Department for Energy Security & Net Zero

Consumer research to inform the exchange of smart metering communications hubs

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1. Definition of terms

Communications hub	The communications hub on a smart meter uses the mobile telecommunications network to communicate securely with an energy supplier to share meter readings automatically. The communications hub also communicates with the In-home display to allow customers to see their energy use and spending in near real-time. The term “comms hub” was used in the qualitative research, however this was changed to “communications hub” in the quantitative research. For this report, the term “communications hub” is used.
Communications hub exchange	A communications hub exchange describes the swapping out of a 2G/3G compatible communications hub with one that is compatible with 4G networks, to allow the smart metering system to communicate via 4G networks. Being able to connect to 4G networks requires new hardware.
In-home display (IHD)	An In-home display (IHD) is a small electronic screen that connects wirelessly to a gas and/or electricity smart meter to display information about customers’ energy usage and how much it costs in near-real time.
Smart meter	Smart meters measure how much gas and electricity is being used and send these readings automatically to the energy supplier.
Smart mode	A smart meter is working in smart mode if it is sending automatic readings to the energy supplier.
Smart metering system	The smart metering system includes a smart electricity or gas meter, and a communications hub installed alongside the meter which connects to the national smart metering network and securely shares usage data with the In-home display and the consumer’s energy supplier.
SMETS2	SMETS stands for Smart Metering Equipment Technical Specifications. The number afterwards shows which “generation” a meter belongs to. Second generation (SMETS2) meters are the industry standard at the time of reporting.

2. Executive Summary

Background

By the end of 2033, 2G and 3G mobile networks are due to be switched off by telecommunications providers. As a result, smart meters that communicate via 2G and 3G mobile technology will require the installation of a new 4G compatible communications hub to allow them to continue to operate in smart mode. In most cases, smart meter consumers with these communications hubs will need to agree to a visit from an installer and be present at home at the time of installation. Therefore, consumer engagement will be an important part of ensuring the success of the exchange programme.

DESNZ wants to understand consumer perceptions around the take-up of 4G communications hubs, to support the development of its own consumer engagement plans and those of energy suppliers.

The core aim of this research was to understand what factors are likely to encourage or prevent consumers from agreeing to the 4G communications hub exchange and to use this insight to develop and test different message framings to encourage consumers to accept a visit to replace their existing communications hub.

Methods

This report summarises the results of a mixed-methods research project conducted in two stages.

In Stage 1, exploratory qualitative research using in-depth interviews and focus groups with 50 domestic smart meter owners explored: consumer responses to the 4G communications hub exchange; barriers and facilitators to consumers accepting an exchange visit; preferences for communication; and responses to possible messages. Fieldwork ran between 13 December 2023 and 11 January 2024.

Following this, four selected messages were developed for testing in Stage 2 using an online survey experiment with 1,010 participants eligible for the 4G communications hub exchange. Fieldwork was conducted between 27 March and the 5 April 2024. Stage 2 tested the relative effectiveness of different messages on likely intention to accept a 4G communications hub exchange visit and gathered survey data on communication preferences and attitudes towards the communications hub exchange.

Findings

Qualitative findings from Stage 1 show participants found the communications hub exchange acceptable, both conceptually and practically. Most expressed a neutral view towards it and accepted that exchanges would need to happen for smart meters to keep working in smart mode.

The results suggest that the question is not if participants will accept an exchange, but when. Generally, participants felt low urgency towards accepting a visit given exchanges would start in 2025 and existing communications hubs reliant on 2G/3G would not stop working until 2033. Additionally, some consumers may be more amenable to acting earlier (younger, homeowners, those who use time of use tariffs or low carbon heating systems or an electric vehicle that can be charged at home, those who have experienced perceived issues with their smart meters), whereas other groups had specific concerns about acting too early (renters and homeowners expecting to move within the exchange start and end dates).

The research in Stage 1 explored reactions to different rationales for the exchange. Participants wanted messaging about the practicalities of the visit and a clear explanation of why communications hubs need to be exchanged. This informed the development of four messages tested in Stage 2. The CONTROL message was developed as a baseline covering the practicalities of the visit and why the exchange needs to happen. The intervention messages made small tweaks to the wording of the baseline message, these were: START DATE, which explicitly mentions 2025 (when the first exchange visits would be available); END DATE, which explicitly mentions 2033 (when 2G/3G technology would be switched off); and REQUIREMENT, which framed the exchanges as a requirement for all eligible domestic smart meter customers at a high level.

Most participants said they were willing to accept an exchange within six months (56%), and this was true for all the message groups (52-59%). There was some evidence that referring to the 2025 start date for the exchanges increased the proportion of customers who would proactively seek out a communications hub exchange for their smart meter.

Taken together, the results of this research suggest most currently smart metered households would agree to a communications hub exchange. This report also identifies some misconceptions future communications should aim to correct. Examples of corrections to these misconceptions include: what the communications hub exchange will achieve and what it will not, that households will not have to pay an additional charge, and that power will probably not need to be switched off during the exchange visit.

3. Introduction

Background

Smart meters are a critical tool in modernising the way we use energy and supporting the transformation of the retail energy market, helping the system to work better for energy consumers. The Department for Energy Security and Net Zero (DESNZ) is working with energy suppliers to deliver the smart meter rollout to upgrade 53 million electricity and gas meters to smart meters in households and small businesses across Great Britain. At the end of Q1 2025 there were around 39 million smart and advanced meters operating in homes and small businesses, representing 67% smart coverage (Department for Energy Security and Net Zero, 2025).

SMETS2 meters in the central and south regions communicate via 2G and 3G mobile technology. However, by the end of 2033 2G and 3G mobile networks are due to be switched off by telecommunications providers. Ahead of the cut-off date, SMETS2 meters that rely on 2G or 3G technology to communicate will require the installation of a new 4G compatible communications hub to allow them to continue to operate in smart mode. The communications hub sits on top of or next to the smart meter. Therefore, in most cases, smart meter consumers with these communications hubs will need to agree to a visit from an installer and be present at home at the time of installation. While cases where only the communications hub is exchanged should place minimal burden on a consumer (they are quicker than a standard installation and should not require power be turned off), consumer engagement will be an important part of ensuring the success of the exchange programme.

In this context, DESNZ wants to understand consumer perceptions around the take-up of 4G communications hubs, in a way that will support the development of its own consumer engagement plans and those of energy suppliers.

Existing research has previously explored responses to messages about first-time smart meter installations with potential smart meter consumers. The research study detailed in this report was commissioned by DESNZ to Verian, an independent research agency, to build on this existing work and engage with current SMETS2 smart meter users and explore attitudes to communications hub-only exchanges. The findings provide an understanding of potential barriers and facilitators to accepting a 4G communications hub exchange and how communication with smart meter consumers can best support the exchange of 4G communications hubs, which is due to begin from 2025.

Research aims

The core aim of this research was to understand the factors that are likely to **encourage** or **prevent** consumers from agreeing to the 4G communications hub exchange and to test

different message framings to encourage consumers to accept a visit to replace their communications hub.

The overarching research objectives and supplementary research questions were as follows:

1. **To understand the barriers and facilitators to accepting a communications hub exchange visit.** What are consumers' attitudes towards the 4G communications hub exchange? What factors are likely to encourage or prevent consumers agreeing to a communications hub exchange visit?

2. **To understand smart meter consumer communication preferences about the communications hub exchange and visit.** What information would consumers want to be told before agreeing to an exchange visit? Who do they want to hear about the exchange from? How do they want to receive this?

3. **To explore how best to frame the communications hub exchange and visit to encourage timely acceptance**. Which framings and messages are likely to be most/least effective in encouraging consumers to accept their communications hub exchange visit and why?

4. **To test the potential impact of different messages on timely acceptance of a communications hub exchange visit.** What is the potential impact of different framings/messages on timely uptake of the communications hub exchange? How quickly are consumers likely to act after being told about the exchange? Will they proactively request a visit, or wait to be contacted by their energy supplier?

The report is structured as follows. In Section 4, we outline the methods and limitations associated with the research. In Section 5 we discuss the findings from the first stage of research using in-depth interviews and focus groups. In Section 6 we provide an overview of the findings from the second stage of the research using an experiment and survey. Finally, in Section 7, we discuss implications of the research.

4. Method

The research was conducted in two stages, so that Stage 1 findings could inform the design of Stage 2.

In Stage 1, exploratory qualitative research tested consumer responses to the 4G communications hub exchange. A combination of in-depth interviews and focus groups were used to explore barriers and facilitators to consumers accepting an exchange visit, preferences for communication and responses to possible messages (addressing research objectives 1, 2, and 3).

Following the qualitative research, selected messages were developed for testing in Stage 2 using an online experimental survey with 1,010 smart meter consumers. The experiment tested the relative effectiveness of different messages on attitudes towards accepting a 4G communications hub exchange visit and gathered survey data on communication preferences and attitudes towards the communications hub exchange (addressing research objectives 2, 3, and 4).

