services. This data indicates that our surveys should be capturing a wide range of rural situations across southern and central England.

Figure 4 - Case Study Areas

Case study populations and numbers in Priority Services Register (PSR)

While not a complete measure of potential vulnerability, the estimate of total PSR eligibility and total number of PSR records are useful proxies. The gap between estimated eligibility and number of records in Figure 5, implies a substantial number of potentially vulnerable people are missing out on support offered through the PSR. Seen as a percentage of the total population estimated as eligible for PSR, Minehead with 50% is double the percentage for Thrapston (25%), at the lowest end. A key factor in this, is the number of people of pensionable age (Figure 6).

Figure 5 - Populations and PSR Numbers

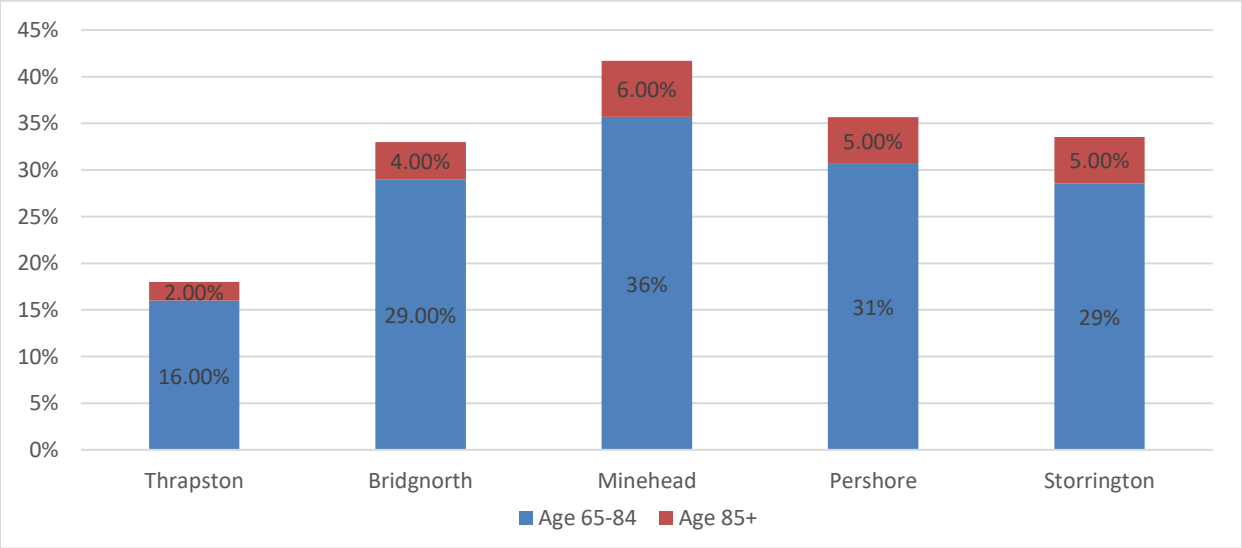


Source: Study team using data from ONS (2021a), Western Power Distribution (2019, and Cadent (2020).
*There is no PSR data for Storrington as it is not included in the utility providers' social indicator datasets
**Utility providers make an estimate of people eligible for PSR using available data on numbers of people who are known to have at least one PSR characteristic e.g. pensionable age, within a given area

Pensionable age population

Minehead gained notoriety for having the 'oldest population in England' (Moss, 2017). Seen in Figure 6, Minehead (42%), Pershore (36%) and Bridgnorth (33%) are above the national average for rural areas (25%) for residents over 65 years old. Thrapston (18%) is more aligned with the urban average (17%) for residents over 65 years old.

Figure 6 - Residents of Pensionable Age



Source: Study team using data from Western Power Distribution (2017), and Cadent (2020).

Health and Disability

Table 2 outlines key health indicator data from 2019 for the surrounding region of each case study. While not available at a more localised level and therefore of limited accuracy, it is useful for general comparison between the regions and against the national average. Worcester district (Pershore) is the worst performing, with a lower life expectancy at birth for both males and females as well as a higher mortality rate under 75 from all causes. Of the five case studies, Horsham district (Storrington) performs the best on all indicators.

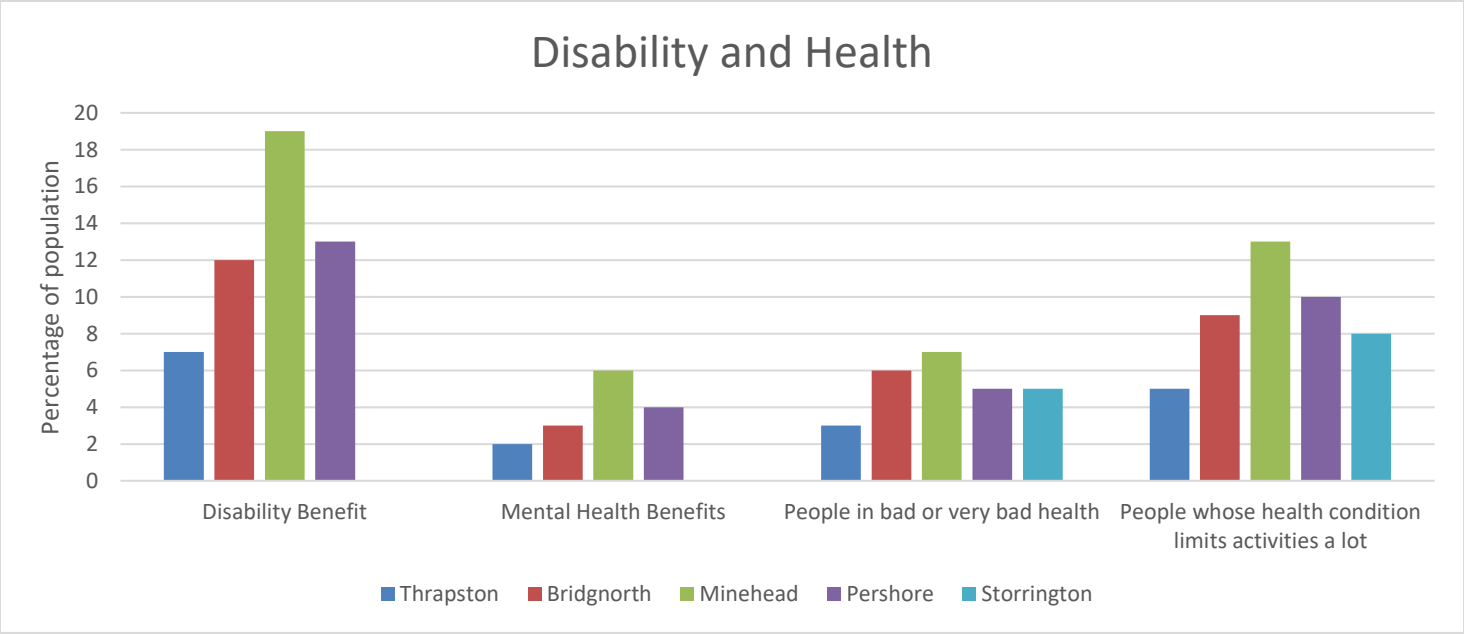
Table 2 – Life expectancy in years and under 75 mortality rates per 100,000 persons, 2019

Criterion	Shropshire (Bridgnorth)	Somerset and West Taunton (Minehead)	Worcester (Pershore)	Horsham (Storrington)	East Northamptonshire (Thrapston)	England
Life expectancy at birth (Male)	80.6	80.2	79.1	82.5	80.6	79.8
Life expectancy at birth (Female)	83.6	84.2	83.2	85.3	83.6	83.4
Under 75 mortality rates, all causes	293	291	336	223	291	326

Source: Study team using data from Public Health England, 2020

Compared to England:[5] Better (95% confidence interval) - Similar - Worse (95% confidence interval)

Figure 7 - Indicators for levels of disability, mental ill health and poor physical health



Source: Study team using data from Western Power Distribution (2017) and Cadent (2020).

