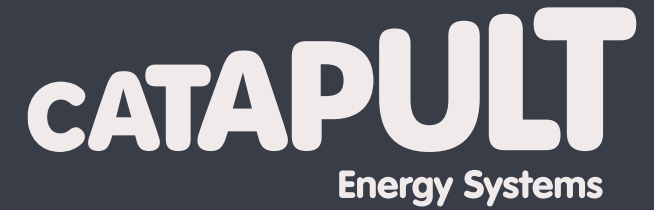


Research report
July 2023



Digital exclusion: The challenge of communicating with all energy consumers

Dave Johns, Service Design Consultant
Dr Vivien Kizilcec, Consumer Research Manager
Judith Lombardo, Senior User Researcher



3	Introduction
8	Communication challenges for the energy sector
11	Key messages that energy networks need to communicate
14	Good practice for communicating with digitally excluded consumers
26	Conclusions
33	Appendix
34	Evaluating the methods of communication
39	Literature review summary
46	Stakeholder interviews summary
53	Stakeholder workshop summary



Energy networks manage and operate the electricity and gas grids, ensuring safe, secure, and reliable energy is delivered to homes and businesses.

This project is funded through the **Network Innovation Allowance** – UK government funding that supports energy networks to take forward innovation projects that have the potential to address consumer vulnerability, and/or deliver longer-term financial and environmental benefits for consumers.

The project is a collaboration between a consortium of three energy networks: Northern Gas Networks, Cadent, and National Grid Electricity Transmission, and is coordinated by the Energy Innovation Centre.

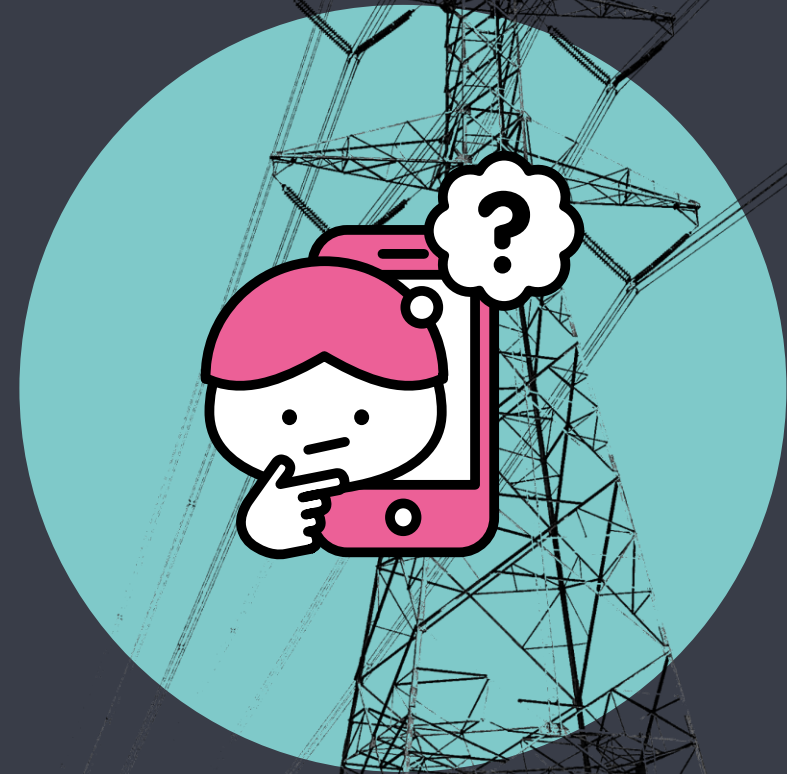
This report summarises the research commissioned by the consortium partners, as conducted by Energy Systems Catapult.

A key driver for this research: Landlines needing a power supply by the end of 2025

Energy networks need to communicate messages to their domestic consumers to inform them of planned and unplanned outages.

Communication is increasingly using digital channels which many consumers prefer. However, around 20% of the population lack the fundamental digital skills required to use the internet successfully*.

By the end of 2025, the wired telephone network will be upgraded to 'Voice over Internet Protocol' (VoIP), with landlines needing a power supply to be able to work. Therefore, in an electrical power outage, an important channel for digitally excluded consumers will be lost.



* According to the Lloyds Bank, '2022 Consumer Digital Index' report (p38).

Identify good practice in communicating with digitally excluded* consumers by researching the way leaders in other industries have addressed the problem.

Identify good practice in relation to energy outages, and landline telephones requiring power to function after the VoIP transition.

Research questions

- What messages do the energy sector need to send during planned or unplanned outages?
- How are organisations already communicating their services to those who are digitally excluded?
- Which existing methods can be deemed as good practice for the context of this project?
- What statements can be made about good practice that can be piloted and tested?

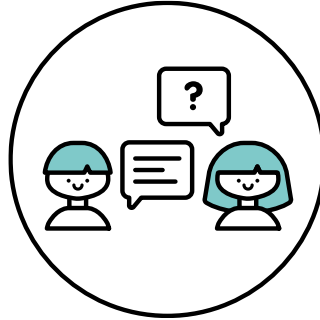
* Digital exclusion in this project is considered as being without access to the internet or a mobile signal through choice or circumstance. It is not the aim of the project to further define digital exclusion.



Literature review

51 sources

18x identified with relevant examples
of communication methods



Stakeholder interviews

18 interviews

7x energy sector
11x non-energy sector



Stakeholder workshop

23 stakeholders

13x energy sector
10x consumer advocacy



Literature review

To understand who is communicating with digitally excluded people.

To identify the methods being used to communicate with digitally excluded people.

To identify the high-level communication needs digitally excluded people have.

Stakeholder interviews

To understand the messages being sent to consumers in planned and unplanned events.

To understand the methods used to communicate planned or unplanned events by organisations inside and outside the energy sector.

To identify more examples of supporting literature.

Stakeholder workshop

To validate messages that need to be sent during an energy outage.

To identify at which point during an energy outage certain messages need to be sent.

To identify considerations for the consumer when sending messages.

Communication challenges for the energy sector



Challenges when communicating with all energy consumers

The **stakeholder interviews** identified the following overarching challenges for the energy sector when communicating with all energy consumers.

Current sector challenges

- Tailoring communications for digitally excluded people can be a strain on resources for some organisations as it is not always factored into 'business as usual'
- Knowing enough about the specific communication or support needs of individual energy consumers
- Giving people a clear understanding of the technical nature of the energy network
- Customers not knowing who energy networks are, which can reduce trust in the messages