Interviews and focus groups

A mixture of interviews and focus groups with 50 smart meter consumers were conducted to ensure diverse and inclusive sampling across users. This included representation of: renters and homeowners; those who pay for their energy via credit or pre-payment meters; and wider demographic factors, such as age, socioeconomic group, gender, and ethnicity (see Appendix A1 for more information about the qualitative sample).

All participants had a smart meter in their home and had responsibility for energy bills and supplier communication. The 4G communications hub exchange is expected to be applicable for consumers with a SMETS2 meter based in the Central and South Communications Service Provider (CSP) regions.[1] Therefore, recruitment focused on domestic smart meter users living in these regions with a smart meter installed after 2017 (six years ago or more recently at the time of fieldwork). Fieldwork ran from 13 December 2023 to 11 January 2024.

Ten 60-minute in-depth interviews were conducted online or by telephone. These included consumers with specific energy needs arising from health conditions and/or impairments, as well as people in situations that may affect their engagement with, or comprehension or acceptance of a 4G communications hub exchange. Specifically, quotas were set to ensure representation of consumers with physical impairments who require a warm home

[1] CSP (Communications Service Provider) Region Central approximately includes the NUTS1 regions East Midlands, West Midlands, Eastern England, South Wales and North Wales, Merseyside and Cheshire; and CSP Region South approximately includes the NUTS1 regions Southern England, London, South East England and South West England.

environment, people with mental health conditions and neurodivergent conditions (e.g., dyslexia), consumers with fewer than five GCSEs and digitally excluded consumers.

Alongside the in-depth interviews, six 90-minute online focus groups were conducted involving five to seven participants in each: one group with social renters; one with private renters; two with homeowners; and two with consumers who pay for their energy via pre-payment meters.

A semi-structured topic guide of open-ended questions was used by moderators to structure the discussion and explore spontaneous reactions to the 4G communications hub and likelihood of agreeing to an exchange visit (see Appendix A2 for the full topic guide). Discussions explored experiences of smart meters, expectations of and reactions to the 4G communications hub and the exchange visit, and reactions to different messages supported by stimulus.

Messages were developed in collaboration with DESNZ, based on previous research around the benefits of smart meters. This included:

- A one-sentence introduction to the 4G communications hub exchange, framed either as an “upgrade” or as a “replacement”.
- Statements outlining different benefits of agreeing to a communications hub exchange across four rationales: the environmental impact, energy security, consumer benefits, and system benefits.

All messages were shown to all participants (see Appendix A3 for the stimulus shown to participants). However, the order each message was shown in was rotated across sessions according to a pre-specified rotation table to avoid creating an ordering effect that biased consumer responses.

Experiment and survey

We recruited a sample of 1,010 smart meter customers through Kantar’s online access panel, LifePoints. Participants were screened to approximately match the eligibility criteria for the 4G communications hub exchange at the time of fieldwork:

- Having a smart meter in their home installed after 2017
- Living in Wales or Central/South/East England

This approach was taken as customers were unlikely to know whether their specific meter was in scope. Respondents were also screened to ensure that they had partial or complete responsibility for paying energy bills in their household.

To ensure the achieved sample was representative of the target population with respect to key demographic characteristics, recruitment quotas were applied and the final sample was weighted to estimates for smart meter owners from the English Housing Survey 2020 to 2021 (Department for Levelling Up, Housing and Communities, 2022). For a full summary of

sampling and weighting methods and for a breakdown of the target, achieved, and weighted sample see Appendix B1.

Fieldwork was conducted between 27 March and 5 April 2024. At the end of fieldwork, participants who completed the survey too quickly were excluded for quality control.

The experiment used a between-subjects randomised controlled trial design in which each participant saw one of four messages about the communications hub exchange. Participants were randomly assigned to one of four arms using a least-fill algorithm, which determined which message was shown. The messages tested were developed based on findings from the interviews and focus groups (for the full messages see Table 2 in Section 5).

After reading the message, participants completed follow-up survey questions assessing openness to accepting a communications hub exchange visit.

The primary outcome variable was the likelihood of accepting a communications hub exchange within the first six months it is offered by their energy supplier. Responses were measured on a 7-point Likert scale from “Extremely likely” (1) to “Extremely unlikely” (7).

The purpose of selecting a primary outcome is to mitigate the risk of spurious false positive results by running multiple tests of statistical significance (i.e., the inflated ‘family-wise Type 1 error rate’). While significance testing is carried out on other measures, these should be treated as indicative findings illustrating a pattern observed in descriptive statistics, and not as robust standalone results.

Participants were also asked on the same scale, how likely they would be to seek out a communications hub exchange. These questions were adapted from Smart Energy GB’s customer segmentation:

Table 1. Smart Energy GB’s customer segmentation

Seekers	Likely to seek out an exchange visit within six months.
Accepters	Not likely to seek out an exchange visit within six months, but likely to accept an exchange visit within six months of being offered one by their energy supplier.
Indifferent	Not likely to seek out an exchange visit within six months, and indifferent to accepting an exchange visit within six months of being offered one by their energy supplier.
Unlikely to take up	Not likely to seek out an exchange visit within six months, and unlikely to accept an exchange visit within six months of being offered one by their energy supplier.

The remainder of the questions in the survey aimed to measure reasons for not accepting an exchange visit, understanding of and attitudes towards the communications hub and exchange, communication preferences, and additional demographics. For the full questionnaire see Appendix B2.

Limitations

This project used a mixed methods approach and therefore benefits from the advantages of qualitative and quantitative methodologies, however there are also some limitations to bear in mind.

While participants in the qualitative research were sampled purposively to represent a range of viewpoints across smart meter consumers, this was still a relatively small study that drew on a limited set of participants. Therefore, the views set out in this report should be treated as indicative rather than representative.

Most of the qualitative findings in this report were consistently raised by participants and where there were disparities the range of responses has been set out. Throughout the report, quotations are used to illustrate and summarise the findings. In some cases, these quotations have been abridged for clarity.

At the time of research, participants had low or no familiarity with smart meter communications hubs exchanges. Therefore, views on communications hub exchanges were first impressions and may be subject to change over time. As such, this research should be considered an initial step to understanding consumer attitudes towards 4G communications hubs and exchange visits; it may be relevant to conduct future research to explore whether and how these attitudes change over time.

In the quantitative phase, participants were sampled from an online access panel which may not be representative of all smart meter owners. To mitigate this, screening questions and general population demographic quotas were applied during recruitment, and survey weights based on the domestic smart meter customer population were applied at analysis. However, these only account for observable sources of variation in responses. For a theoretical discussion of the strengths and limitations of online access panel surveys, see Brown et al. (2017).

Second, as with all surveys, responses to questions asked about accepting and seeking out a communications hub exchange should only be interpreted as indicative of behaviour. There is a well-documented ‘action-intention’ gap encountered in behavioural research (Sheeran & Webb, 2016), and a social desirability bias (Gnambs & Kaspar, 2017). Therefore, responses participants gave may illustrate what they wanted to do ideally, or what they believed would make them appear in a positive light to others, rather than accurately reflecting their behaviour in a real-world encounter.

Third, as the experiment was conducted online it is possible that some survey respondents exerted low effort and attention towards the messages and survey questions. To address this, respondents who completed the survey too quickly were excluded from analysis.

5. In-depth interviews and focus groups

In this section, the findings from the first stage of the research conducted via in-depth interviews and focus groups with smart meter consumers are discussed.

Overall acceptability of the 4G communications hub exchange

The concept of a communications hub exchange was broadly accepted as necessary by participants. Most participants were pragmatic about the need for a new communications hub and were open to accepting an exchange but would not actively seek one out. In part, this view was driven by the sentiment that smart metering equipment, like all technological equipment, has a shelf-life and may occasionally require maintenance to keep up with advancements. While participants had no prior awareness of any upcoming changes to smart meters, they were not surprised to learn about this and understood this was something that might need to happen.

> “[I] hadn't thought about [whether changes to my smart meter would be needed in the future] before, but like any technology, every few years it needs an upgrade.”
>
> – Private renter

Attitudes towards the 4G communications hub generally did not change as participants learnt more about the need for and benefits of the exchange. Generally, participants remained open to accepting an exchange visit, but most would rather wait until their energy supplier contacted them directly to organise an appointment.

> “Well, if someone keeps ringing, then I probably arrange a convenient time [for the communications hub exchange]. But if I'm not contacted, then yeah, I wouldn't.”
>
> – Low basic literacy skills, homeowner

However, there were nuances in how proactive people felt about accepting a 4G communications hub exchange. Motivation to accept a communications hub exchange sooner varied across types of consumers. Generally, greater likely future proactivity was seen in:

- Those who currently have perceived issues with their smart meter and so see the 4G comms hub as a solution to improving the reliability and speed of their connection.