[5] Benchmarking method: Confidence intervals overlapping reference value (95.0). Dobson & Byar's method is used for calculating confidence intervals for directly standardised rates. See https://fingertips.phe.org.uk/profile/mortality-profile/data#page/6/gid/1938133009/pat/6/par/E12000001/ati/102/are/E06000047/iid/108/age/163/sex/4/cat/-1/ctp/-1/cid/4/tbm/1/page-options/car-ao-0_car-do-0 for more details

In respect of the share of people whose health limits activity a lot, as seen in Figure 7, Storrington is in line with the national rural average outlined in the previous section. Apart from Thrapston, which is considerably lower (i.e. with a higher level of health), the other case study areas have higher levels of poor health than the average. What can be inferred from the data presented in Figure 7 is that relative to the other case study areas, Minehead has the highest percentage of people claiming disability and mental health benefits, people in bad or very bad health, and people whose health condition limits activities a lot. Minehead and the other case study areas follow a pattern that we might expect, given their respective age profiles.

Levels of Deprivation

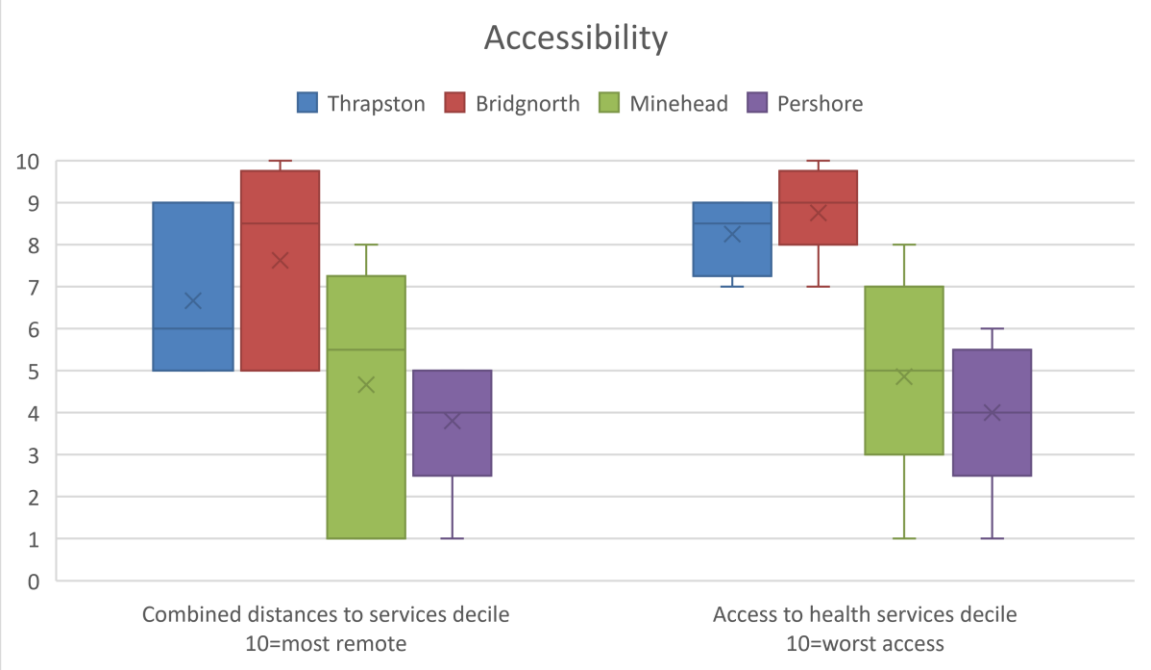
The Index of Multiple Deprivation employs national statistics and Ordnance Survey settlement data to show relative deprivation in small areas in England by category, from the most to the least deprived, on a scale of one (most deprived) to ten (least deprived) (Consumer Data Research Centre, 2019).[6] Bridgnorth and Pershore have the largest ranges among the communities involved in this study from the tenth to the fourth decile. With areas ranging from the seventh to third decile, Minehead appears to have higher levels of deprivation, relative to the other areas on this study. The centre of Thrapston is in the eighth decile while surrounding villages are more deprived, in the sixth. In Storrington, deprivation ranges from fifth to tenth deciles.

Accessibility

As was mentioned in the previous section, people in rural areas on average travel for longer to reach key services than their urban counterparts. This is reflected in scores in combined distance to services, with the mean for Thrapston and Bridgnorth falling in the seventh and eighth decile (**Figure 8**). While Minehead and Pershore are on average closer to services, the range within the areas is large. Of particular interest is Minehead, with people living in the first and others in eighth deciles for access to services. Regarding access to health services, there is a similar trend, with Minehead and Pershore having better access relative to Thrapston and Bridgnorth.

[6] Deprivation is measured at the Lower Super Output Area level. Each case study area is comprised of the following number of LSOAs: Thrapston 3, Bridgnorth 8, Minehead 6, and Storrington 4.

Figure 8 - Decile ratings for Accessibility



Source: Study team using data from Western Power Distribution (2017) and Cadent (2020).

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4.3 Summary of Existing Research on Vulnerable Utility Users

This section provides a brief summary of relevant – though not rural-specific - research undertaken or commissioned by utility providers into vulnerable utility users. Physical health and disability (Mindset Research, 2018; London Sustainability Exchange, 2019), mental health (Mindset Research, 2018; London Sustainability Exchange, 2019) isolation from support networks (Mindset Research, 2018; Cadent, 2019), poverty (Western Power Distribution, 2018; Southern Water 2018), and self-resilience (Cadent, 2019) were all identified as factors in vulnerability. There was an attempt to create a hierarchy of vulnerability in the study for Mindset Research (2018, p.3), with the majority of participants suggesting that 'older people with disabilities or suffering chronic illness are a priority'.

Regarding poverty, and specifically fuel poverty, Western Power Distribution (2018) found that across their customers eligible for the PSR, 10% are also 'fuel-poor'.[7] In interviews in the same study, it was revealed that despite some payments to cover the additional cost of electricity, some NHS patients were using oxygen machines less than they needed, because they couldn't afford the additional cost of electricity.

A unifying feature in the research is a low level of knowledge of the Priority Services Register and the support on offer. It was suggested in the research for Mindset Research (2018 and 2019) and London Sustainability

[7] Western Power Distribution define fuel poverty as 'Circumstances where customers struggle to afford electricity' Western Power Distribution, 2021

Exchange (2019) that more should be done both to promote the PSR to increase numbers registering and raise awareness of the support available for those already on the register.

All studies emphasize the dynamic and heterogeneous nature of vulnerability. Utility users are individuals with different lives, which impact upon their levels of vulnerability and consequently the support they require. The compounding impact of multiple vulnerabilities was evident in focus groups and interviews in the Mindset Research (2018) and London Sustainability Exchange (2019) studies. For example, it was reported that those already with potential high levels of vulnerability such as older people with disabilities or suffering chronic illness would be made even more so if they lived alone and were not near support networks of family or friends (Mindset Research, 2018).

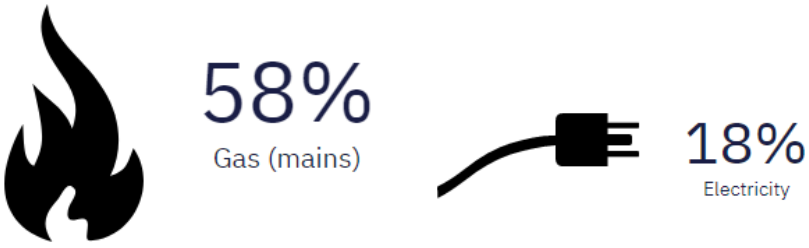
Research by Western Power Distribution (2018) highlighted the shifting nature of vulnerability suggesting someone who would not be considered 'vulnerable' in normal circumstances, can become so during a power outage. Respondents also highlighted that this is interconnected with financial factors such as debt or fuel poverty. This was reflected in research commissioned by Mindset Research (2018), which detailed how respondents thought the anxiety caused by power cuts increased vulnerability and tied into existing issues relating to mental health.