Perceived future sector challenges

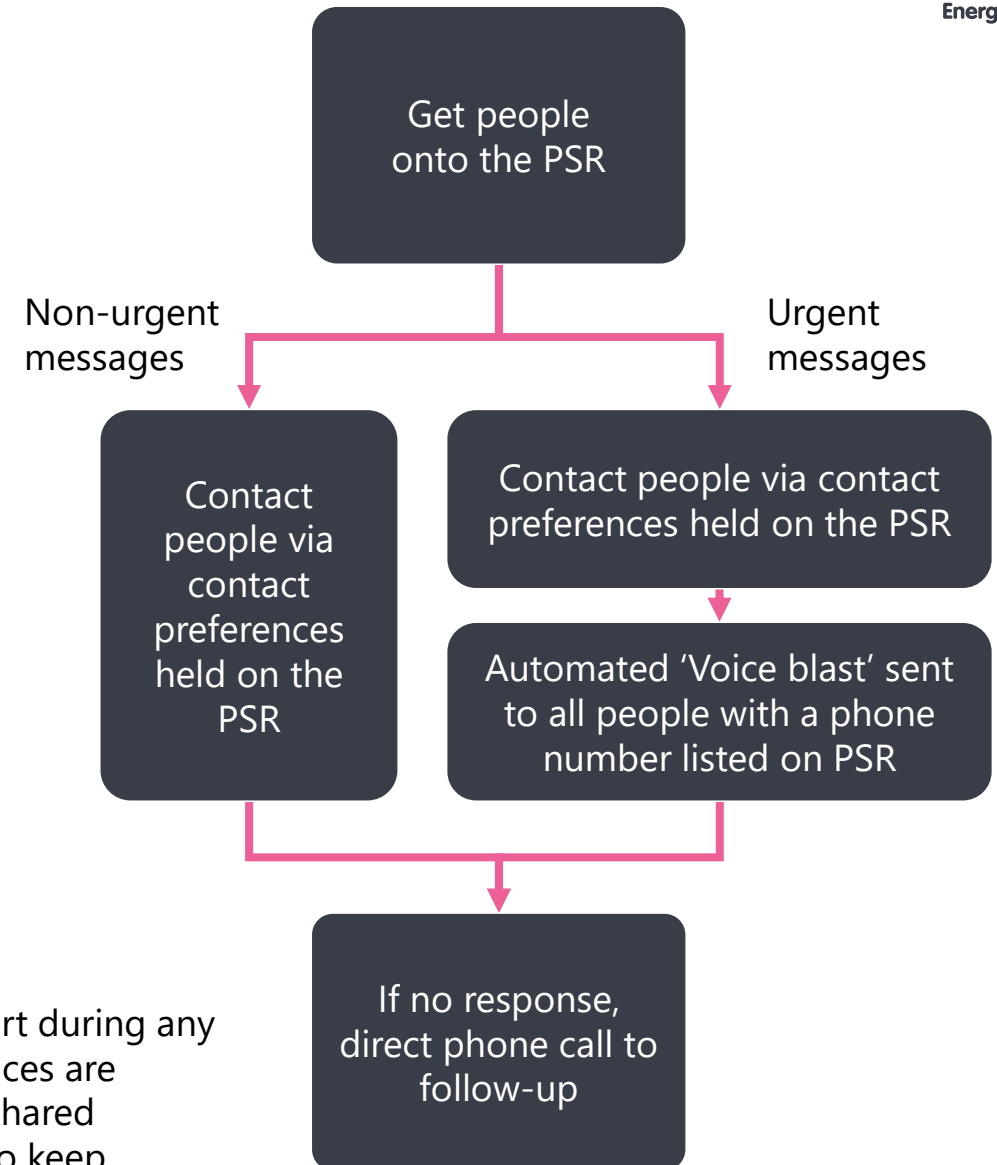
- An increased need to communicate with consumers, as the sector moves towards a decarbonised energy system, will amplify the existing challenges
 - Helping people understand new technologies and ways of using energy
 - More frequent communications about outages (both planned and unplanned) as systems are upgraded

Challenges when communicating power outages to people on the PSR

The **stakeholder interviews** surfaced a recognised process in the energy sector for communicating with people on the Priority Services Register (PSR).

There is a risk of messages not getting through when using this process during an electrical power outage, once landlines need power to work.

This risk is much greater for those not able to be contacted by email or mobile phone – for whom landline is the key communication channel.



* The PSR is a self-referral register for those wanting additional or priority support during any kind of energy or water incidents. Consumer needs and communication preferences are updated annually and checked with consumers at every interaction. The data is shared securely across participating networks, suppliers, and supporting organisations to keep people safe and informed, for example, during incidents.

**Key messages
that energy
networks need to
communicate**



Messages that are sent to consumers

The **stakeholder interviews** identified a suite of key messages that the energy sector sends to consumers*.

These messages can be categorised by whether the message is part of business as usual, or in response to an external trigger.

Business as usual (routine) messages

- Planned outages for maintenance or improvements
- Periodic prompt to update details for consumers on the PSR
- Upcoming one-off connection at a property
- Compensation offer for lack of notice for an outage
- Periodic bill notifications

External trigger (non-routine) messages

- Unplanned outage (affecting one or many homes)
- Support offer and options during outage
- Replying to complaints
- Late bill reminder

* Interviewees were asked to disregard marketing messages.

Messages for an unplanned outage

The **stakeholder workshop** further detailed the suite of messages for the energy networks to send during an unplanned outage.

These messages were also given a recommended timeframe in which to be sent.

Message	Timing
There is an outage	Immediately
Is your neighbour aware?	Immediately
The expected duration	Within 30 minutes
That operatives have been deployed, who they are, and expected timings	Within 30 minutes
Request to confirm exact needs of the individual (for those on PSR)	Within 30 minutes
Whether access is required to the property to fix it	Within 1 hr
Which groups are involved in the community response	As soon as community response is triggered
What community response resources are available, and how to access them (where to go / when they are arriving)	1-5hrs – depending on need of individual
Regular status updates	Depends on consumer and issue
How to get compensation	At time that compensation is triggered, and after resolution

Good practice for communicating with digitally excluded consumers



Identifying good practice

The good practice methods were identified through our analysis of the findings from the **literature review, stakeholder interviews, and stakeholder workshop**.

The methods were grouped into themes of direct and indirect messaging out to consumers, and methods for receiving messages from consumers.

Each method was assessed for its speed and chance of success in getting through, and against six digital exclusion characteristics*: Lack of devices, lack of skills, cognitive or physical impairment, unreliable mobile signal, and unreliable internet.

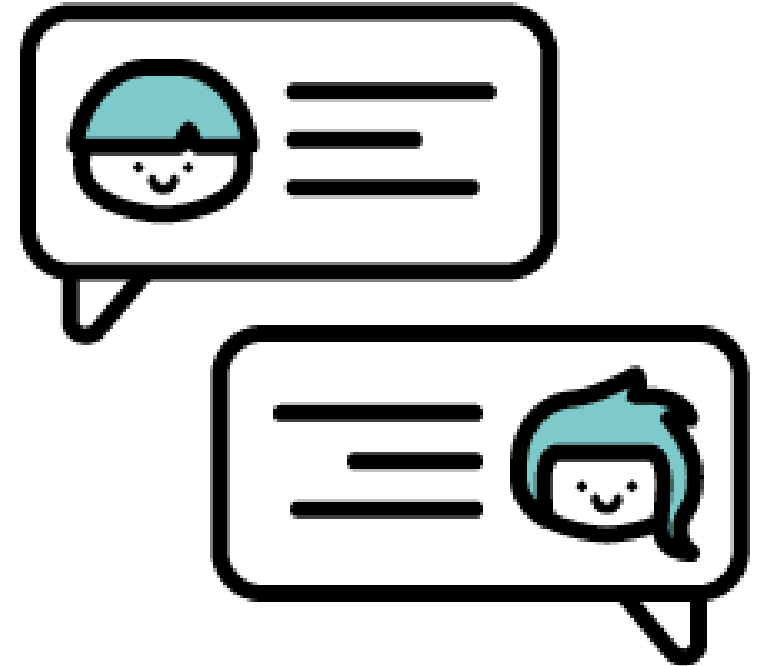
The good practice methods were identified as the **highest scoring** across all criteria.

	Source	Speed of message	Chance of success	Lacks devices	Lacks digital skills	Cognitive/physical impairment	Unreliable mobile signal	Unreliable internet	Lack of digital interest
Send letter	[1-5,9-13,15,18], Interview, Workshop	Slow	High	●	●	●	●	●	●
Send postcard	[5], Interview	Slow	High	●	●	●	●	●	●
Radio	[3,5,11], Interview	Fast	Average	●	●	●	●	●	●
Television	[3,5,11]	Fast	Average	●	●	●	●	●	●
Provide 24/7 free phone number	[4-5,7,10-11], Interview	Fast	High*	●	●	●	●	●	●
Provide call back service	[9]	Fast	Average*	●	●	●	●	●	●
Automated message on phone service	[9,11-12], Interview	Fast	High*	●	●	●	●	●	●
Provide email address	[7]	Average	Low	○	○	●	●	○	○
Live chat box on mobile app/ website	[4,7,9,15,18]	Fast	Low	○	○	●	●	○	○

See pages 37-39 for these tables in full

*A full description of the assessment criteria can be found on page 36.