- Those who felt it might be difficult to get an exchange appointment with the number of replacements that needed to happen.
- Those who were technology advocates and knowledgeable about the wider system benefits of smart meters (e.g., managing the national energy supply).
- Those who were more anxious about losing smart meter benefits, such as less affluent or disabled participants, and those who wanted to retain the ability to interact with their energy usage digitally, e.g., to continue to top-up online (pre-payment consumers) or need access to dedicated tariffs (such as electric vehicle owners).

"[I] would prefer [the comms hub exchange] to be done sooner rather than later so I'm ready."

– Physical impairment, pre-payment meter

Participants who were less likely to be proactive about accepting a communications hub exchange in future were:

- Those with perceived smart meter issues who were not experiencing the benefits of having a smart meter working in a "smart way" (e.g., sending automatic meter readings) and did not view the exchange as a solution for this.
- Those who had had issues with their initial smart meter installation (e.g., the installer not turning up when they said they would).
- Those who anticipated there might be issues with the technology in the first wave of the communication hub exchanges, and were anxious about the technology not working once installed (e.g., consumers were concerned switching to estimated use could result in higher bills/ paying for more energy than they have actually used).
- Those generally sceptical of technology.
- Renters and homeowners who expected to move house in the next couple of years and wanted to avoid having to organise an exchange more than once.
- Those who did not see any consumer benefit of getting a 4G comms hub while 2G/3G mobile networks were still online, given that the switch-over would not be happening for some years.
- Those whose smart meter had been installed more recently and felt that the technology/ equipment was "new" and not due for an update

"[When the smart meter was installed, you were] getting something you didn't have before, whereas now the consumer's not actually going to get anything that they didn't have before. So, the uptake might be very slow… I can't really see what they could offer the consumer to be more proactive in putting themselves forward sooner than they have to."

– Low basic literacy skills, credit consumer, homeowner

Views towards the communications hub exchange visit

We provided participants with the following information about why the communications hub exchange is needed, and then asked for their spontaneous views on how they expected the exchanges to happen:

Why are changes needed?

- *2G and 3G communications technology is being switched off to support the roll-out of newer 4G and 5G mobile networks, which will offer faster and more reliable services for customers. All technologies will therefore need to be compatible with 4G communications.*

How does this impact my smart meter?

- *Your 'Comms Hub', a part of your smart meter, which uses this technology, will need to be replaced (example image of an electricity smart meter shown to participants). This is because it currently is only compatible with 2G and 3G communications.*

What is the 'Comms Hub'?

- *This is the part of your smart metering equipment that keeps it functioning in a 'smart' way. This therefore needs to be replaced with one that is compatible with 4G communications.*

In terms of the practicality of getting a 4G communications hub exchange, there were some initial misconceptions and apprehensions before participants were provided with more information. There was a wide variation in participants' spontaneous estimations of the time a visit would take: ranging from 10 mins through to 2 hours. Two participants initially assumed a new in-home display would be part of the exchange. Another participant thought they might need to call their energy supplier to check they had the right communications hub and organise for an engineer to come to their property. Some participants had also assumed initially that their power would need to be turned off, as this was the case when their smart meter was installed.

Most participants correctly anticipated that an engineer would need to come out to exchange the communications hub manually, and that they would have to be at home for the visit. However, not everyone assumed this at first. For example, some participants expected that the 4G communications hub would be sent to the consumer in the post with instructions for self-installation. Views on this were mixed, with some participants thinking this would be less hassle than an in-person visit and others not wanting the responsibility of installing the communications hub themselves in case something went wrong. Others expected that the 4G communications hub would be installed remotely (or from a central point in the street) based on a recent experience with gas meter changes or broadband upgrades. This assumption was also, in part, informed by the "upgrade" framing tested when first introducing participants to the communications hub exchange (discussed in more detail in Section 5). However, once the

details of the visit were explained, participants all felt the practicalities of an at-home engineer visit were straightforward and acceptable.

We then provided participants with information about the practicalities of the exchange visits:

What will happen before the visit?

- *You will be contacted about replacing your Comms Hub.*

What will happen on the day of the visit?

- *An engineer will visit your premises at an agreed or notified time to replace your Comms Hub.*
- *Your power should not need to be switched off in that time.*
- *Your meter will still be recording your energy usage correctly and your bills will remain accurate. Your smart meter's in-home-display will continue to work (though it will temporarily lose its connection).*

How long will the replacement take?

- *The switchover should take no more than one hour [and will be quicker if you have only an electricity meter].*

Participants responded positively to learning that their power would not need to be switched off and that the installation should take no more than one hour.

> "It sounds really straightforward, very little disruption."
>
> – Homeowner

A small number were hesitant about accepting an in-person exchange. Reasons for this included:

- The hassle of organising and facilitating a visit. This was particularly relevant for those who would not normally be at home during the day and those who had had a prior negative smart meter installation experience (e.g., engineers not turning up when expected).
- The discomfort of having a stranger (the engineer) in their home was mentioned by two participants. Other participants, even if they themselves would not feel discomfort, felt that this would be likely to be the case for elderly people, people with anxiety and people caring for children at home with special needs.
- Difficulty of believing that electricity and heat would not need to be turned off during a visit, despite the messaging saying that power would be retained throughout the visit. One participant using medical devices powered by electricity, for example, did not feel completely assured by the messaging.

Overall, participants who expressed concerns felt they would still accept an exchange visit, on the condition that they have control over the time and date of the visit, so that they had sufficient notice if their electricity needed to be switched off.

In the scenario that the smart meter is outside a consumer's property, it might be possible for an engineer to complete the communications hub exchange without the consumer needing to be at home. To explore how consumers would feel about this, participants were asked to

imagine that their smart meter was outside (this was the case for 12 participants whose smart meters were outside their property) and that their energy supplier had contacted them to ask for consent to carry out the exchange when they were not at home. While there were a mix of views on this, most participants were broadly accepting of this situation, with many feeling that not needing to be at home was more convenient.

> "[The outside scenario would be] easier because you wouldn't have to arrange a time that you would be in. It would be a simpler process if it was outside."
>
> – Private renter

Some participants did not mind being out during the exchange but felt they would still prefer to be at home if given the choice. Reasons for this included feeling uncomfortable with an engineer visiting their property when they were not at home and feeling worried in case something went wrong with the exchange.

While most participants were happy for the exchange to be carried out while they were not at home, they wanted confirmation from their energy supplier that the exchange had been completed successfully (e.g., a card/letter through the door and an email) and a contact number to follow up with in case they had experienced any issues.

> "I would probably rather be around… [for] peace of mind I guess that people aren't poking around your property when you're not here."
>
> – Homeowner

Expectations around how the communications hub exchanges would work in practice

Consumer choice

All participants expected energy suppliers would require them to get a 4G communications hub or, if not, they would have to choose between accepting the 4G communications hub or losing access to smart meter functionality, which was unattractive.

> "Sounds like it might be optional from 2025 onwards but by 2033 it's got to be done, if not then it will stop working. I suppose it wouldn't be mandatory because people could just go back to doing their meter readings, but I don't know why you would do that when you've got a smart meter."
>
> – Credit payment consumer

Participants believed that energy suppliers, as the owners of the smart metering equipment, were the actual beneficiaries of the communications hub exchanges. As a result, some participants imagined that suppliers might pressure consumers into getting a 4G communications hub (e.g., by limiting access to tariffs or only allowing online pre-payment if consumers had a 4G hub).

> "I feel like I don't have a choice … [the energy suppliers] are saying you need to do it for our service to work."
>
> – Pre-payment consumer

Despite this, consumers were open to the 4G communications hub exchange being mandatory. Participants generally believed that requiring smart meter consumers to agree to a communications hub exchange was acceptable, as turning off the 2G/3G masts was seen as a national technological advancement. Some participants felt it would be simpler if the communications hub exchanges were mandated, as this would reduce conflict between consumers and energy suppliers.

Broader concerns related to 4G communication hub exchanges

The number of households that would require an exchange hub prompted broader concerns about how the exchanges would be managed.

Some participants were concerned about the scale of the exchange, as all households and businesses who had acquired smart meters with a 2G/3G compatible communications hub would be affected. This caused some participants – particularly those on pre-payment meters or with health conditions requiring a warm home – to feel anxious, as they were concerned that they would not get an exchange in time to maintain their smart functionality. However, for most this concern would not motivate them to act sooner, as they felt that it was energy suppliers' responsibility, and not consumers', to complete all exchanges on time.

Another concern that emerged was that even 4G compatibility might be outdated soon. For some, this was a reason to delay agreeing to a new communications hub exchange. These participants felt that if there was a chance of a 5G+ compatible hub being rolled out before 2G/3G is switched off, agreeing to an exchange too soon risked them having to agree to a second exchange in the near future.[2]

While not a concern that would affect decisions to accept a communications hub exchange, some consumers wanted to know how waste would be managed during the exchanges: whether the old communications hubs would be disposed of responsibly and/or be recycled.