5 Findings Part Two: Interviews and Survey Responses

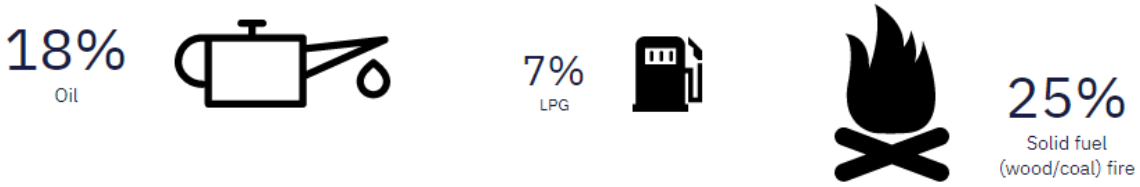
Part two of the findings draws on the analysis of data collected through surveys and interviews in the five case study areas from PSR customers and VCSE and public sector organisations. Building on the findings in part one, it draws out a number of themes, relevant to the research questions. These cover respondents' capacity to cope with disruptions to utilities, factors such as rurality which influence vulnerability, and environmental issues.

5.1 Profile of Respondents and Households

To provide an insight into the utility customers who participated in this study, the following figures offer a portrait of characteristics relevant to the research topic. These are taken from the interviews and surveys of the 45 participants.

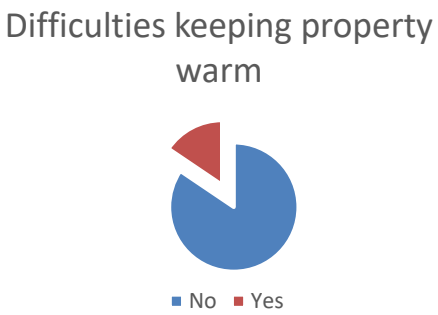


Of the respondents, 16% reported living alone, 66% with just one other, mainly a spouse or caring for a parent and 18% lived with two more, principally children. The most frequently cited source of power used for heating was identified as gas from a mains source with 58% of respondents (26).



There was a diversity of energy sources and types. 25% had either a wood burning stove or coal/solid fuel, considerably higher than the UK average of 7.5% (BEIS, 2016). Two respondents had RV solar panels and one an air source heat pump.

Seven (16%) PSR customers described difficulties keeping their properties warm. This was often due to poor insulation or large properties.



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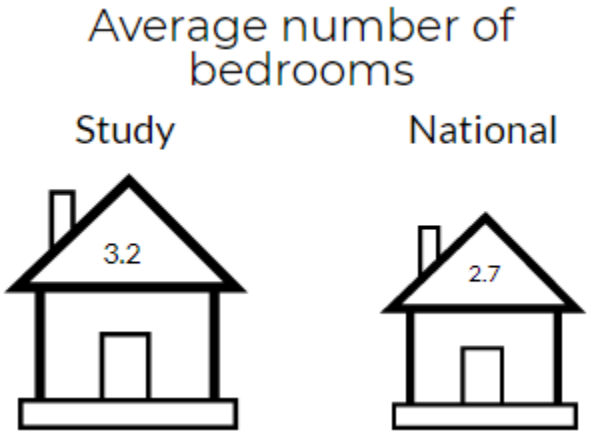
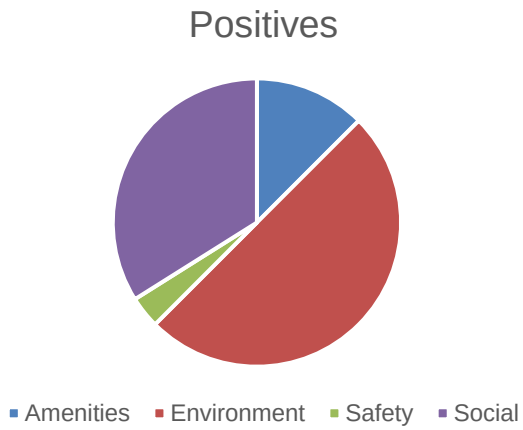
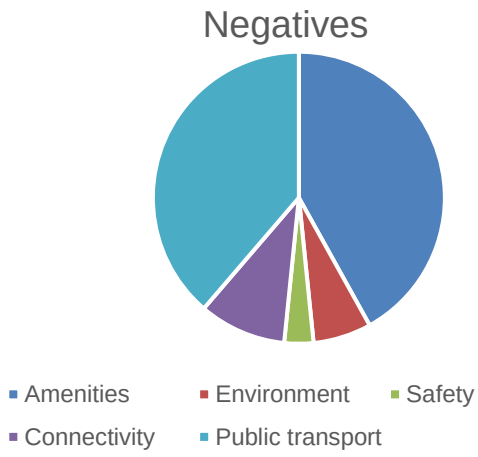


Participants were asked the number of bedrooms in their property, as an indicator of house size. The properties in this study had an average of 3.2 bedrooms, higher than the national average of 2.7 (Local Government Association, 2021).

Participants identified how rural or remote their property was. Eleven or 24% perceived their property to be in a high level of rurality. While, 34 or 76% did not.

To understand what the respondents thought about living in a rural area, they were asked the key positives and negatives of living in a rural setting.





The most common positive was the environment, with 62% being fond of the nature or peaceful setting where they lived. The lack of amenities and inaccessible public transport – 28% and 26% respectively – were the most commonly cited negatives.

5.2 Confidence and Resilience

To ascertain people's relationship with utilities, participants were asked a series of questions relating to a real or hypothetical disruption to their utilities. The majority of those involved in this study did not report feeling vulnerable or overly concerned during actual or hypothetical stoppages to utilities.

There was an indication that certain features of living in a rural area may lead to respondent feelings of confidence and resilience. Some respondents spoke of feeling confident or comforted by having a **primary or secondary source of energy or water** that would be unlikely to be cut off. Using oil, a solid fuel burning stove or off mains water source is something that is more likely in rural properties than their urban equivalents. This is highlighted by an interviewee from Thrapston, who has oil and electricity as energy sources:

> *'You probably understand if you've got two different forms of energy, if one goes down you've always got the other … and living where we do that is quite important.'*

The feeling of comfort and support this may give was further emphasised by another interviewee in Storrington:

> *'I wouldn't be overly concerned about it. I mean, we've got heat with the log burner. I can live without the TV and the internet. So, no, I mean, it wouldn't really worry me to be honest. In fact, it might almost be quite nice, in some ways. We've got candles.'*

An additional positive factor was a **support network of friends or family** to turn to.

This is seen in the interview with another participant from Storrington:

> *'I've very good neighbours, and I have a very good network of friends that, yes, I could always call upon to help'*

Similar expressions of the importance of support networks were repeated by many respondents, whether they had positive or negative experiences with stoppages. As identified in previous research (see above), social networks are important sources of strength and support in times of crisis or disruption. Among the PSR customers in the research, 42% identified social connections, good relationships with neighbours and/or friendly people as a positive aspect of where they live. While it is beyond the scope of this study to explore rurality as a factor in the strength of social networks, this would be in line with previous research into this topic (Department for Culture, Media and Sport, 2019)

5.3 Support Offered by PSR

A factor in low levels of concern among many participants was the support offered to utility customers, either as a result of the PSR, or general assistance by utility providers. Its benefits were most strongly expounded by this participant:

And I just feel that there is a support network, if something went wrong, they would help. Because we are registered. So yeah, because of where we live, I don't feel that … I feel safe, that something would get fixed.