Good practice communication methods



Send a letter or postcard

Strengths

- Inclusive method for digitally excluded people
- Letter feels more formal and trustworthy
- Postcard is easy to engage with

Weaknesses

- Unsure whether people read and understand the message

Opportunities to improve

- Print key message directly on the envelope for those who do not open letters
- Send colourful envelopes to differentiate them from bills

Direct communication



Best for planned outage



Not suitable for unplanned outage

Knock on door & letterbox drop

Strengths

- Certain that the message has been delivered and understood when talking to them directly and can answer any questions
- If the person is not present, can post leaflet through the letter box directly
- Template leaflets can be filled in and printed at a moment's notice

Weaknesses / Risks

- Financial and human resource required to knock on doors
- Can take a day to communicate
- Some people might be suspicious of the person at the door

Opportunities to improve

- Join with community responders to identify, prioritise, and carry out visits.
- Ability to verify who the person is to build trust

Direct communication



Best for planned outage



Good for unplanned outage

Events or printed resources in community venues (E.g. library, GP, or place of worship)

Strengths

- Able to reach a wide range of people, including ones not already identified as digitally excluded
- Can signpost to or incorporate additional support measures (e.g. device loan)

Weaknesses / Risks

- May not reach people who do not go to community venues (e.g. mobility, interest)
- Can take more than a day to communicate the message

Opportunities to improve

- Energy networks coordinating communication response with organisations

Indirect communication



Best for planned outage



Good for unplanned outage

Strengths

- Inclusive method for digitally excluded people
- Message can be delivered quickly

Weaknesses / Risks

- Need to have access to a device that carries the broadcast
- Possibility that you might miss the broadcast

Opportunities to improve

- Messaging could include advice to reach out to your neighbours and friends in the event of a power outage in case they need support.

Indirect communication



Best for unplanned outage



Good for planned outage

All-encompassing phone service

Description

- 24/7 free-phone number
- Automated message – organisation is aware of outage and expects it to be fixed in a specific timeframe
- Call back service

Strengths

- Consumers able to quickly find out about an energy outage without needing to wait to speak to anyone
- Can ask questions directly

Weaknesses / Risks

- In an unplanned outage, depends on a viable alternative to a PSTN landline in place (as required by Ofcom)
- Need to be aware of the phone number
- People with an unreliable mobile signal may struggle

Opportunity to improve

- Communication providers to not move people in vulnerable situations to VoIP unless there is a power / signal alternative)

Inbound communication

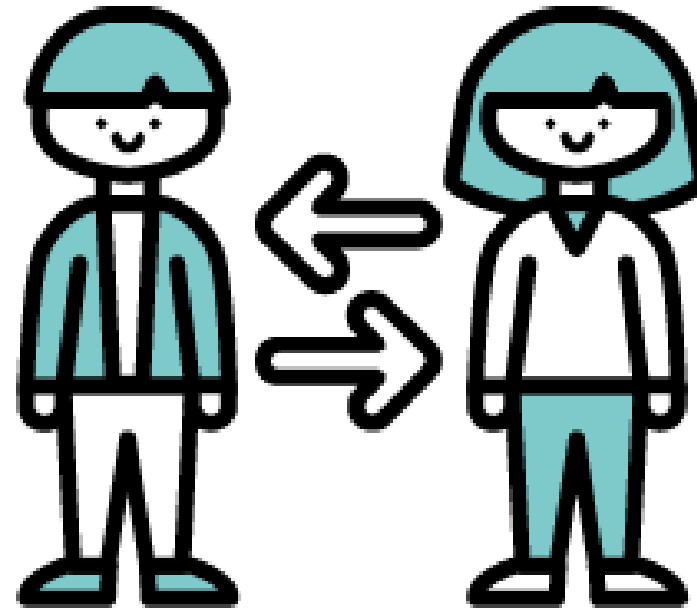


Best for planned outage



Good for unplanned outage

Ways to facilitate the message



The **literature**, **interviews**, and **workshop** identified community partnerships as key to identifying energy consumers with additional needs and reaching out to them in case of an unplanned incident.

Identifying digitally excluded people through the help of organisations, such as:

- Emergency service² (e.g. home fire safety visit)
- Library⁵ (e.g. promoting sign-up to PSR)
- Council¹⁶ (e.g. asked to be contacted via letter, or free school meal recipients^{5,18})
- NHS¹⁶ (e.g. GP notes patient cannot access online appointments)
- Schools⁵

Reaching out to people via the collective efforts of community organisations^{5,11-12,14,16-18}, such as:

- Local authorities
- Town or Parish councils
- Housing providers
- Care providers
- Local charities
- Local resilience partners
- Places of worship

Ensuring people can receive and understand the message

Alongside bolstering identification efforts of digitally excluded people, their additional needs and requirements should be gathered. This enables tailoring communication methods to ensure people can receive and understand the message.

Gathering consumer contact preferences

When joining an energy provider, the following information could be requested:

- Format requirements^{9,18} (e.g. braille / language)
- Preferred contact method⁹
- A designated contact, who can be reached in an urgent situation^{9,12,18}

Specific communication services can then be offered to support the outlined needs, such as:

- Access to a free 24/7 interpreter service^{9,18}
- Text relay service for hearing impaired^{14,18}

Integrating with the PSR

Offering joining customers to opt-in to the PSR at this stage could integrate the preferences with their PSR record.

This keeps the data consistent across databases and enables multiple organisations to follow those preferences in emergency situations.

The **stakeholder interviews** and **workshop** highlighted that the PSR should better identify digital exclusion by including questions that might help organisations know the most appropriate mode of communication in a planned or unplanned energy outage.

A number of reports found in the preliminary **literature search** focussed on:

- Increasing people's digital skills and internet usage through face-to-face or over the phone training ^{21,25,26,27,29,35}
- Providing access to devices, such as mobile phones or tablets, where needed to support digital inclusion ^{5,12,13}

To enable digitally excluded people to call emergency services during an outage, communication providers suggested the following options:

- Battery backup units for landlines ^{14,47,48,49,50,5}
- Provide mobile phones ^{10,14,50,51}

Limitations

- Ofcom only requires the battery backup to provide power for an hour
- The mobile phones need to be charged prior to the outage
- People who do not use mobile phones regularly may not be familiar with how to use them in emergency situations

Conclusions



Communicating with digitally excluded people

Here are the **key conclusions** from the research, covering findings from the literature review, stakeholder interviews, and the stakeholder workshop.

The research validated the energy networks' existing knowledge on good practice and created a bank of targeted key insights to test with consumers, providing a structured approach for the next phase of the project.

- Organisations need a mix of tailored communication methods as part of their business as usual – not as an add-on, and need to be well resourced enough to deliver these methods
- The PSR and its benefits need to be more widely publicised, and communication preferences pertaining to digital exclusion captured during registration
- Energy networks need to continue to partner with key stakeholders in the community to coordinate the local response to outages, and invite smaller community groups to get involved in that response.
- Effectively communicating planned and unplanned outages relies on knowing the communication needs and preferences of consumers
- Effectively communicating unplanned outages relies on a coordinated community response, with trusted local contacts designated to visit people without technological means of communication
- Long-lasting (> 18hrs) power back-ups for landlines are crucial in facilitating messages in an electrical power outage

Key insights to test with digitally excluded energy consumers



Key insights to test

The research identified communication challenges, messages that need to be sent, and good practice communication methods that can be used in planned or unplanned energy outages.

From these findings, we have identified some key insights that we recommend are tested, in order to overcome the challenges and refine the communication approach by the energy sector.

Each key insight statement contains variables that can be changed depending on focus of the research. For example, the type of outage, message, or method, or consumer needs, PSR status, or digital exclusion characteristics.



Key insights to test: Good practice methods

Messaging in a planned outage

Send letter or postcard: Testing the success of the message

When sending a letter to someone who does not like opening post or has physical difficulty doing so, including the words 'scheduled power outage' and the planned dates on the envelope will get the key message across without having to open the envelope, and encourage people who can, to open it.

Send letter or postcard: Testing the success of the message

When sending a letter to someone who has difficulty paying their bills, using an envelope that is not white or brown will increase the chance that it will be opened.

Events and printed resources in community venue: Testing the success of the message

Providing information leaflets and posters in community venues about when planned outages are scheduled, and what support is on offer during the outage, will increase the use of available support by people who have unreliable internet or mobile signal.