Participants wanted clarity on how much the exchange would cost them (see Section 5 for what information participants wanted to know about the visit). Most were concerned that even if there was no outright charge, this might be passed onto consumers via bill increases.

Therefore, consumers may also require reassurance about how the exchanges will be managed to minimise cost, waste and ensure all households will receive an exchange in time for the switch-over, and clarification that the new meters' compatibility will endure.

Timings of the exchange, network switch-over and consumer urgency

Participants were informed that the first exchanges are planned to start in the second half of 2025 to allow time to complete all exchange visits required before the 2G and 3G masts are

[2] The concern that 4G compatibility was not 'future-proof' could have been prompted by the stimulus. In the stimulus, the reason for 2G/3G networks being switched off was described as to: "support the rollout of newer 4G and 5G mobile networks". See Appendix A3 for the full stimulus.

switched off in 2033. Participants felt reassured by this as it would allow customers time to learn about the 4G communications hubs and why they are needed. However, this also reduced the extent to which consumers perceived the urgency of securing an exchange visit.

> “It kind of suggests I don't need to worry about it tomorrow."
>
> – Credit payment consumer

Reasons for delaying accepting a visit included:

- The lack of a clear additional consumer benefit of completing an exchange much before 2033, while 2G/3G compatible communications hubs still work.
- Not wanting to be in the first wave of consumers to accept an exchange visit, as participants anticipated teething issues with the new technology. This was relevant for those who had experienced issues with their smart meter when it was first installed and those who had heard about negative experiences from others.
- Wanting to minimise the number of exchanges a consumer would have to agree to before 2033 (e.g., because of moving house or anticipating the technology would advance in the next couple of years).

Communications needs and preferences around the communication hub exchanges

What do people want to know before accepting a visit

Generally, participants felt the information provided was clear and straightforward, and covered most of what they would want to know before accepting an exchange visit (see Appendix A3 for the stimulus materials used to explain this). This information covered:

- Why a 4G communications hub is needed and how this impacts their smart meter,
- What a communications hub is,
- What will happen before the exchange,
- What will happen on the day of the exchange,
- How long the exchange will take, and
- When the switch-over is happening.

In addition to this, participants wanted to know how much the communications hub exchange would cost them, clarification about the benefits of a 4G compatible communications hub (such as additional features or a faster and more reliable connection), and the consequences of not getting a 4G communications hub. For example, what would happen to smart meter functionality if they did not exchange by 2033, and, if the exchange was framed as a requirement, what the consequences would be of not agreeing to an exchange by 2033.

Who they want to hear from

Energy companies were the most trusted point of contact for practical information related to the exchange. Participants expected that they would be contacted directly about the communications hub exchanges by their own energy supplier, as they own the smart metering equipment and would organise the exchange visit.

However, participants felt that Government and independent voices would help to support communication about the switch-over. Due to the national scale of the exchanges, consumers felt that regulators (e.g., Ofgem) and key Government departments (e.g., DWP due to its role in delivering the Warm Home Discount) should play a role in raising awareness (e.g., via a national communication campaign). This would help consumers recognise the 4G communications hubs as a national upgrade rather than a supplier decision – and avoid consumers unnecessarily switching suppliers thinking that by doing so they would not be affected. Other trusted independent voices mentioned included: Martin Lewis, Which? and general media and news outlets. TV and radio were mentioned by digitally excluded participants as particularly important channels for reaching them.

Reactions to rationales for communications hub exchanges

Communicating new concepts: communications hub exchange

Participants were introduced to the 4G communications hub exchange via two different framings: as an “upgrade” and as a “replacement”, and these different framings affected initial expectations of the practicalities of installing the 4G communications hub.

The “upgrade” framing led some participants to assume that their smart meter could be made 4G compatible via a software rather than a hardware update. This in turn led them to assume that an in-person visit from an engineer would not be needed, as software can be updated remotely. This framing also suggested that the 4G communications hub would provide new or improved functionality and/or fix existing connectivity issues (e.g., in-home display not working, meter readings not being sent to energy suppliers automatically). It was also interpreted as “optional” by some. This led participants to react more positively initially to the “upgrade” framing.

> “[Upgrade sounds like] you are getting something more, more functions or benefits from it.”
>
> – Homeowner

In contrast, the “replacement” framing was more likely to be interpreted as necessary, requiring an in-home visit and that the functionality of the hub would be the same as it is currently.

Once more information was provided, the “replacement” framing was viewed as the more accurate framing, although participants felt that neither clearly convey that the 4G communications hub exchange will be necessary to maintain smart functionality after the network switch-over.

"I would say that's a replacement. It's not really selling anything other than your old one's not going to work anymore, so it's got to be changed.”

– Homeowner

This demonstrates the importance of accurately communicating the exchange to consumers to avoid early misconceptions.

Communicating new concepts: the 4G communications hub

On first exposure, the concept of a “communications hub” was not well understood. Most participants had never heard of a communications hub and could not identify it on their smart meter. Also, initially, many assumed that their in-home display (IHD) was their “smart meter”. However, the difference between the IHD and smart meter was clear once explained.

For most participants, showing an image of a smart meter when introducing people to the communications hub was a useful aid, as it helped participants to understand that the communications hub is a physical piece of hardware.

Framing the benefits: consumer communications hub exchange rationales

Eight messages across four rationales were tested with participants. As shown below, each message emphasised a different benefit of maintaining the “smart” functionality of smart meters via the communications hub exchange (see Appendix A3 for the full messages as participants saw them).

Rationale 1: Personal benefits

- Accurate bills and control over energy use and spending
- Meter readings taken automatically and sent directly to your energy supplier
- Access to time of use tariffs
- Allowing customers to top up online (only shown to customers who pre-pay for energy)

Rationale 2: System upgrade

- Essential national upgrade to the energy system
- Essential national infrastructure upgrade (compared to other types of infrastructure that require ongoing national investment)

Rationale 3: Net Zero

- Makes it easier and cheaper for engineers to integrate renewable energy sources into the energy network

Rationale 4: Energy security

- Allows energy to be distributed more efficiently and lowers reliance on imported energy

Responses to each of the rationales are discussed below.

Personal benefits

Spontaneous discussions at the beginning of the discussions revealed that the most important benefits of having a smart meter varied by consumer:

- For those more budget-conscious, financial control was most important.
- Topping up online was equally as important for pre-payment consumers.
- For others, the main benefits were less hassle and not having to question bill accuracy.

Therefore, generally participants felt that the messages highlighted the most important personal benefits of having a smart meter. Also, compared to the other rationales, the personal benefits to the consumer were felt to be the most important reasons for agreeing to a communications hub exchange. However, as the messages highlighted benefits smart meter customers already had, the messages lacked motivational power.

System upgrade

Participants generally found these messages straightforward and sufficient in describing the reality of the situation, especially the national scale of the communication hub exchanges. However, framing the need as a system upgrade led to comparisons with infrastructure and concerns that money could be spent better elsewhere.

Net Zero and Energy Security

The link between the smart meter communications hub and Net Zero and energy security was not well understood. This reduced credibility and undermined the effectiveness of these rationales. While a minority of knowledgeable participants appreciated these benefits, most

participants did not find them motivating as a reason for seeking out or accepting an exchange.

Overall, participants felt that none of these messages were quite right to motivate them to accept a communications hub exchange. The main communication participants wanted was reassurance that the exchange visit would be easy to organise, would involve minimal disruption and that it would be necessary to maintain smart meter functionality.

Implications for message testing in the online experiment

Findings from the qualitative research indicated that conceptually and practically the communications hub exchange was deemed acceptable. Smart meter customers understood why they would need to agree to a 4G communications hub exchange and found the details of the exchange visit itself acceptable.

Even though not explicitly stated, most people assumed that exchanges would be mandatory in practice as they would have no choice but to accept an exchange to maintain their current smart meter functionality. However, differences in people's experiences with smart meters, attitudes towards the exchanges, and how long participants expect to live in their current home had implications for their proactivity towards accepting a visit. Two barriers to immediately agreeing to a communications hub exchange emerged:

- **The perceived hassle for consumers of organising and facilitating a visit** (i.e., having to be at home for the engineer's visit). Messages designed to increase proactivity towards accepting a communications hub exchange could therefore emphasise the ease of the visit itself (low time commitment, no electricity switch-off needed) and that the onus will be on energy suppliers to contact consumers directly and that consumers will be able to agree a time that works for them.