Feelings of confidence appear to have been reinforced by positive experiences of previous utility stoppages being dealt with efficiently. Those reporting having had a previous stoppage had slightly higher levels of confidence.

This participant in Pershore who cares for their mother was also positive about the support offered:

'If we ever had an issue, I've contacted the suppliers and doubtless very quickly. Once I tell them that you know once you tell them that my mom's disabled, then they are there very quickly. For me, like fine I had a water leak and they were here within a couple of hours to fix it. So, once they know that my mom is disabled, they are very, very good. They don't leave you hanging around.'

When asked what support they wished the PSR would provide, there was a widespread desire to be kept informed throughout a disruption. Some respondents wanted a personal visit if the disruption was prolonged and those with medical equipment (see 5.4 and 5.5), wanted support to ensure they could continue to use it. These two responses were fairly typical of the wider group:

'An ongoing dialogue with PSR members to ensure they keep [us] up to date or do not forget what is available.'

'Personal visit if the utility was going to be off for more than a couple of hours'

Respondents didn't have many suggestions for further support the PSR could provide. Partly, this reflected the low awareness of the PSR (see section 5.9).

5.4 Difference between Utilities

There were unsurprisingly differences between how respondents regarded electricity, gas and water. When asked which they would be most concerned about being without during a stoppage, 23 identified electricity, 12 water and six gas, with four being unsure.

Respondents' concerns for disruption to their electricity stemmed from it being used for many vital functions in their home including heating, cooking, lighting, hot water, and powering appliances. As highlighted below (5.7), some were worried that a loss of electricity could leave them unable to contact others or be contacted.

A **loss of electricity was highlighted as a serious issue for those with health concerns** due to its role in powering medical aids or equipment. A respondent in Bridgnorth highlighted why her husband and herself would be left at risk without electricity:

'Electricity [would be main concern] as it is used 24 hours a day with 3 oxygen concentrators, 2 mobile Inogen machines [portable oxygen concentrators], overnight CPAP and overnight BYPAP with oxygen.'

For disruptions to gas, the main concern for those in the study was heating, especially during the winter. For older people and those with health conditions, this was a particular issue. For example, this retired person who suffers from Reynard's disease emphasised:

> *'Priority is keeping warm during winter so all three services are linked to maintaining central heating.'*

The study participants specified drinking water and hygiene as being their main concerns if they were to be without water.

5.5 Factors in Vulnerability

There were some respondents who raised concerns for their ability to cope during a utility stoppage. Even among those who suggested they were positive about their ability to cope, a number highlighted potential issues they have had, or may have in the future.

The study identified factors which increased potential vulnerability in relation to public utilities in rural areas. The most common of these aligned with past research findings as reported in section 4.3. Rates of feelings of vulnerability or concern were higher among people with **health issues**, **disabilities** and/or **caring responsibilities**. For example, one respondent from Bridgnorth said they had to keep the property warm as her *'husband [is] on Warfarin & feels the cold more'*, therefore any stoppage to their heating would be troubling.

Similarly, for a respondent living near Pershore, disruptions to their gas or electricity would be difficult to deal with:

> *'especially in winter time as I am undergoing some treatment for cancer and I can feel the cold a little more than I used to but in the summer months I should be ok.'*

There were similar associations with those of **older age.** For some, general concerns of mobility and independence, were highlighted:

> *'Over the years the village has lost its amenities making it more difficult to retain independence as we get older' (respondent from Bridgnorth)*

In one case, a respondent of pensionable age who lived alone reported feeling increasingly worried about her ability to cope during a power cut as she got older. Feelings of concern appeared to be higher among those living in areas of higher rurality (see 5.7).

The consequences of a stoppage to utilities, brought these issues into further focus. One interviewee in Storrington, in discussing how they may be affected in the event of a stoppage, identified *'heat in the winter, we feel the cold now we are in our seventies'*. Given the higher rates of people aged 65 and above in rural areas (see 4.1), this is something likely to be of more prevalence than in urban areas. This would be most relevant for Minehead, with the highest rates of population aged over 65.

Finally, those **living alone** were more likely than those living with others to raise concerns around utility stoppages. An example was provided by this interviewee in Thrapston:

> *'Living on my own it is a big worry because I sort of have to get a chair and climb on the chair to check that all my switches are all in the right place, and things like that. But what else can you do, you know, if the power goes out, the power goes out.'*

While only 16% of respondents reported living alone, with 66% of the total living with just one other in their household, a change in circumstances could see them living alone. This highlights the **shifting nature of vulnerability**. Someone who may not require significant support now could become more vulnerable with a change of circumstances.

5.6 Poverty and Deprivation

Among the main cohort of utility customers on the Priority Services Register who took part in the research, there were few connections made between poverty or living on a low income and vulnerability relating to utilities. The demographic of participants is likely a factor in this, with those in low income households underrepresented in the study. Indeed, only two reported having had any difficulties paying utility bills.

Conversely, among the VCSE and public sector respondents, the connection between utilities and poverty or deprivation for vulnerable people in rural areas was a major concern. Poverty was the most commonly identified vulnerability when considering utility use for their service users, beneficiaries etc. The aforementioned **higher utility costs in rural areas** were emphasised as a contributory factor for fuel poverty and general poverty by VCSE and public sector interviewees. One PSR customer from Minehead, provided an insight into the high costs of heating some rural properties:

> *'We have wood burners and open fires too. I'm Scottish – we put jumpers on! Would cost a fortune to really heat this place, it's an old large property. We just maintain decent core temperature and use oil heater in youngsters' room if cold*'

In rural properties with costly utility bills, due to size, age or type of property, those on lower incomes will find it more difficult to meet these costs and therefore be at risk of fuel poverty.

New or transient poverty caused largely by the effects of COVID-19 was cited by those engaging with people facing deprivation. One person involved in a foodbank in Minehead stated:

> *'We do a Holiday Hunger Fairshare. What was seen as your lower 10% accessing it, we have seen an increase in demand from the lower 30-40%, that would transmit across to utilities for people who are really struggling, they are using minimum [utility consumption] now but go back a few months and it wouldn't have been a thought'*

As mentioned, the PSR customers involved in the research did not generally express major apprehensions around costs. However, one respondent, when asked about keeping their property warm suggested that while they currently had no issues, *'with rising prices and legislation combined with reduced income, it is a great concern'*. This demonstrates how circumstances can quickly change and make

somebody more potentially vulnerable. This echoes findings in the 2018 study by Mindset Research, relating to transient vulnerabilities.

VCSE and public sector interviewees also highlighted **hidden poverty** as an issue. The isolation of lockdown over the winter period has meant less access for support agencies to be aware if people are struggling with balancing utility bills and are either getting into debt or not using energy to save money. People recently experiencing hardship may be less likely to approach support services due to a lack of knowledge of their existence or through a shame of admitting that they require this support, if it is something new to them. One interviewee from a support agency in Thrapston, suggested this may be made more difficult in a rural setting where *'everybody knows one another'*, so to be seen accessing support services may be undesirable.

5.7 Rurality as a Factor in Compounding Vulnerabilities

The findings relating to age, poverty, health, disability and living alone are consistent with previous research on utilities. What this study elucidates beyond previous research is how rurality relates to and at times compounds these other traits that can make someone vulnerable in relation to public utilities.

Issues associated with **living in a remote location** identified by participants, were seen as increasingly problematic when compounded by the impacts of **getting older and living alone**. While these feelings of vulnerability are brought into focus by stoppages to utilities, they tend to tie into more general concerns. Respondents identified issues associated with a more remote rural location, such as lack of accessible services, isolation from social connections and poor transport links as becoming increasingly problematic as they got older.