Hosting information events about planned outages at a well-known community venue will increase the use of available support during the outage by people who are not confident using digital devices.

Including a PSR sign-up form at a library will increase the number of people without home internet access and families with small children registering.

Local radio / TV: Testing the success of the message

Including a message to 'tell your neighbour about the PSR' in a local radio campaign notifying of a planned outage will increase PSR registrations in that location ahead of the planned outage.

Sending the message: Testing trust in corporate messaging

Someone on the PSR without mobile or internet signal will trust a planned outage notification when they are first sent a letter in the post with a contact number on, followed by a telephone call from the advertised number referencing the letter.

Key insights to test: Good practice methods

Messaging in an unplanned outage

Telephone call: Testing the speed of the message

The fastest way to notify someone without internet or mobile signal that an unplanned energy outage has occurred is to send an automated telephone notification the moment the outage occurs.

Door knock and letterbox drop: Testing the speed of the message

The fastest way to notify someone without internet, mobile, or landline signal that an unplanned outage has occurred, is for a trusted person nearby (friend, family, community partner), with a designated response role, to visit their home within 1 hour after the outage has occurred.

Having community partners ready to visit homes of people on the PSR in the event of an unplanned outage, will mean a faster notification time than if energy network employees were carrying out that role.

Door knock and letterbox drop: Testing the success of the message

Having community partners from trusted local organisations ready to visit homes of people on the PSR in the event of an unplanned outage, will increase consumer trust in the message and confidence that all efforts are being made to resolve the outage.

Sending a print-ready leaflet for community response partners to print and distribute during in the event of an unplanned outage will increase the success of the message getting through to people who do not use the internet or mobile devices.

People who do not use the internet because of a lack of trust will prefer to have someone knock on their door in the event of a power cut than to have an automated telephone message.

Accountability & support: Testing people's understanding

People who do not use the internet do not know who to contact when they have an unexpected energy outage.

People on the PSR want to know who is responsible for providing information and support during an unplanned energy outage, and how they can get the support.

In-outage updates: Testing the timing of the message

People on the PSR want those responsible for fixing an unplanned outage to acknowledge the outage as soon as it has occurred.

People want to know that operatives have been deployed to fix the issue, and an indication of when the duration of the outage will be known, within the first hour of the outage.

All people want to be prompted to claim compensation for a slow outage response as soon as compensation threshold has been passed, and reminded to claim after the outage has been resolved.

In-outage updates: Testing the frequency of the message

People with acute health conditions will want to be contacted for updates more frequently during an energy outage than those without recorded health conditions.

In-outage updates: Testing the format of the message

Providing printed template leaflets about support available during an unplanned outage in different formats, that can be edited on the fly by community responders, will increase the success of the message being retained by people who do not use the internet or mobile devices.

Key insights to test: Facilitating the message

PSR: Increase participation

Promoting the purpose and benefits of joining the PSR when someone joins a new energy supplier will increase uptake.

A local radio campaign that runs for 2 weeks prior to a planned outage with a message to join the PSR by calling a number will increase uptake in the PSR.

PSR: Enhance fields

Including a field in the PSR for an emergency contact who can visit your home in the event of an energy outage will increase the chance that people on the PSR, who don't use the internet or a mobile phone, will get notified about the outage.

Including a field in the PSR, with a range of statements relating to digital exclusion (based on further research), will allow energy networks to identify the right message and messaging method for each person on the PSR in a planned or unplanned outage.

Community response: Collaborating with partners

By working with trusted local organisations to plan the response strategy, energy networks will be able to co-design the messaging and support services that people in the local area need during an energy outage.

Community response: Reaching more people

Creating a response partnership with trusted local organisations will broaden the reach of the support services on offer beyond those that are on the PSR – as response partners will be able to use their own databases to target people who may benefit from the support.

Trust in community response

Promoting the organisations involved in an unplanned outage community response will reassure people that trusted organisations are involved.

Receiving the message: Provision of technology

People who do not use a mobile phone in daily life will struggle to use it during an unplanned energy outage due to their unfamiliarity with both the technology and the situation.

Providing digitally excluded consumers with a domestic energy storage battery, and a rebate on bills to charge the battery, is the cheapest way to make sure all messages get through during an electrical power outage.

People reliant on life-preserving electrical devices will have back-up power in the event of an electrical power outage. In this case, they can have their landline phones connected to their existing back-up power supply.

Messaging services: Testing the success of the message

Providing people with a 24/7 text and telephone line that triggers a call-back will help people who do not use the internet feel secure that they are being kept informed as the outage progresses.

Providing people with an interpreter service as part of the 24/7 telephone support line will increase the number of people, with English as an additional language, accessing the additional support on offer during an outage.

People receiving the automated 'voice blast' in the event of an unplanned outage are at a high risk of not retaining the key points of the message if they are not likely to go online to check for information later.

Appendix



Evaluating the methods of communication



Good practice assessment criteria

Messaging characteristics

These were chosen as key criteria in assessing the suitability of a method for planned or unplanned outages.

Speed of message - how quickly a consumer could receive the message: Fast: <1hr; Average: <24hrs; Slow: >24hrs

Chance of success - the likelihood of a digitally excluded consumer being able to receive (or send) the message

Digital exclusion characteristics

Methods of communication were assessed for their suitability to reach those with different digital exclusion characteristics.

Lack devices – no access to a basic or a smart phone, tablet or computer

Lack digital skills – unable to use digital devices, such as a computer, and the internet

Lack digital interest – not interested in engaging digitally even if they have the skills to do so

Cognitive or physical impairment – range of health conditions that may make using digital devices challenging

Unreliable mobile signal – the mobile signal frequently slows down or with regular periods not connected

Unreliable internet – able to connect to a network but frequently slow or with regular periods not connected

The strengths and weakness of the 'good practice' methods were not thoroughly assessed directly by the literature, interviews, or workshop, so the research team have made a collaborative assessment based on the evidence available in the sources.

Direct communication methods



High suitability



Moderate suitability



Low suitability

	Source	Speed of message	Chance of success	Lacks devices	Lacks digital skills	Cognitive/physical impairment	Unreliable mobile signal	Unreliable internet	Lack of digital interest
Send letter	[1-5,9-13,15,18], Interview, Workshop	Slow	High						
Send postcard	[5], Interview	Slow	High						
Letterbox drop/leafleting	[11,13], Interview, Workshop	Average	High						
Knock on door	[4-5,18], Interview, Workshop	Average	High						
Send voice messages	[11], Interview	Fast	High*						
Call people directly	[6-7,9,11,15,18], Interview, Workshop	Fast	High*						
Send SMS	[1,5,7,9,12,15,18], Interview	Fast	Average						
Send email	[1,3,5,7,9,11,18], Interview	Fast	Low						
Local WhatsApp/Facebook group	[2,5], Interview	Fast	Low						

* Low if landline not working (due to electrical power outage).

Indirect communication methods

 High suitability

 Moderate suitability

 Low suitability

CATAPULT
Energy Systems

	Source	Speed of message	Chance of success	Lacks devices	Lacks digital skills	Cognitive/ physical impairment	Unreliable mobile signal	Unreliable internet	Lack of digital interest
Radio	[3,5,11], Interview	Fast	Average						
Television	[3,5,11]	Fast	Average						
Newspaper	[8], Interview	Slow	Average						
Billboards/ Posters	[3,13,18], Interview	Slow	Average						
In community center/ place of worship/ library etc.	[2,5,7,12,16,18], Interview, Workshop	Average	Average						
Community event	[2,10,13], Interview, Workshop	Slow	Low						
In branch or via pop up store	[2,9,18], Interview	Average	Low						
Live updates on website	[7,11], Interview	Fast	Low						
Social media	[2 - 3,5,8,11,16,18], Interview	Fast	Low						

Ensuring people can contact you



High suitability



Moderate suitability



Low suitability

	Source	Speed of message	Chance of success	Lacks devices	Lacks digital skills	Cognitive/ physical impairment	Unreliable mobile signal	Unreliable internet	Lack of digital interest
Provide 24/7 free phone number	[4-5,7,10-11], Interview	Fast	High*						
Provide call back service	[9]	Fast	Average*						
Automated message on phone service	[9,11-12], Interview	Fast	High*						
Provide email address	[7]	Average	Low						
Live chat box on mobile app/ website	[4,7,9,15,18]	Fast	Low						

* Low if landline not working (due to electrical power outage).