- **Low perceived urgency.** Participants noted the lack of consumer benefits of the exchange before 2G and 3G networks are switched off and the perceptually long timeframe between when exchanges would begin (2025) and when 2G and 3G will be switched off (2033). While it was reassuring to learn that the 2G/3G switch off would only happen in eight years' time, participants felt that this reduced pressure to agree to an exchange until closer to the end of the exchange period, especially for those (e.g., renters) who expected to move home within the exchange period. Messages designed to increase proactivity towards accepting a communications hub exchange could therefore focus on the start date (2025) for the exchanges and place less emphasis on the end date (2033).

There was a final barrier that emerged to taking immediate action, which was the perception that households in the first wave of exchanges are likely to experience technical issues following installation and so it would be prudent to wait for a few years until implementation is better established. However, this was not addressed in the message design, as there was

consensus that this would be a difficult barrier to address in the context of a communication campaign: the other two barriers were judged to be more relevant to explore at stage 2.

The messages and rationales tested in the qualitative phase tended not to provide additional motivation to accept an exchange visit and were sometimes confusing. Generally, participants felt that personal smart meter benefits were more important to the decision to accept a 4G communications hub than the system benefits. However, the lack of additional benefits to smart meter customers of having a 4G communications hub tended not to motivate participants to accept an exchange visit. Other messages highlighting the broader security and environmental benefits of maintaining smart meter functionality required knowledge of the energy system and so were more likely to cause confusion and evoke scepticism. There was more interest in understanding the practical implications for individuals of accepting an exchange visit, or not. Participants also felt a more matter-of-fact tone was needed to communicate why the exchange would be needed and what this means for customers.

The results from the qualitative phase informed the design of four messages tested in the online experiment (see Table 2 for the messages taken into the second stage of the research).

A control message was developed to act as the comparator to three intervention messages. The control message was informed by recommendations based on the key messaging insight that emerged from the qualitative research:

1. Refer to the installation of the 4G communications hub as an “exchange” rather than an “upgrade” or a “replacement” to avoid misconceptions.

2. Be straightforward with consumers about what is happening, why and what to expect practically.

3. Focus on the ease of replacement and the onus being on the energy supplier to communicate directly with the consumer to arrange a time that suits them.

4. Avoid mentioning 5G or the implications for mobile networks of turning off 2G/3G that may prompt expectations that technology will soon be outdated (i.e. another comms hub replacement will be needed) and misconceptions that the 4G communications hub will provide a faster, more reliable service.

Three intervention messages were then developed by making small changes to the control message, to test a further three recommendations:

1. Mention of the 2025 start date may increase proactivity to accept an exchange visit.

2. Mention of the 2033 switch-over date may reduce proactivity towards accepting an exchange visit.[3]

[3] This recommendation was tested in Phase 2 as a comparison to the potential positive impact of mentioning the 2025 date on proactivity towards the exchange. It was also tested to highlight any potential effect of mentioning

3. Make it clear whether consumers will or will not be required to get a 4G communications hub, as most will assume they will have to agree to an exchange.

the 2033 end date on dampening motivation towards accepting an exchange visit to inform the design of future communications.

Table 2. Messages tested in the experiment developed based on the qualitative findings (bold text indicates the differences between the messages tested).

CONTROL	Intervention 1: START DATE	Intervention 2: END DATE	Intervention 3: REQUIREMENT
The 'Communications Hub' on your smart meter will need to be exchanged to keep your smart meter working as it should. In preparation for 2G and 3G communications technology being switched off by mobile operators the 'Communications Hub' will need to be exchanged with one that can use the 4G network. The 'Communications Hub' is the part of your smart meter that uses this technology to communicate with your in-home display and your energy company. Your energy company will contact you directly to agree an appointment for this. The appointment should take no more than an hour, will be provided at no additional charge, and your power should not need to be switched off. Your energy company will let you know what to expect and if there's anything else you need to do in preparation.	**From 2025,** the 'Communications Hub' on your smart meter will need to be exchanged to keep your smart meter working as it should. In preparation for 2G and 3G communications technology being switched off by mobile operators the 'Communications Hub' will need to be exchanged with one that can use the 4G network. The 'Communications Hub' is the part of your smart meter that uses this technology to communicate with your in-home display and your energy company. Your energy company will contact you directly to agree an appointment for this. The appointment should take no more than an hour, will be provided at no additional charge, and your power should not need to be switched off. Your energy company will let you know what to expect and if there's anything else you need to do in preparation.	**Before 2033,** the 'Communications Hub' on your smart meter will need to be exchanged to keep your smart meter working as it should. In preparation for 2G and 3G communications technology being switched off by mobile operators the 'Communications Hub' will need to be exchanged with one that can use the 4G network. The 'Communications Hub' is the part of your smart meter that uses this technology to communicate with your in-home display and your energy company. Your energy company will contact you directly to agree an appointment for this. The appointment should take no more than an hour, will be provided at no additional charge, and your power should not need to be switched off. Your energy company will let you know what to expect and if there's anything else you need to do in preparation.	**Everyone with a smart meter must agree to a 'Communications Hub' exchange when your energy company contacts you to arrange it. This will happen between 2025 and 2033. This is needed** to keep your smart meter working as it should. In preparation for 2G and 3G communications technology being switched off by mobile operators the 'Communications Hub' will need to be exchanged with one that can use the 4G network. The 'Communications Hub' is the part of your smart meter that uses this technology to communicate with your in-home display and your energy company. Your energy company will contact you directly to agree an appointment for this. The appointment should take no more than an hour, will be provided at no additional charge, and your power should not need to be switched off. Your energy company will let you know what to expect and if there's anything else you need to do in preparation.

Note: Differences between the control and intervention messages are marked in bold. Participants saw the message without bold text.

6. Experiment and survey findings

How to read this section

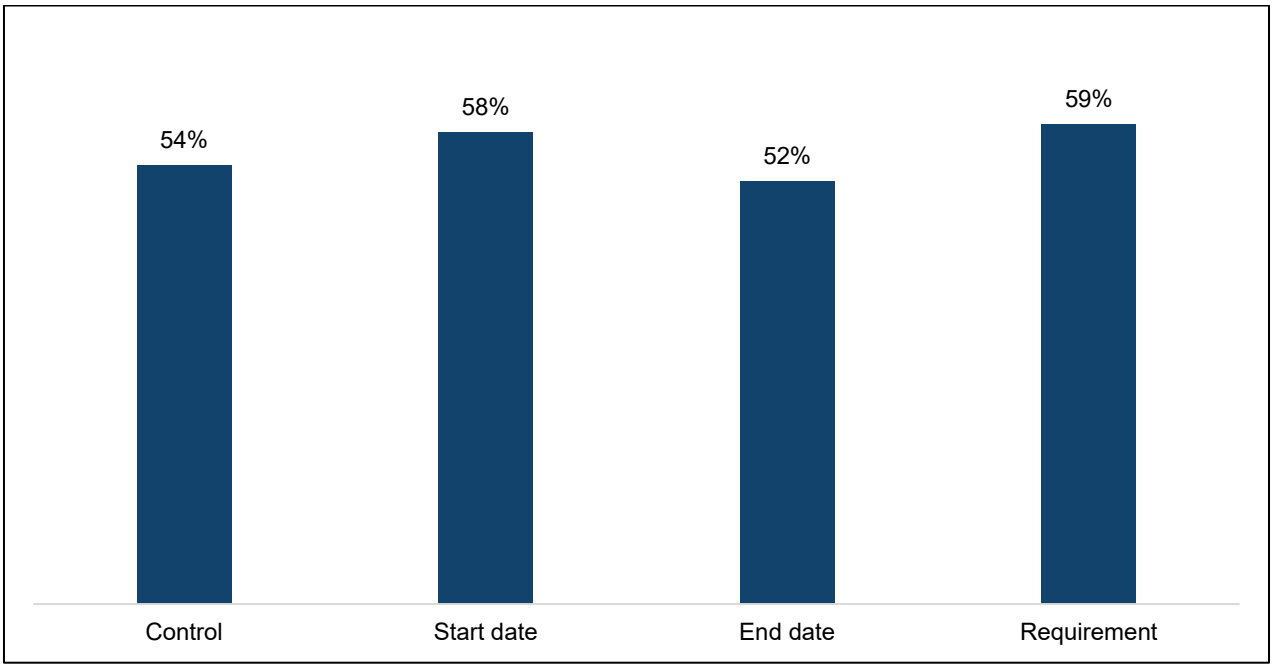
Running many tests for ‘statistical significance’ makes it likely that some will be spurious false positive results arising by chance. To avoid this issue, we have followed best practice for trials and have designated one question as the ‘primary outcome’: how likely the participant would be to accept a communications hub within six months if offered. In this section, we only report whether a finding is statistically significant for this question. All other results are reported descriptively (e.g., “X% of participants said Y”) or should be considered as ‘exploratory’ findings in need of follow-up research to confirm.

Unless stated otherwise, all results presented here are drawn from the weighted survey data.