Four of the respondents were considering moving away from remote rural locations into more populated areas as they get older. This is highlighted by this respondent discussing the downsides of living in a remote rural location:

> *'Danger of being left with no form of telephone or internet access, poor broadband speeds, danger of being cut off due to fallen trees blocking narrow lanes, danger of flooding from the river, possibility of being snowed in, lack of police presence, long waits for emergency services, necessity of own car to access any shops, restaurants, cinemas, theatres, banks, post office, hospital, public transport links or schools. Likelihood that age will force us to vacate the property for all the above reasons.'*

It was highlighted by some respondents that their **rural location makes utility stoppages more likely** as well as **more difficult to receive support**. Being on the 'end of the line' of overhead electricity cables, left frequent electricity cuts from some involved in the study. Also, some highlighted how they could not be contacted during an electricity outage, as they were left without a mains telephone or internet and due to their location, many had poor mobile phone and internet coverage, thus rendering them unable to contact others or be contacted.

In suggesting what steps can be taken to improve their situation, this respondent from near Minehead identified the issues faced by some in rural areas during a power cut:

> *'regular inspection of land which borders narrow rural lanes would be helpful to ensure that land owners are maintaining old trees and ensuring that telephone and power lines are not obstructed and lanes are not closed due to avoidable fallen trees. Also, for our internet, broadband speed is*

only about 8 MB/s. … As we have no mobile phone signal in the house, this leaves us extremely cut off. We have no neighbours, we are surrounded by fields and woods.'

Similarly, living in a rural area can have added complications, such as for this respondent:

'we are not on mains water supply or sewage. We need electricity to draw up water from our private well. Without power, we cannot even flush the toilets or fill a glass of water once the tank in our loft is emptied'

Therefore, there are added difficulties, as well as the aforementioned benefits of living in a rural location. In situations where other factors – older age, living alone, health conditions – may already be increasing vulnerability, living in a rural location, especially in a remote location can **compound these difficulties**.

5.8 Connectivity, Information and Support

Connected to issues surrounding poverty and low awareness of the PSR, VCSE interviewees highlighted **a lack of access to quality information** as potential areas of concern for vulnerable people in rural areas. This is a general concern for vulnerable people living in rural areas, but with particular features relevant for utilities.

A key issue for rural areas is the **location of support agencies** and their accessibility for those not based in major towns or cities. Here one interviewee in Minehead working in the public sector outlined the problem for people living in rural locations in their area:

'the town council did house a district council office a number of years ago – but they moved out, so many services have become Taunton centric. We do have the advice bureau but if you were looking for advice and support it can be difficult …If all those services are in Taunton and you can't afford or get there you are cut off. If you don't have internet access then there is an element that the public agencies are too remote and people are cut off. If you pick up the phone it can be difficult to speak to someone.'

As highlighted above (5.1), accessible public transport was the second most referenced negative aspect of living in a rural area for PSR customers in this study: thus, highlighting the potential isolation for those without private modes of transport.

Another area of concern is a **lack of knowledge of support services** among those in need. People often do not know what support is available or where to access it. This is exacerbated by **a lack of IT skills or equipment** across some groups, including older people.

In relation to paying utility bills, some VCSE and public sector interviewees highlighted complicated billing systems, which left people confused, leading to unpaid bills and subsequent problems arising from this. While there were low rates of fuel poverty among the PSR participants, there were a few who highlighted difficulties understanding their utility bills. Whether it is for support paying bills or for advice on utility-related environmental issues, such as energy transition (see 5.10), vulnerable people in rural areas can face considerable challenges to access quality information and support.

5.9 Awareness of Priority Services Register

In the responses of utility customers, 16 had little or no awareness of the PSR, 14 had some or vague knowledge, often having heard of it, but unable to state with any confidence what it was, and 15 were categorised as having good awareness of the PSR. Given that 96% of these people were contacted due to being listed on the PSR, this represents a **low level of awareness and understanding**.[8] As mentioned in the background research (4.2), data suggest that there are potentially large numbers of people not registered, who meet the PSR criteria. While utility providers confirm they routinely publicise the PSR, as this respondent from Bridgnorth suggests, the message may not get through:

'An occasional reminder that there is a Priority Services Register would be useful.'

These findings demonstrate that utilities can struggle to increase awareness of the PSR but despite that, those surveyed were registered so still received the benefit and service should they need it during a power or water outage. Those customers may have been registered by a supplier or family member but importantly they were registered. As aforenoted, the the PSR and the support it provides is viewed largely positively by who are aware of it.

An additional cause for concern is **the lack of knowledge found in the interviews with VCSE and public sector organisations**. Among the 38 people from NGOs, community/local organisations and the public sector who answered the question, only two were properly aware of the PSR, 13 had vague knowledge, and 23 had no knowledge of the PSR. Those who work in support organisations are often gatekeepers and trusted sources of knowledge.

The organisations involved in the study tended to be smaller and more localised, such as food banks. Therefore, it does not include the awareness of larger support organisations. However, given the large role smaller organisations play in rural communities, if representative of the bigger picture for rural England as a whole, it signifies a gap in respect of ensuring that households in vulnerable situations are made aware of their right to be on the PSRs of their Utility providers.

5.10 Environment, Challenges and Future Concerns from Climate Change

The research team and sponsors are conscious of the significance of climate change for future utility provision challenges across the country, particularly in a rural context. Energy transition is a pressing topic in research, policy and industry. As highlighted in a recent report by Rural England (2021), the government's 2050 net zero target will require some different or tailored ideas and solutions for rural areas. While changes have the potential to be positive and regenerative, they could also be complicated and costly. Some rural areas also face the most acute impacts of a changing climate in terms of extreme weather, particularly areas prone to flooding. Therefore, it is of great importance to consider the views and insights of those who may be more vulnerable to these changes.

[8] See section 3. Research Objectives and Approach, for more information on data collection

Respondents were asked a number of questions on this topic. Specific subjects covered: their awareness of climate change impacts, particularly where they live; their feelings around ability to cope with a changing climate and actions they may need to take to deal with this, such as energy transition; and asking them what additional support could be provided to enable them to make the changes they needed.

There was high recognition of changes to the environment, both globally and locally, and a strong sense of worry from some as to its impacts. The observation from this respondent is representative of the **76% who believe changes to the climate are visible where they live**:

> *'It affects everyone. I'm surrounded by an arable farm and it affects their harvest. We seem to get more extreme weather.'*

The impact upon those more vulnerable to changes to their environment is emphasised by this person's response:

> *'The other major change is the increase in temperatures when the weather heats up as it has over the last 3 years. My poor lungs are really not up to high day temperatures of 32 degrees that then barely reduce at night, even with all our fans going. My asthma has been well managed with a daily maintenance puffer but the hot humid nights mean taking Ventolin as well and taking puffers in the middle of the day rather than my normal low dose am & pm. In the recent heat and the temperatures going on for not just days but weeks, it is the first time in about 20 years that I have really started to feel frightened about what I would do if I had a real asthma attack'*

Disruptions to utilities, especially utilities during a period of especially warm or cold weather, could be dangerous.

There was a high proportion of respondents who wished to 'do more' for the environment, but were restricted by limitations within their rural setting. Some spoke of a lack of charging spaces for electric cars, while two participants were unable to fit RV solar panels to their properties as it was against planning regulation for listed properties. Similarly, three respondents cited poor internet connection as inhibitory to fitting smart meters.

In order to respond to changes to the climate, many said they **required support in the form of financial help and guidance**. PSR customers in their responses called for impartial information specific to rural areas on environmental concerns associated with utilities, especially around energy transition. There was a disappointment felt by some regarding the **lack of leadership on the topic from government or industry** with a failure to produce a coherent strategy or to facilitate the necessary changes. Outlined by this Storrington resident:

> *'whatever it takes, honestly, I just need … I just would like more leadership, it's all very well, you can do what you can do personally, but you need government leadership.'*

Another respondent highlighted a disparity between rhetoric and action, with their local council declaring a climate emergency, yet blocking his request to build RV solar panels.