Literature review summary



- Literature on digital exclusion has been growing with the majority of sources discovered being published after 2020, suggesting a greater focus on this area after COVID
- The majority of sources found was focused on the reasons for digital exclusion or outlining strategies to overcome it
- Very limited information about the exact challenge of communicating with digitally excluded people in urgent situations
- Of the 51 sources discovered, only 18 provided content related to the scope of this project
- Ofcom has set out that communication providers need to provide a solution to landlines requiring power so that people can contact emergency organisations during a power cut for at least an hour
 - This was regularly highlighted as an issue but the only solutions proposed by communication providers were for a battery back-up for landlines or the offer of mobile phones

Literature review: Method & aims

Aims: To identify good practice in communicating with digitally excluded consumers in relation to energy outages

51 sources found in the initial search that underwent rapid review to check for relevance, in April and May 2023

18 sources analysed in-depth, selected from the initial search list based on the eligibility criteria, in June 2023

Initial search terms

The search terms below were the initial text entries put into Google as the jumping-off point for the search.

Topic	+	Action
• Digital support		• Communicating messages to
• Digital exclusion		• Communicating with
• Digitally excluded		• Best practice
• Digitally included		• Reaching
• Digital inclusion		
• Digital literacy		
• Digital divide		

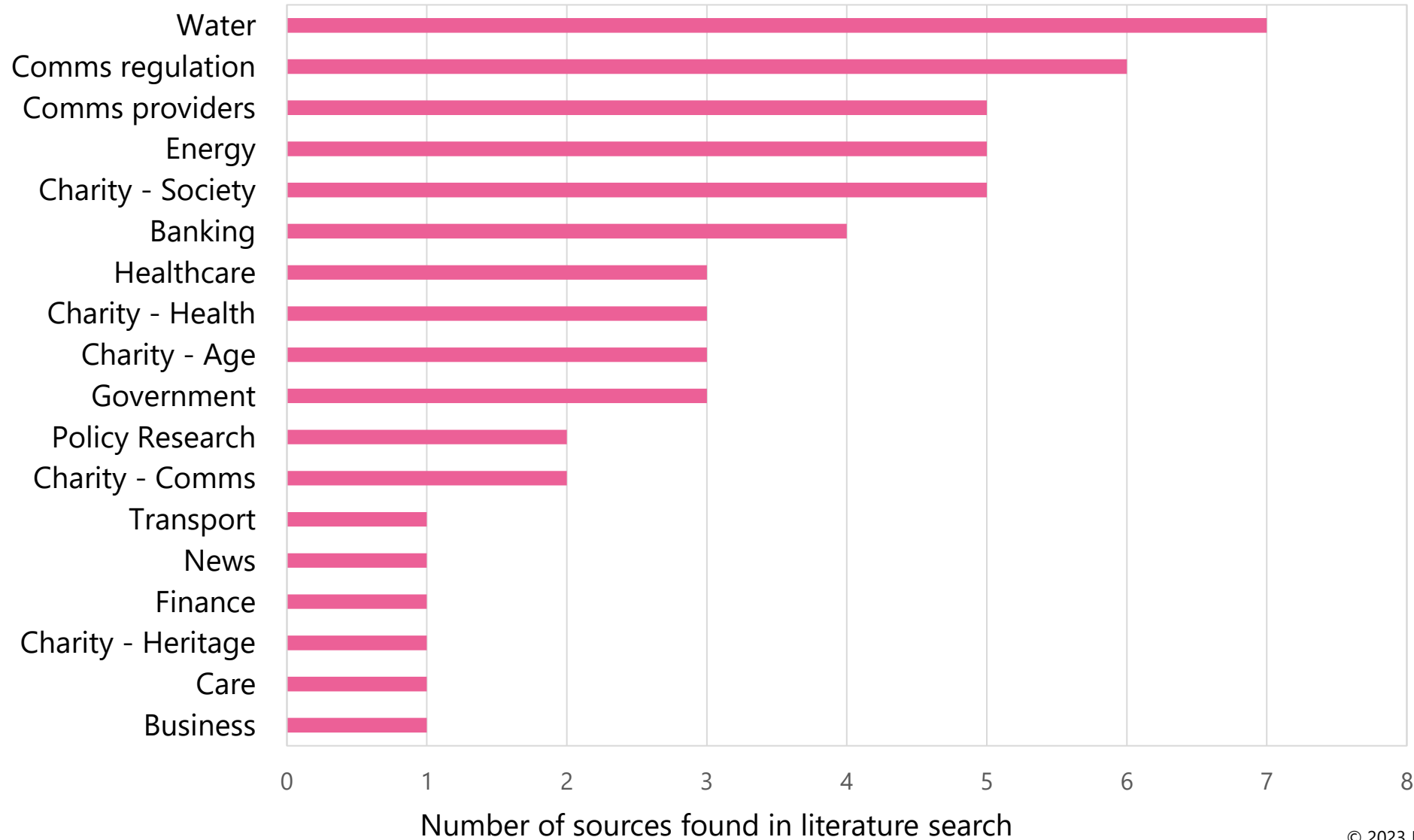
In-depth analysis eligibility criteria

Of the 51 sources found, any that mentioned the following were selected for in-depth analysis:

- Methods used to communicate with people who do not use
 - the internet, or
 - a mobile phone
- Emergency messaging

Literature search: Total sources

The literature on digital exclusion stemmed from a wide variety of sources:



References: Analysed sources

- [1] Ofcom (2022) *Treating vulnerable customers fairly A guide for phone, broadband and pay-TV providers*
- [2] CCW (2022) *Affordability Review – one year on*
- [3] CCW and Ofwat (2022) *Customer spotlight: People's views and experiences of water*
- [4] Ofwat (2016) *Practitioners' pack for water companies: To accompany Ofwat's vulnerability focus report*
- [5] National Voices (2021) *Unlocking the digital front door - keys to inclusive healthcare*
- [6] Waters, J. (2022) *Tackling the digital divide, Lloyds Banking Group plc*. Available at: <https://www.lloydsbankinggroup.com/insights/tackling-the-digital-divide.html> (Accessed: 26 June 2023).
- [7] Severn Trent (2019) *A1: Engaging Customers Our approach to, and findings from, our customer engagement for the PR19 price review*
- [8] Energy Systems Catapult (2022) *BEIS Electrification of Heat Participant Recruitment Report*
- [9] Financial Conduct Authority (2021) *Finalised guidance FG21/1 Guidance for firms on the fair treatment of vulnerable customers*
- [10] Carer Support Wiltshire (2022) *Digital Voice BT roll out – Important information affecting the Salisbury area*. Available at: <https://carersupportwiltshire.co.uk/news/digital-voice-bt-roll-out-important-information-affecting-the-salisbury-area/> (Accessed: 26 June 2023)
- [11] BEIS (2020) *Energy Emergencies Executive Committee Storm Arwen Review*
- [12] Healthwatch (2021) *Locked out: Digitally excluded people's experiences of remote GP appointments*
- [13] Lister, C. (2022) *How to reach digitally excluded audiences*. Available at: <https://www.culturehive.co.uk/digital-heritage-hub/resource/engagement/how-do-we-reach-digitally-excluded-audiences/#inclusive> (Accessed: 26 June 2023)
- [14] Ofcom (2018) *Protecting access to emergency organisations when there is a power cut at the customer's premises*
- [15] Chambers, J., Robinson, C. and Scott, M. (2022) *Digitalisation without detriment: A research agenda for digital inclusion in the Future Energy System*, People, Place and Policy Online, 16(2), pp. 177–192. doi:10.3351/ppp.2022.5254227477
- [16] Co-operative Councils' Innovation Network (2022) *Understanding the Digital Divide*
- [17] Good Things Foundation (2020) *Everyone Connected*
- [18] Wessex Water (2021) *An inclusive service for all – Every customer matters*