Likelihood of accepting a communications hub exchange

Across the full sample, people are more likely to say they will get a communications hub if their supplier contacts them and offers it, compared to if they have to proactively contact their supplier. Over half (56%) said that they would accept one if offered (19% said that they would be unlikely to accept one), compared to 4 in 10 (42%) who said that they would proactively contact their supplier to ask for one (26% said that they would be unlikely to proactively contact their supplier).

Figure 1. Proportion of respondents who say they are likely to accept a communications hub exchange within six months.



Question: *'If you were offered a Communications Hub exchange for your smart meter by your energy supplier within the next six months, how likely or unlikely would you be to accept it? Please answer on a scale of 1 to 7, where 1 is 'extremely likely' and 7 is 'extremely unlikely'.*

Total 'likely' is the sum of responses 1-3.

Total weighted base n = 1,010 (Control n = 244; Start date n = 254, End date n = 265; Requirement n = 247).

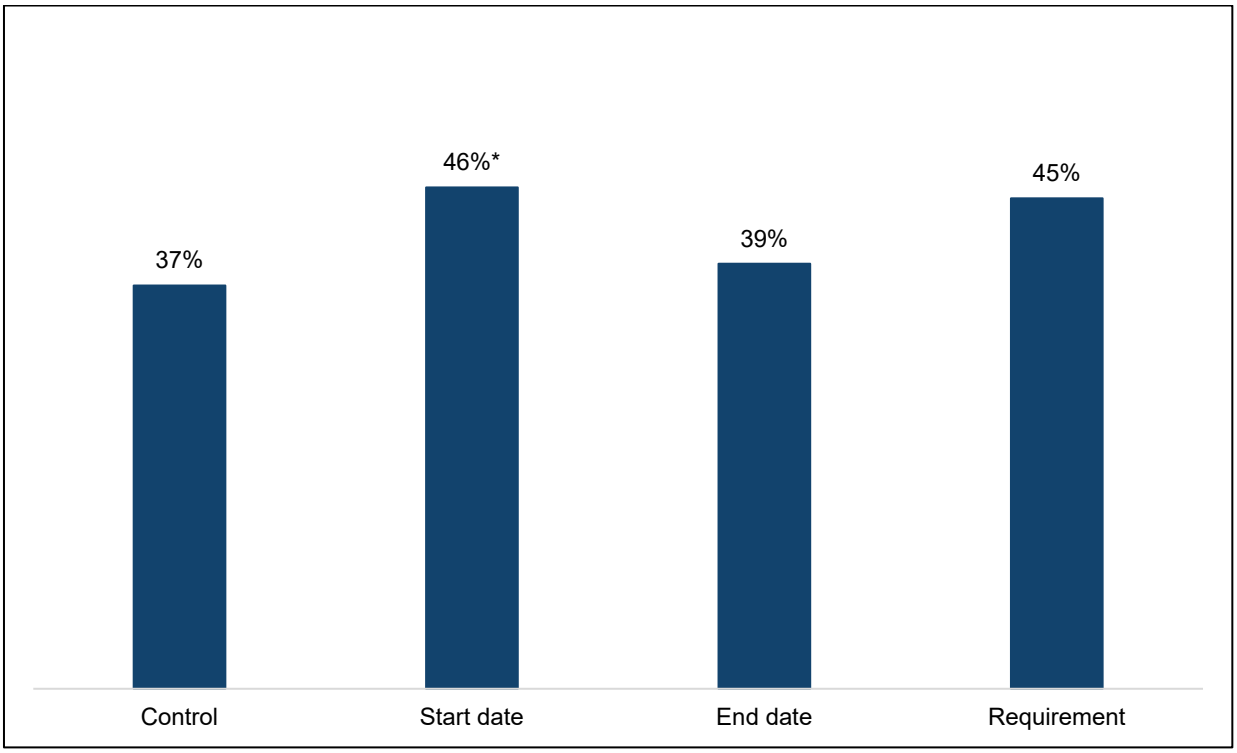
There was no clear evidence to suggest that the content of the messages affected how likely participants were to say they would accept a communications hub exchange. They answered on a scale from 1 to 7, where 1 meant "Extremely likely" and 7 meant "Extremely unlikely". The average (mean) scores in each message group were similar (CONTROL – 3.08, START DATE – 3.07, END DATE – 3.19, and REQUIREMENT – 3.09), and none were statistically significantly different from one another.

The intervention messages had similar impact on levels of acceptance. In every group, more than half of respondents in each group said they would accept a communications hub exchange within 6 months (Figure 1).

There was some evidence that referring to the 2025 start date may encourage consumers to proactively seek out a communications hub exchange. The START DATE and REQUIREMENT messages gave the start of the roll-out and in those groups 46% and 45% of participants respectively said they would seek a communications hub exchange within six months.[4] This compares to 37% for CONTROL and 39% for END DATE, which did not mention the start date.

[4] Only the difference between START DATE and CONTROL was statistically significant in our exploratory tests.

Figure 2. Proportion of respondents who say they are likely to seek a communications hub exchange within six months.

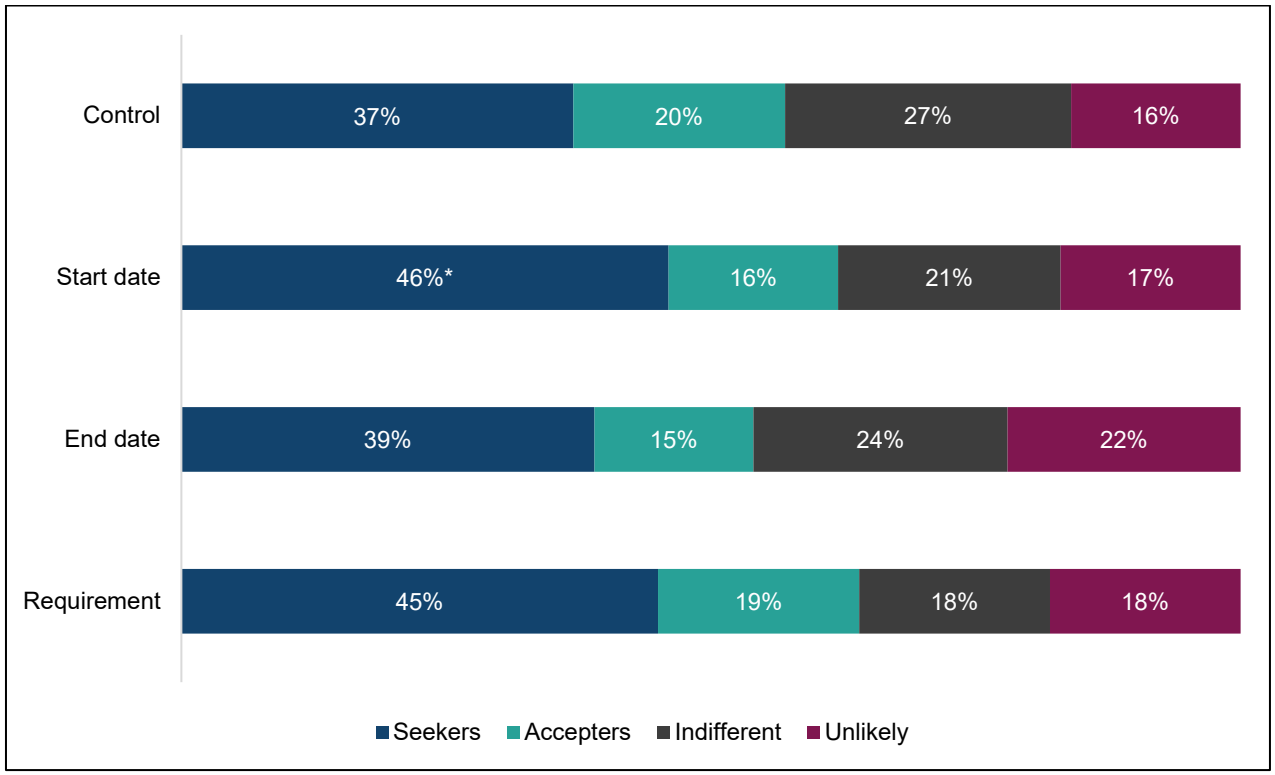


Question: *'Now imagine that your energy supplier starts offering appointments for Communications Hub exchanges tomorrow. How likely or unlikely would you be to contact your energy supplier within the next 6 months to request a Communications Hub exchange for your smart meter? Please answer on a scale of 1 to 7, where 1 is 'extremely likely' and 7 is 'extremely unlikely'.*
Total 'likely' is the sum of responses 1-3.
Total weighted base n = 1,010 (Control n = 244; Start date n = 254, End date n = 265; Requirement n = 247).
'*' indicates statistically significant difference to Control ($p < 0.05$)

Conversely, the highest proportion of those saying they were unlikely to seek out a communications hub exchange was in the group who saw the END DATE message (30%), compared with 27% for CONTROL, 24% for REQUIREMENT, and 21% for START DATE.