Multiple energy sources are something that was highlighted above as a potential source of comfort or resilience during an energy stoppage. However, when respondents were asked about possible energy transition to meet national targets, these were an added complication. The majority of respondents were conscious of climate change and wanted to do more to reduce their carbon output but were reluctant to reduce energy diversity due to the security it provided them. As outlined by this interviewee:

> *'I feel quite annoyed that we have to lean on oil for heating, but we don't have gas here which again is another one that you don't really want any more. But I'm a bit wary of turning everything over to all electric …it's not constant as they do have outages. Basically, because you've got nothing else that you can fall back on.'*

This was emphasised even further by those for whom, a supply of energy is important to either keep warm or maintain machines for medical equipment.

6 Conclusions

The overall aim of this study was to understand better the lived experience of a range of customers in vulnerable situations who live in rural areas of England; to assess the importance of rurality as a factor compounding vulnerability, and to consider in the light of these factors, whether more or better-designed PSR support could be provided.

This study was able to build upon previous research into vulnerability associated with public utilities and investigate how there may be different benefits, issues and requirements for support for people living in rural areas. The findings demonstrate a diverse set of experiences in connection to utility use. Among the utility customers, there was considerable resilience and capacity to cope with a disruption to utilities. Through previous experience or hypothetically, it was not seen as a cause for concern for many. Some of this was connected to a diverse energy/utility profile, more common with properties in rural areas, so that many respondents were able to fall back on a coal or wood fire, or oil, for their heat. This implies a greater perceived vulnerability among rural households with only a single source of power or water, by comparison. Social networks were also an important source of comfort and resilience, with friends and family acting as a potential source of support in times of crisis. Again, vulnerability will thus be greater in situations where rural householders are not well networked.

What this study particularly elucidates is how rurality relates to, and at times compounds, other traits that make households vulnerable. For some involved in the study, the resilience they displayed was in part a response to the challenges of the area where they live. Being distant from services, potential sources of support, or having poor transport links, emphasises the need to have capacity to cope within the household. However, for those who are older, live alone or require additional support due to disability or a medical condition, living in a remote location can be problematic. Considering how these factors interact allows a better understanding of the lived experiences of individuals within groups, and how combinations of factors compound the vulnerability that they experience, in different ways.

The Priority Services Register was viewed as an effective tool by those who were aware of it. Explicitly mentioning PSR support, or simply contact from utility providers, many participants felt confident of being supported/looked after. This is something that increased among respondents after previous encounters with support during a utility disruption. The study group indicated that in a time of disruption, they would welcome regular contact, with personal visits after any long disruptions. Those with medical conditions who would be impacted by extreme weather or loss of equipment, were particularly concerned about the effects of disruptions.

For the PSR to be considered a truly effective tool, its existence and the support it offers, should be widely known among those who could benefit from it. The low knowledge of the PSR among both customers and VCSE/public agencies demonstrates that more work is required to further publicise the PSR. It could be argued that among the group already registered on the PSR, its effectiveness is more important than its publicity. Nevertheless, low customer awareness will certainly not help to spread uptake beyond the existing level. In respect of the support agencies it should be noted that, with the notable exception of the churches, those third sector bodies who were involved in this research tended to be smaller, independent providers rather than those linked within larger

national networks with whom the utility companies already have good connections.[9] Thus, reaching such organisations with publicity is more challenging.

The findings of this study highlight concerns regarding climate change targets and energy transitions, emphasizing the comparatively more complicated picture of current provision and of future options and implications, in rural areas. A high proportion of PSR respondents were conscious of the effects of climate change and wanted to take steps to reduce their carbon output. However, they required support in the form of guidance and financial help, to do so. Limited infrastructure including public transport, and planning restrictions in rural areas complicate people's ability to take action. Many are reluctant to give up their diverse energy use profile (with energy such as coal, wood, or oil as well as electricity or sometimes gas), due to the perceived resilience and independence that it offers them, in situations where they feel more vulnerable than people who live in large settlements.

There was frustration regarding a perceived lack of leadership from government or industry on this topic, with many seeing a failure to produce a coherent strategy or to facilitate necessary changes. Some rural areas face the most acute impacts of a changing climate in terms of extreme weather, particularly those in areas prone to flooding and tree damage. There was worry among the most vulnerable, as to how these changes may affect them.

The study also set out to answer some detailed objectives:

1. To identify the common issues that are faced by vulnerable rural customers and their carers;

While there was (self-)reported to be a high level of resilience among the vulnerable rural customers surveyed, there were notable findings related to the particular factors affecting their vulnerability, in a rural context. Confirming previous research, issues associated with health problems, disability, older age, living alone and caring responsibilities, were all identified by the PSR participants as increasing their vulnerability in relation to utility use. This is something brought into particular focus during a supply disruption.

Each household and individual is different with varying levels and types of vulnerability; however, there were a few commonly cited issues. Without an energy supply to power devices such as medical equipment or mobility chairs, customers were worried and anxious for their health and safety. Furthermore, during winter, older people and/or people with medical conditions were very concerned about keeping warm.
The impact of COVID-19 was a factor in the research, with community and public support agencies outlining the warning signs of transient and hidden poverty that they have seen in their work, and the worrying consequences this may have for vulnerable rural utility customers. With comparatively higher utility costs in rural areas and potentially higher hurdles to access support services, this is an area of concern.

[9] The utility providers sponsoring this study work with a large number of national and regional organisations, often aligned with the PSR Needs Codes. These organisations include: Age UK, Citizen's Advice, the Job Centre, Energy Saving Trust, Alzheimer's Society, Scope, Mind, Carer's Trust, and Royal National Institute of Blind People.

2. To explore whether issues vary in a consistent way between different types of rural customer, or by different types of rural area;

From the secondary data analysis, among the case studies Minehead has the most people over the age of 65; something reflected in the higher actual and estimated PSR levels. Combined with the highest levels of deprivation in the study areas, Minehead is an area with likely high levels of potential vulnerability. Attempts were made to find evidence for this in the case study surveys. However, due to the small size of the resident survey samples, it is difficult to make strong claims as to apparent differences in identified issues between the case study areas.

In the study, there was a clear distinction in experience between those living in more remote locations and those in more inhabited areas. Social support networks appeared more diffuse for those in remoter areas, with customers highlighting being 'cut off' from support during a disruption to their utilities. Those in areas of higher rurality also cited a higher frequency of cuts to electricity, often due to poorer infrastructure, such as overhead cables.

Among older people, there was a common theme of problems associated with age leading them to eventually consider moving to a more populated area, with better access to services and support. Those living alone can be more vulnerable to a disruption to their utilities as they are without immediate support in the household. With many people also living with only one other, a change in circumstances could leave them living alone: this highlights the shifting nature of vulnerability. Someone who may not require significant support now could quickly become more vulnerable. Similar concerns were identified in respect of anticipated growth in fuel poverty connected to COVID-19 impacts upon the economy.

3. To explore how far those common issues for vulnerable rural customers arise because of rurality;

This study highlighted that living in areas of high rurality can increase the chance of disruption to utilities, bring additional complications and make it more difficult to seek and receive support. Poorer infrastructure, such as older power lines, or poor signals for wireless communication or internet, combined with limited social networks, can leave people more vulnerable than they would be in an urban setting. More dispersed social support networks can exacerbate these issues.

Certain traits of rural properties can be another factor which particularly affects customers with potential vulnerabilities. Rural properties tend to be larger and less energy efficient and therefore costlier to heat and maintain than their urban equivalents. This leads to an increased risk of fuel poverty for rural people on low incomes.