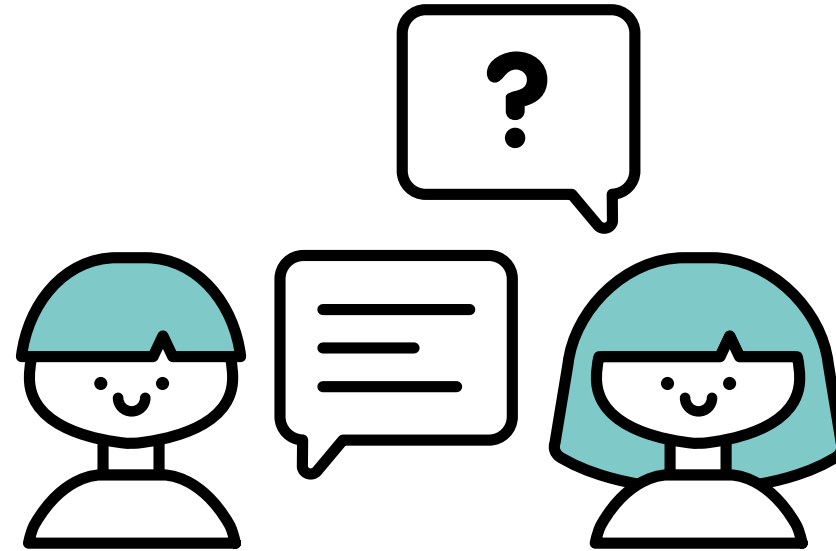
References: Rapid review sources

- [19] Lloyds Bank (2022) *UK Consumer Digital Index*
- [20] Barclays Bank (2021) *Reducing the digital skills gap for people of all ages*
- [21] Centre for Ageing Better (2021) *Digital skills to connect: Exploring the digital experiences of people aged 50-70 and the organisations supporting them during COVID-19*
- [22] Age UK (2023) *UK Digital Poverty Evidence Review 2022*
- [23] Age UK (no date) *Digital Inclusion Service Handbook*
- [24] Digital Poverty Alliance (2022) *UK Digital Poverty Evidence Review 2022*
- [25] Digital Communities Wales (no date) *Digital Inclusion Exemplars in Wales*
- [26] The Good Things Foundation (2020) *Digital Inclusion in Health & Care: Lessons Learned from the NHS Widening Digital Participation Programme (2017-2020)*
- [27] The Good Things Foundation (2020) *Written Evidence LOL0008: Covid-19 Committee.*
- [28] Supporting Communities (2022) *Get Everyone Connected! Free SIM cards from Vodafone UK.* Available at <https://supportingcommunities.org/latest-news/2022/8/15/get-connected-for-free> (Accessed: 23 June 2023)
- [29] The Good Things Foundation (2022) *Local communities and the internet ecosystem: Scaling solutions to data poverty in the UK*
- [30] BT (2023) *Digital Voice: Will my service work in a power cut?* Available at <https://www.bt.com/help/landline/digital-voice--will-my-service-work-in-a-power-cut-> (Accessed: 8 March 2023)
- [31] TalkTalk Group (2021) *TalkTalk and DWP launch national scheme to give jobseekers free broadband.* Available at <https://www.talktalkgroup.com/newsroom/2021-Talktalk-DWP-free-broadband-jobseekers> (Accessed: 8 March 2023)
- [32] Openreach (2023) *Openreach trials service methods to support analogue network retirement.* Available at <https://www.openreach.com/news/openreach-trials-service-methods-to-support-analogue-network-retirement/> (Accessed: 10 March 2023)
- [33] BT (2023) *We're expanding our trials of Digital Voice for customers.* Available at <https://newsroom.bt.com/were-expanding-our-trials-of-digital-voice-for-customers/> (Accessed: 10 March 2023)
- [34] VOIP Studio (2018) *How do you deal with a VoIP power outage?* Available at <https://voipstudio.com/blog/how-do-you-deal-with-a-voip-power-outage> (Accessed: 8 March 2023)

References: Rapid review sources

- [35] The Good Things Foundation (2021) *Blueprint for a 100% digitally included UK*
- [36] Ofcom (2022) *Digital exclusion: A review of Ofcom's research on digital exclusion among adults in the UK*
- [37] Ofcom (no date) *Migration to digital landlines: Consumer attitudes and experiences of migration to Voice over Internet Protocol (VoIP) services in the Salisbury and Mildenhall Openreach trial areas*
- [38] Comres (2019) *Digital Exclusion Research Report*
- [39] Citizen's Advice (2022) *Access Denied: Digital disadvantage and exclusion in the energy market*
- [40] Energy Systems Catapult (2023) *Inclusive Innovation: Safeguarding the Switch to Domestic Hydrogen*
- [41] Ofgem (2023) *Digitalisation Strategy and Action Plan: Supporting Information*
- [42] London Travelwatch (2023) *Left behind Londoners*
- [43] Fabian Society (2022) *Bridging the divide: Tackling digital inequality in a post-pandemic world*
- [44] NHS Digital (2022) *Digital inclusion for health and social care*
- [45] CCW (2021) *CCW's response to Ofwat guidelines for water companies in supporting customers to pay their bills, access help and repay debts*
- [46] Ofwat (2021) *Listen, Care, Share: Water customers' experiences during Covid-19*
- [47] Ofwat (2016) *Practitioners' pack for water companies: To accompany Ofwat's vulnerability focus report*
- [48] Francesca Williams (2022) *Storm Arwen: Why power cuts left people unable to phone for help* Available at <https://www.bbc.co.uk/news/uk-england-cumbria-59564480> (Accessed 8 March 2023)
- [49] Virgin Media (2023) *Virgin Media Fibre Phone FAQs* Available at <https://www.virginmedia.com/help/landline/fibre-phone-faqs> (Accessed 4 June 2023)
- [50] Ofcom (2023) *Moving landline phones to digital technology: what you need to know*. Available at <https://www.ofcom.org.uk/phones-telecoms-and-internet/advice-for-consumers/future-of-landline-calls> (Accessed: June 4 2023)
- [51] Gov.uk (2023) *Guidance: UK transition from analogue to digital landlines*. Available at <https://www.gov.uk/guidance/uk-transition-from-analogue-to-digital-landlines#what-the-change-means-in-practice-and-how-you-can-prepare> (Accessed: 8 May 2023)