The questions used in this study were adapted from a standard set used to derive a customer segmentation so that the same could be done here. For details of how the segments were defined, see Appendix B3. Across the full sample, more than two in five were coded as 'seekers' (42%), 17% were 'accepters', 23% 'indifferent', and 18% 'unlikely'.
The breakdown of customer segments by message group in Figure 3 mirrored the results set out in Figure 2, with the highest proportion of 'seekers' in the START DATE group (46%, compared with 37% for CONTROL, 39% for END DATE, and 45% for REQUIREMENT) and no clear differences in the proportion of 'accepters' across groups (Figure 3).

Figure 3. Proportion of seekers, accepters, indifferent, and unlikely customer types by message group.



Type based on responses to Questions ACCEPT7 *'If you were offered a Communications Hub exchange for your smart meter by your energy supplier within the next six months, how likely or unlikely would you be to accept it? Please answer on a scale of 1 to 7, where 1 is 'extremely likely' and 7 is 'extremely unlikely',* and SEEK7 *'Now imagine that your energy supplier starts offering appointments for Communications Hub exchanges tomorrow. How likely or unlikely would you be to contact your energy supplier within the next 6 months to request a Communications Hub exchange for your smart meter? Please answer on a scale of 1 to 7, where 1 is 'extremely likely' and 7 is 'extremely unlikely'.*

Total weighted base n = 1,010 (Control n = 244; Start date n = 254, End date n = 265; Requirement n = 247).

'*' indicates statistically significant difference to Control ($p < 0.05$)

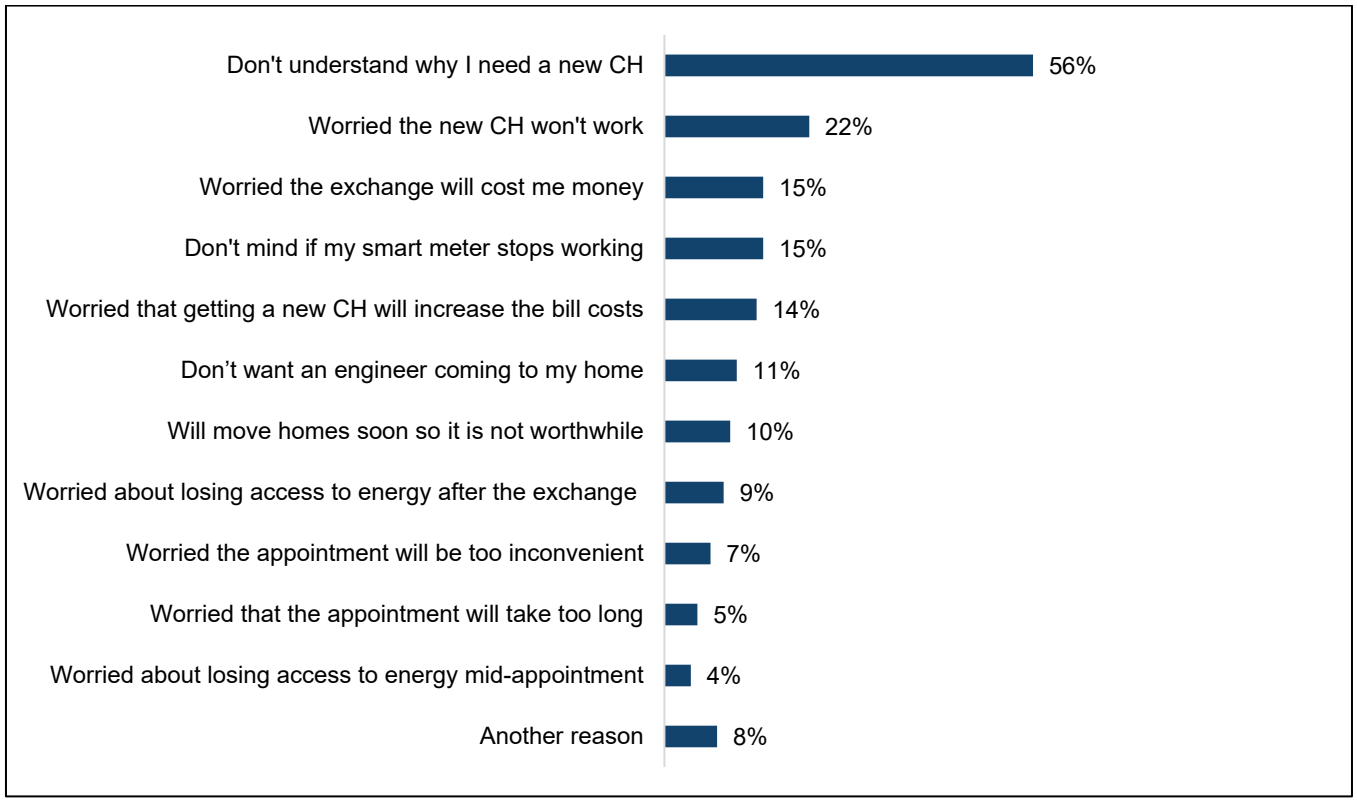
Overall, most participants said they would likely accept an exchange visit within six months (56%, N = 564). Of respondents who said they were indifferent or unlikely to accept a communications hub exchange within the next six months 25% said they may want an exchange appointment at some point, but that six months was too soon (N = 251), and 13% (N = 136) said they did not want to exchange their communications hub at any time.

Among those who said that six months is too soon, but that they might want an appointment later, 35% (N = 87) said they would be likely to accept an appointment offered by their energy supplier within the next two years.[5] Of those who said they would not want an exchange at any time, the most cited reason was not understanding why they need a new communications hub (56%, N = 76), followed by being worried the communications hub won't work (22%, N = 29)

[5] Respondents were coded as "Likely to accept" if they responded 1 "Extremely likely", 2, or 3 to the following question: If you were offered a Communications Hub exchange for your smart meter by your energy supplier within the next two years, how likely or unlikely would you be to accept it? Please answer on a scale of 1 to 7, where 1 is 'Extremely likely and 7 is 'Extremely unlikely.

(Figure 4). These might be priority areas for energy suppliers to focus on when communicating with customers who may be hesitant about upgrading.

Figure 4. Reasons for not wanting a communications hub exchange at any time.



Question: *'Why do you not want a Communications Hub exchange for your smart meter?'.*
Total weighted base n = 136 (all those who said they didn't want a communications hub at any time)
Options have been shortened for presentation: "CH = "Communications Hub".

Which participants were most likely to say they would seek or accept a communications hub exchange?

Tables 3-7 show the proportions of consumers who fall into 'seek', 'accept', 'indifferent' and 'unlikely' within key consumer groups.[6]

Over half of those aged 18-34 were 'seekers' (52%), compared to 41% for 35-54 year-olds and 36% for those aged 55 and older. However, the youngest age group also held the highest proportion of respondents classified as 'unlikely' (23%), compared to 18% and 14% for the two older groups respectively. Conversely, the group aged 55 and older held the highest proportion of accepters at 25%, compared with 13% for 18-34 year-olds and 15% for 35-54 year-olds.

[6] Some percentages may not total 100% due to rounding in table values.

When split by gender: men were more often 'seekers' (46%) than women (36%), while women were more frequently indifferent (28%) than men (19%).

Homeowners, who may be less likely to expect to move home between 2025 and 2033, were more frequently 'seekers' (46%) than renters (35% for private renters; 31% for social renters). Those who had reported having had previous issues with their smart meter were more frequently seekers than those who had not (51% compared with 37%), perhaps because they see the exchange as an opportunity to replace equipment and resolve ongoing issues. Meanwhile, those who use smart or low carbon technology were more frequently 'seekers' (54%) than those who do not (28%).[7]

Table 3. Attitude towards a communications hub exchange, by age group.

Segment	**18-34**	**35-54**	**55 or older**
Seekers	52%	41%	36%
Accepters	13%	15%	25%
Indifferent	13%	26%	25%
Unlikely	23%	18%	14%
Total	*100%*	*100%*	*100%*

Base: aged 18-34 years n = 229, aged 35-54 years n = 496, aged 55 years or older n = 285

Q. *'If you were offered a Communications Hub exchange for your smart meter by your energy supplier within the next six months, how likely or unlikely would you be to accept it?* Q.*'Now imagine that your energy supplier starts offering appointments for Communications Hub exchanges tomorrow. How likely or unlikely would you be to contact your energy supplier within the next 6 months to request a Communications Hub exchange for your smart meter?* Total weighted base n = 1,010

Table 4. Attitude towards a communications hub exchange, by housing tenure.