Some vulnerable communities in rural areas were identified by VCSE interviewees as lacking access to quality information and therefore at more risk than others. In smaller villages or more isolated properties, those cut off from transport links may be less able physically to access support services with offices located mostly in larger towns and cities. For those services delivered very locally within rural areas, people who are able to access such services in theory, may be reluctant to do so in practice, due to the stigma of being recognised by friends and neighbours. For online services, vulnerable rural residents may be more challenged by digital literacy barriers, with a relative lack of nearby providers of IT skills or equipment. There was also concern among both the PSR and VCSE/public sector participants about the complexity of billing systems for vulnerable people, which they feared could mean that those who could be better advised or supported do not recognise this and are therefore not making most efficient use of their utilities.

4. To see whether the issues identified have different implications for electricity, gas and water companies and to make utility-specific suggestions to enhance rural vulnerability support by the Utilities.

There were differences in how people on the PSR viewed disruptions to different utilities. A stoppage of electricity was considered the most concerning, with its role in powering household appliances, including medical, communication and heat. This was followed by water, essential for hydration and hygiene, and gas for heat. The implications are that customers on the PSR are most at risk during stoppages to electricity supply, and special measures need to be taken to ensure those with medical equipment are supported. Furthermore, during periods of either cold or particularly warm weather, flooding or storms, vulnerable rural customers will face potential health risks for which additional support is required.

There are also implications for strategies to meet government targets on net zero. In the Energy White Paper: 'Powering our net zero future', the government specified the need for homes to transition from gas to electricity as their main source of power (BEIS, 2020b). However, there are issues specific to rural areas which complicate this transition and increase reluctance to move in this direction, on the part of the customer.

7 Recommendations

Utility Providers and Suppliers

Be more **active in reaching out to vulnerable rural customers and potential gatekeeper organisations**. While there has been significant Utilities' effort to raise awareness of the Priority Services Register (PSR) nationwide, from the evidence of this report, in rural areas there remains low awareness among customers. There are three major routes to address this:

1. **Encourage increased numbers of eligible people onto the PSR via more local, rural promotion vehicles**. Key local bodies such as Parish Councils would be useful partners to achieve this, as these organisations generally know their own communities well. Advertising the PSR through Parish newsletters and other media not currently utilised by Utility providers would increase the chances of reaching hard to reach groups in rural communities. Additionally, churches and housing associations could be effective partners in reaching vulnerable people in rural communities. There are national 'umbrella organisations' for these groups, through which the Utilities providers could make contact with such organisations operating at very local level.

2. **More regularly remind existing rural PSR customers of the register and the support it provides**. Whilst regular contact already happens in most cases, this study suggests that its frequency and the chosen means of communication merit additional effort. Renewing contact with PSR customers also offers an opportunity to ask new questions about their communication preferences, medical needs and any potential for communications to be disrupted during a power stoppage. This could be achieved through:

- District Network Operators using their required cleanse of PSR data every two years to re-communicate the benefits of the PSR and its mechanisms of support.
- All electricity and water utility providers sending (at least) an annual written communication – if appropriate for communication needs and in line with a customer's preference – to reinforce the PSR message and the support it offers. Due to the shifting nature of vulnerability, there may also be a case to include a prominent feature on the PSR with quarterly billing information.

3. **Increase awareness of the PSR by working with gatekeeping rural support agencies** and other trusted sources of information. In particular, the study suggests more attention should be given to those locally-based organisations in rural communities who are unlikely to be formally connected to the major national NGOs with whom the Utilities already have effective contact. One method for reaching these smaller local organisations would be to work with the ACRE (Action for Communities in Rural England) Network. It is a support network with regional bases and works directly with numerous and varied VCSE groups in rural areas. Smaller and more localised groups may be reached by cascading information through an organisation like the ACRE Network.

Considering the increased concerns about social isolation and poor service support that this study has identified in rural areas, it is **recommended that some key practices are upheld or developed, specifically for rural PSR customers**:

- For prolonged outages, customers with characteristics that potentially make them particularly vulnerable should be visited in person to allay anxieties, ensuring any particular problems are spotted and addressed, and providing them with a realistic timescale for resolving the outage.
- Additional, targeted practical advice on coping with utility disruptions could be offered in writing or via other means of communication, informed by the types of rural experiences and realities explored in this report.

The Priority Services Register could be used as a vehicle to **help potentially vulnerable households to identify and manage wider concerns including fuel poverty, the challenges of climate change and the transition to net zero**.

- This report highlights customers' growing concerns on these fronts.
- One opportunity would be for Utility providers to do some work with Village or Community Agents, where these exist, to provide a signposting service for people facing these concerns to identify available services in their area that could help address their needs. Such Agents are not nationwide, but exist in a growing range of counties and can be identified via online networks and websites.[10]

The study highlights an important role for Utility providers in planning for potential increased instances of rural vulnerability among their customers, linked to poverty and deprivation, particularly arising from COVID-19 impacts on local economies.

- There is a risk of growing indebtedness, with people newly falling into arrears on their utility bills.
- People newly facing financial difficulties may be slow to self-identify due to the other challenges and impacts of the pandemic and thus particularly unaware of, or unwilling to access, a range of existing support mechanisms.

Providers could usefully prepare new impartial and easily accessible information on energy transition options and planning, that is tailored to the specific conditions of householders in rural areas, reflecting rural needs and infrastructure. This research suggests there is a need for:

- Rural-specific guidance about the decarbonising options for different sorts of properties and locations.
- Awareness-raising of likely changes in supply relating to government climate change targets and recent policy announcements, along with information on any planning and support available through Utility providers and/or other relevant sources.

An approach towards helping rural households to prepare for transition could perhaps be piloted in some rural areas to identify the most appropriate and useful level of information in order to reassure and prepare customers, including those in vulnerable situations, for what lies ahead.

[10] For examples of Village or Community Agent schemes:
https://www.ruralsussex.org.uk/what-we-do/village-agents/
https://bedsrcc.org.uk/what-we-do/health-wellbeing/village-community-agents/
https://somersetagents.org/somerset-village-agents/

Building on concerns expressed in these interviews, working to **ensure less complicated billing systems** would be particularly valued by rural customers in vulnerable situations.

More broadly, it could be worthwhile to **rethink or expand the PSR** and its role, beyond serving as a reactive safety net, and to focus attention upon using it to target future work to reduce the specific factors of rural vulnerability linked to a more fragile utilities infrastructure (e.g. connections to central power supplies). Resilience can be built through greater use of localised/renewable power sources that can operate independently, particularly in the most remote localities. Utility providers and suppliers have a wealth of experience. Promotion of the PSR could be a vessel through which to share this knowledge.

Policy

There are a number of actions which could be considered by actors in the public sector, which would seem helpful in addressing the rural vulnerability issues raised in this report.

The report's findings identify a need for rural views and insights to inform the introduction of net zero policies and programmes across England, including the views from residents who are potentially vulnerable. If policies are designed without taking account of specific rural circumstances, this will reduce their likelihood of working to maximum effect in rural areas.

Enable support services which advise households about fuel poverty, energy efficiency and energy transition to be accessible to those in more remote rural areas.

- Where local government funds bodies such as the Citizens Advice network or other VCSE organisations, who can target potentially vulnerable communities about their fuel poverty and energy efficiency needs, they should ensure that this support is resourced to reach into rural and remote areas, using outreach or similar approaches where necessary.
- There is a particular need to provide advice and support tailored to households which currently depend on oil or solid fuels for their home heating, beyond the gas grid. Many such households will include residents facing vulnerability challenges that will be compounded by the need to decarbonize their heating in the near future. Targeted government assistance and advice in these circumstances would appear particularly valuable, and could be assisted by working with Utility providers to identify and reach those in the most vulnerable situations.