Stakeholder interviews summary



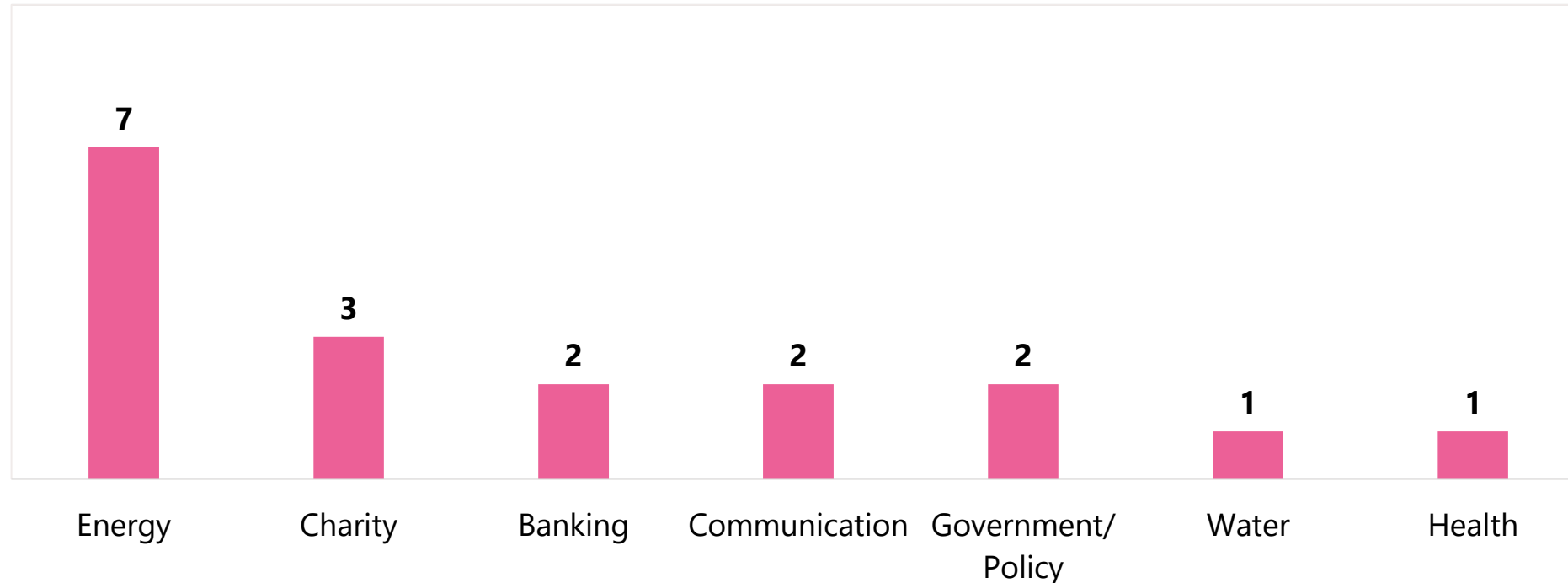
Stakeholder interviews: Method & aims

Aims for orgs in the energy sector: to understand key messages and communication challenges

Aims for orgs outside the sector: to understand methods in more depth and signpost to more research

18 interviews conducted online in April 2023, each lasting 45 minutes- 1 hour

Number of interviews by sector



- Energy sector stakeholders perceive the energy industry as being behind the curve when it comes to addressing digital exclusion
- An overreliance on the PSR is a risk for consumer safety, as it does not capture enough information to tailor communications in an outage when landlines require power

Current communication challenges

Poor customer data	Poor resourcing or execution	Lack of consumer knowledge or trust
• Not knowing how many people are digitally excluded • Getting people to sign up to the PSR • Getting 'digital exclusion' information into the PSR • Not knowing what communication methods fit with an individual's needs • People not on the PSR not providing phone number to their energy supplier • Not being able to reach people who do not want to be communicated with • Poor information sharing between suppliers and networks	• Range of tailored comms methods not planned in for business as usual • Not enough resource to call everyone in event of an outage • Handling large volumes of complaint calls after an outage • Not gathering info on who sees what messages (web / text / call analytics) • Not gathering info on whether messages are understood • Lack of consumer research on messaging and methods • Website inaccessibility excludes some consumers from key messages • Sending printed materials in the wrong format (language / font size / braille etc.) • Long waits to get through by phone frustrating customers	• Energy networks being confused for suppliers • Hard for consumers to know who to contact in the event of an outage, and how • Conflicting data for consumer records in the PSR compared with internal databases • Hard to communicate important or complex messages effectively when society values speed over comprehension • Consumer suspicion that non-routine messages are sales calls • Leaflets perceived as junk mail • Fear of scammers (calls, visits, post)

Perceived future communication challenges

Societal changes	Technological changes
• Raising age of the population • Increase in dementia • Cost of living crisis increasing digital exclusion through unaffordability • Cost of living crisis increasing volume of bill non-payment communications as fewer people able to pay bills	• Electrification of heat will increase volume of planned and unplanned outage notifications and complaints • As technology and use shifts in response to greater electrification, more communication will be needed to help consumers understand the shift • Resourcing communications effectively as companies shift resource to manage policy and regulation changes • Lack of trust in new smart technologies or fuels (e.g. hydrogen) • Upskilling the customer service call handlers with changing technical information

Messages being sent

	Raised by those in the energy sector	Raised by both those in and not in energy sector	Raised by those not in the energy sector
Routine messages (at planned moments)	• Updating PSR • One off connections requests • Compensation for not receiving enough notice for outage	• Maintenance or improvement work	• Interest rate / overdraft charging structure changes • Communication during support programme • Pay bills reminder • Communication during support programme • Voting at the AGM • Education on protecting themselves • Research recruitment and outcomes • Customer satisfaction surveys • Highlighting support programmes • New product offerings
Non-routine messages (at unplanned moments)	• Replying to complaints • Reminder to pay a late bill	• Urgent outage (affecting one or many homes) • Providing vulnerable consumers with physical support during outage	• Flood/ water quality warnings • Suspected fraud • Cell tower is down • Possibility of price rises during a customer's contract • Switching off copper telephone network

Methods being used by non-energy sector

Key

Direct
comms

Indirect
comms

Fast speed of message
High chance of success

Phone call

Voice notes

Text message

Press release
to radio/
newspaper

Slow speed of message
High chance of success

Letter

Leaflet drop
at home

Home visit

Fast speed of message
Low chance of success

Email

Website

Social media

WhatsApp/
Facebook
messenger

Slow speed of message
Low chance of success

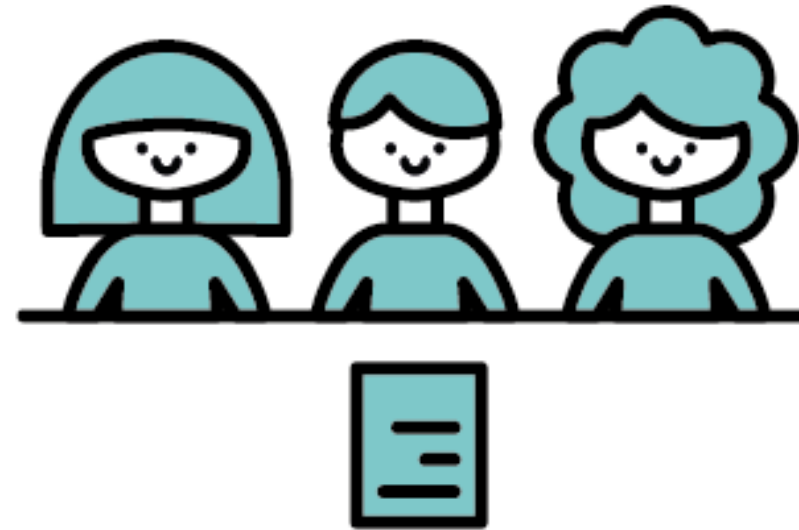
In branch

Pop up stalls

Flyers/
leaflets

Events in
community
spaces

Stakeholder workshop summary



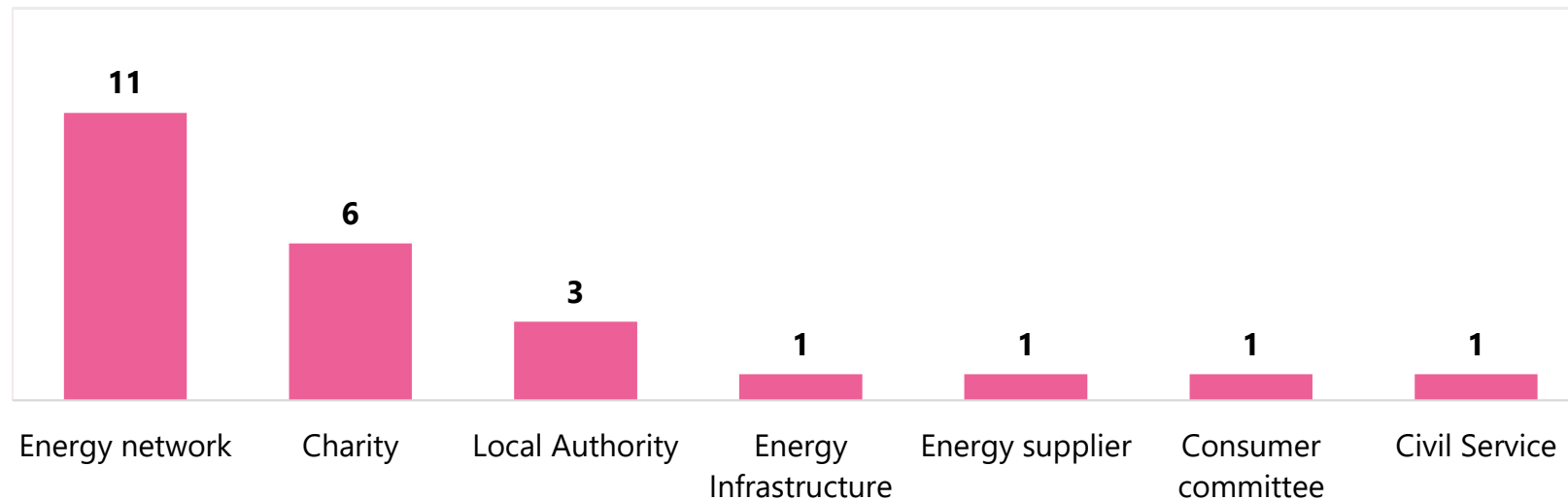
Stakeholder workshop – Method & aims

Aims for orgs in the energy sector: to plot messages and methods for planned and unplanned outages