More broadly, communicating effectively with remote rural households raises the challenge of digital inclusion. The evidence presented in this study adds weight to the value and potential importance of a **national digital inclusion strategy**, such as proposed by the Rural Services Network (2021). This would promote greater consistency in the support to access digital services that is on offer, considering the needs of rural areas where it is currently harder to access. Key components could include:

- Training in how to use IT equipment and software packages, especially those designed for new and unfamiliar users and those oriented towards better service provision in rural areas.
- Provision of equipment for those who cannot otherwise afford it, in the form of grants for community organisations to purchase appropriate equipment and ensure that it reaches those in most need.
- Continued attention to improving the extent and quality of internet provision in the most remote rural areas of England, as a basic necessity for modern participation and citizenship.

These actions will assist rural communities to **ensure they are able to access quality information and support across the country**. They can build upon best practice as already established among local projects, usually with volunteer digital champions.

In view of the points raised in this report concerning service accessibility, local transport authorities should be encouraged specifically to **address the access needs of smaller/remote communities in the new Bus Service Improvement Plans,** which will be updated annually and for which they are receiving additional resources.

- Older people reported feeling isolated and cut off from support due to a lack of transport links. Many cited poor transport links as a reason for moving away from where they lived as they got older.

For people on low incomes, **quality public transport links can be an enabler to access support services** in a time of financial difficulty and/or crisis. This is in addition to **connecting people to employment opportunities and reducing social deprivation**. This should form part of a wider comprehensive aim to **improve public transport links for rural communities**, particularly in more remote locations.

Given the scale of ambition to expand renewable energy production, to help meet climate targets, wording in the National Planning Policy Framework may need strengthening to support **low carbon and energy efficient development in rural as well as urban contexts**. As Local Plans are updated this, too, should be used to ensure they are sufficiently aligned. At a local level, governments need to look at local plans and actions to ensure they are supportive of reaching climate targets and sufficiently rural-proofed. Examples include:

- How Local Plan policies frame the installation of PV solar panels in protected locations such as Conservation Areas.
- Infrastructure including many more rurally-accessible charging facilities, which will be needed for electric vehicles.
- Upgraded digital infrastructure is a pre-requisite in some rural areas to enable energy efficiency via web-based technologies such as smart meters.

Implementation of the **Heat and Building Strategy, to decarbonise home heating, needs to recognise the additional costs faced by many rural households and provide additional mechanisms to address them swiftly and effectively**. This includes specific consideration for households living in older properties, in isolated locations and those off the mains gas grid.

- It can be difficult for those without access to capital to access the existing Renewable Heat Incentive scheme.
- To encourage the uptake of lower carbon solutions, grants to rural households should ideally reflect the additional conversion costs associated with harder to heat properties

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9 Annex 1 – Copy of Interview Schedule

These questions offer a template for the interview. The interview will be guided by the interviewee and their experiences.

9.1 Section 1 Questions: Area and Household

First of all, we are going to discuss where you live.

- Could you describe the area you live?
    - Would you consider it accessible? *(prompt: Easy to get to by road?)*
    - Do you have easy access to services such as hospitals, schools etc.?
    - What about banks, post offices, shops are they easy to access?
    - Do you have access to private transport e.g. car?
    - How easy is it to access public transport in your area?

- Could you describe the type of property you live in?

Prompts:

- Number of bedroom/size of house
- Household spaces with at least one usual resident; Household spaces with no usual residents; Whole house or bungalow: Detached; Whole house or bungalow: Semi-detached; Whole house or bungalow: Terraced (including end-terrace); Flat, maisonette or apartment: Purpose-built block of flats or tenement; Flat, maisonette or apartment: Part of a converted or shared house (including bed-sits); Flat, maisonette or apartment: In a commercial building; Caravan or other mobile or temporary structure
- Owned (mortgage/outright); Shared ownership (part owned and part rented); Social rented; Rented from council (Local Authority); Private rented; Living rent free; other

- Which is your main source of heating?
    - Do you have a central heating system?
    - Do you have any difficulties keeping the property warm?
    - Do you have a both gas and electric, just one, or neither?
- Are you connected to the internet? If so, is it a good connection?

Now talking about your household:

- Do you live by yourself or with other people?
    - What relation are these other people to you? *(prompts: dependents, children under 5, care providers/receivers*)

9.2 Section 2 Questions: Experiences and Narratives

In this section we are going to ask some questions about your energy and water use and supply. We want to get your opinion about how you feel about certain issues, but **you don't have to answer any questions if you don't feel comfortable doing so**.

Resilience

- Do you have any experience of an energy (gas or electric) or water outage? This can be a planned stoppage, temporary loss or through a significant event such as a flood.
- If yes:
    - Can you tell me about that experience?
    - What were your main concerns?
    - How did it make you feel?
    - Did you have people you could contact to offer support?
    - Did anybody contact you regarding the incident?
    - How much do you trust you will be supported in the event of an event of this type in the future?
    - In relation to water, gas and/or electricity, which would you be most concerned about temporarily being without?
- If no:
    - What would your main concerns be?
    - How do you think you would be able to cope?
    - How do you think it would make you feel?
    - Would you have people you could contact to offer support?
    - Do you think anyone would contact you?
    - (excluding emergency services) How much do you trust you will be supported in the event of an event of this type? *Example: if there was a water outage, would the water company turn up?*
    - In relation to water, gas and/or electricity, which would you be most concerned about temporarily being without?

Now I'm going to ask you a couple of questions about your utility bills.

Fuel Poverty

- Do you ever have problems balancing paying your energy or water bills with other expenses?
- Do you heat your property lower than the level you would like due to cost?
    - If you ever did have trouble paying the energy or water bills, do you know who you might be able to contact to for help?[11]

Communication and Support

- Do you remember having any contact with your utility provider (*name them*)?
    - (If yes) what form did this contact take?
    - How do you feel about the communication, was it a positive or negative experience?

[11]We will offer contact information for support organisations to signpost those who need it a the end of the interview

- Are there forms of communication do you prefer or dislike with utility companies to inform of a disruption of service? *(prompt: calls, email, apps, letter)*
- Are you aware of potential support offered by your utility provider for people on the PSR?
- What sort of support from your utility provider do you think people on the PSR would benefit from?

Rurality

Now I would like to discuss living in a rural area. I would like you to think about the area you live and how it impacts your life. Bearing in mind all the things we have discussed: your access to services (banks, hospitals), the impact of being without energy or water and paying utility bills as well as thinking more generally …

- What are the positives and negatives about living where you live?

Prompts:

- Comparison to more/less rural
- Local connections (mutual aid)
- Trust in support
- Resilience vs vulnerability
- Exposure to nature

Environment and Climate Change

Finally, with changes happening to climate across the world, we're seeing some effects of this in the UK. This has resulted in more extreme weather such as floods and higher than usual temperatures.

- Do think you are being affected by changes to the climate?
- Do you feel prepared for these changes?
- Are you doing anything to reduce climate change?
    - (prompt) This includes actions such as improving energy efficiency (insulation, more efficient heating system), using renewable energy, or flood defences; life changes (veganism, no flights)
- What support could you be given to make this transition?

- Is there anything we haven't talked about that you think we should have?

ABOUT RURAL ENGLAND CIC

Our mission is to build the strength and resilience of rural England by helping to inform and engender better rural policy making. We will do this by encouraging informed debate, providing independent research and evidence, supporting informed information exchange and building a network that draws together all those who seek to sustain and improve the social, economic and environmental well-being of rural England.

The prime focus of the company is on research to further the understanding of issues affecting people, businesses and communities in rural areas of England that will provide objective evidence to inform and influence policy and policymakers.

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Website: https://ruralengland.org/
Tel: 01822 851 370
Email: info@ruralengland.org
Twitter: @ruralenglandcic