Aims for orgs outside the energy sector: to bring the consumer voice into the discussion on messages and methods

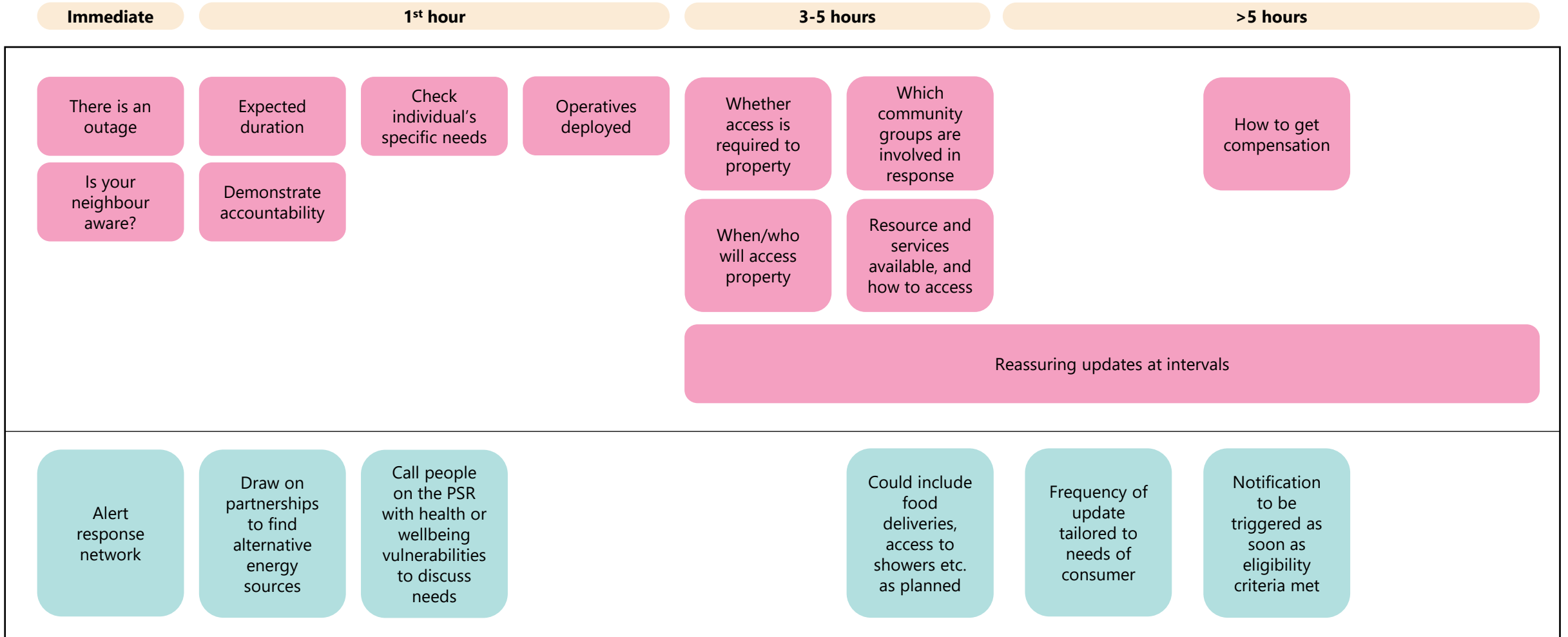
1 stakeholder workshop
online in May 2023, lasting two hours

Number of stakeholders in the workshop, by organisation type



- The group was able to plot which messages are required and in which order for an unplanned outage, when someone has no internet or mobile signal
- A community response, with trusted organisations taking a role in reaching out to people, is key to the success of a messaging service for digitally excluded people in an unplanned outage
- It is important to know the exact needs of the consumer in order to tailor the messages and methods to them
- Consumer advocacy representatives indicated that as well as needing information about the energy outage being fixed, consumers in vulnerable situations need to be made aware of how to access support equipment or facilities
- Ofcom's plans for the 1-hour battery back-up for landlines is known, but there is confusion as to whether this is 1 hour from the start of the outage, or 1 hour of cumulative usage

Messages and timings



Energy Systems Catapult (ESC) Limited Licence for 'Digital exclusion: The challenge of communicating with all energy consumers'.

ESC is making this report available under the following conditions. This is intended to make the Information contained in this report available on a similar basis as under the Open Government Licence, but it is not Crown Copyright: it is owned by ESC. Under such licence, ESC is able to make the Information available under the terms of this licence. You are encouraged to Use and re-Use the Information that is available under this ESC licence freely and flexibly, with only a few conditions.

Using information under this ESC licence

Use by You of the Information indicates your acceptance of the terms and conditions below. ESC grants You a licence to Use the Information subject to the conditions below.

You are free to:

- copy, publish, distribute and transmit the Information
- adapt the Information
- exploit the Information commercially and non-commercially, for example, by combining it with other information, or by including it in your own product or application.

You must, where You do any of the above:

- acknowledge the source of the Information by including the following acknowledgement:

"Information taken from [REPORT NAME], by Energy Systems Catapult"

- provide a copy of or a link to this licence
- state that the Information contains copyright information licensed under this ESC Licence.
- acquire and maintain all necessary licences from any third party needed to Use the Information.

These are important conditions of this licence and if You fail to comply with them the rights granted to You under this licence, or any similar licence granted by ESC, will end automatically.

Exemptions

This licence only covers the Information and does not cover:

- personal data in the Information
- trademarks of ESC; and under this licence.
- any other intellectual property rights, including patents, trademarks, and design rights.

Non-endorsement

This licence does not grant You any right to Use the Information in a way that suggests any official status or that ESC endorses You or your Use of the Information.

Non-warranty and liability

The Information is made available for Use without charge. In downloading the Information, You accept the basis on which ESC makes it available. The Information is licensed 'as is' and ESC excludes all representations, warranties, obligations and liabilities in relation to the Information to the maximum extent permitted by law.

ESC is not liable for any errors or omissions in the Information and shall not be liable for any loss, injury or damage of

any kind caused by its Use. This exclusion of liability includes, but is not limited to, any direct, indirect, special, incidental, consequential, punitive, or exemplary damages in each case such as loss of revenue, data, anticipated profits, and lost business. ESC does not guarantee the continued supply of the Information.

Governing law

This licence and any dispute or claim arising out of or in connection with it (including any noncontractual claims or disputes) shall be governed by and construed in accordance with the laws of England and Wales and the parties irrevocably submit to the non-exclusive jurisdiction of the English courts.

Definitions

In this licence, the terms below have the following meanings: 'Information' means information protected by copyright or by database right (for example, literary and artistic works, content, data and source code) offered for Use under the terms of this licence. 'ESC' means Energy Systems Catapult Limited, a company incorporated and registered in England and Wales with company number 8705784 whose registered office is at Cannon House, 7th Floor, The Priory Queensway, Birmingham, B4 6BS. 'Use' means doing any act which is restricted by copyright or database right, whether in the original medium or in any other medium, and includes without limitation distributing, copying, adapting, modifying as may be technically necessary to use it in a different mode or format. 'You' means the natural or legal person, or body of persons corporate or incorporate, acquiring rights under this licence.

Energy Systems Catapult

7th Floor, Cannon House
18 Priory Queensway
Birmingham
B4 6BS

es.catapult.org.uk

© 2023 Energy Systems Catapult