Segment	**Homeowner**	**Private renter**	**Social renter**
Seekers	46%	35%	31%
Accepters	18%	19%	14%
Indifferent	20%	23%	35%
Unlikely	17%	23%	20%

[7] We defined those who use smart or low carbon technology as anyone who uses time-of-use tariffs, and/or uses low carbon technology to power their home (solar panels and/or a heat pump), and/or owns, or has access to via a household member, an electric vehicle that can be recharged at home.

Total	*100%*	*100%*	*100%*

Base: Homeowner n = 675, private renter n = 187, social renter n = 143

Table 5. Attitude towards a communications hub exchange, by gender.

Segment	Male	Female
Seekers	46%	36%
Accepters	18%	17%
Indifferent	19%	28%
Unlikely	17%	20%
Total	*100%*	*100%*

Base: Female n = 426, Male n = 584

Table 6. Attitude towards a communications hub exchange, by experience of a smart meter issue.

Segment	Smart meter issue experienced	No smart meter issue experienced
Seekers	51%	37%
Accepters	15%	19%
Indifferent	17%	26%
Unlikely	17%	19%
Total	*100%*	*100%*

Base: Experienced issues Yes n = 364, No n = 640

Table 7. Attitude towards a communications hub exchange, by smart/low carbon technology use.[8]

Segment	Uses smart/low carbon technology	Does not use smart/low carbon technology
Seekers	54%	28%
Accepters	12%	23%
Indifferent	15%	31%
Unlikely	18%	18%
Total	*100%*	*100%*

Base: Uses smart/low carbon technology Yes n = 518, No n = 492

Understanding, attitudes and beliefs about the communications hub exchange

Across the full sample, most participants felt that they had a good understanding of what the communications hub does (79%), and why it needs to be exchanged (81%). The messages tested all showed the same information about the exchange, so it is unsurprising that there were no statistically significant differences in either of these measures between the message groups.

While it is positive that most respondents felt well-informed, a minority did not, and the results above suggest that a lack of perceived understanding may underpin reluctance to agree to an exchange. A greater proportion of participants who felt they did not have a good understanding of the communications hub and why it needs to be exchanged said they would not accept an exchange at any time.[9] Additionally, respondents' answers to questions probing how well they understood what the exchange entails suggests several areas to focus on in future communications with customers (see below).

[8] Those who use smart or low carbon technology are defined as anyone who uses time-of-use tariffs, and/or uses low carbon technology to power their home (solar panels and/or a heat pump), and/or owns, or has access to via a household member, an electric vehicle that can be recharged at home.
[9] 90-91% (unweighted sample) of those who would accept an exchange felt they had a good understanding, 75-77% (unweighted sample) of those who would accept at some point but six months was too soon felt they had a good understanding, and 53-48% (unweighted sample) of those who would not accept at any time felt they had a good understanding.

Nearly three quarters (74%) thought that it will be important to get a new communications hub so that they could continue to benefit from their smart meters.[10] Most (60%) thought that the new communications hub would work better than their current one does now, but 60% also thought that the new hub would work the same as their current one does now. A number of participants agreed with both statements, perhaps suggesting they thought the 4G communications hub would do the same thing, but better.[11] A majority of participants thought it would be better to get a new communications hub as soon as possible (56%), while 35% thought it would be better to wait for a few years.

When asked about the exchange visit, most respondents (72%) correctly thought an engineer would have to visit their home to complete the exchange. However, there were some misconceptions about the practicalities of the visit. Around a quarter (26%) thought they would need to pay an extra charge, despite all messages stating explicitly that this is not the case. Furthermore, 34% thought that their home would briefly lose power.

Consumers were asked how happy they would be for the exchange to take place when they are not at home if their meters are outside their property. They were informed that their energy supplier would contact them in advance to get their consent for this. Among those who did have one or both meter(s) outside, 60% said they would be happy for an engineer to exchange their hub while they were not at home if their energy supplier contacted them ahead of time to ask for consent and agree a convenient time for the visit.

The REQUIREMENT message group had the highest proportion of people who thought everyone would have to agree to a communications hub exchange (60%), although this figure was high in all groups (CONTROL: 43%, START DATE: 46%, END DATE: 50%). In other words, stating that exchanges were a requirement led more people to believe that they would be, but (a) many assume that is the case anyway, and (b) not everyone shown the REQUIREMENT message understood or accepted it.

Respondents were asked how acceptable they would find all households being required to accept a communications hub exchange between 2025 and 2033. Overall, most respondents found this to be acceptable (68%).[12] This figure was highest for those shown the REQUIREMENT message (74%), followed by CONTROL (70%), END DATE (68%) and START DATE (61%).

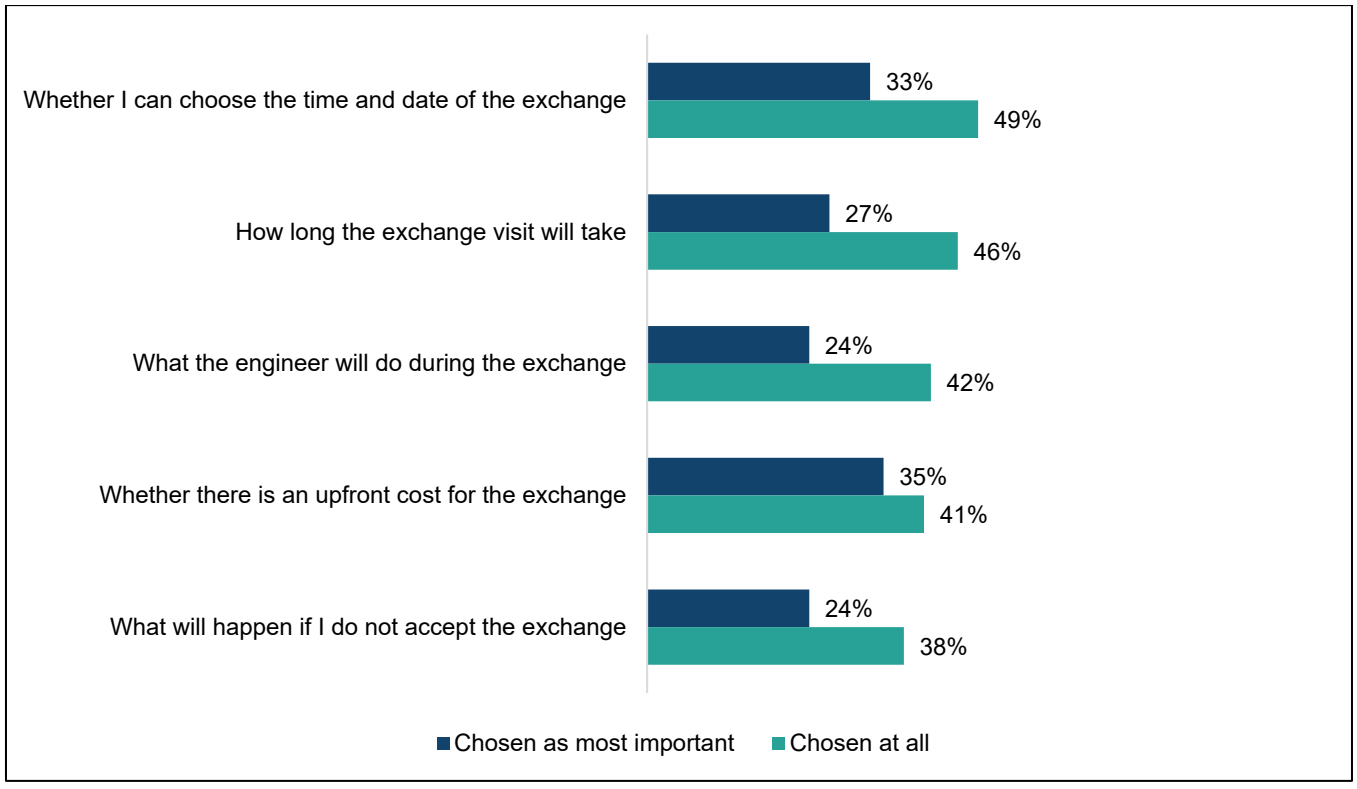
[10] Respondents were coded as believing a statement to be true if they responded 1 'Definitely true' or 2 'Probably true' on a scale of 1 'Definitely true', 2 'Probably true', 3 'Not sure', 4 'Probably false', and 5 'Definitely false'.
[11] 442 participants (44% of the sample, unweighted) thought it was probably or definitely true that the new communications hub would work the same and better than their current one.
[12] Respondents were coded as finding this "acceptable" if they responded 1 'Completely acceptable' or 2 'Somewhat acceptable' on a scale from: 1 'Completely acceptable', 2 'Somewhat acceptable', 3 'Neither acceptable nor unacceptable', 4 'Somewhat unacceptable', 5 'Completely unacceptable'.

What information do consumers want before agreeing to an exchange, and from whom?

Figure 6 shows the five most cited pieces of information respondents wanted before agreeing to a visit, most of which focused on convenience and up-front cost. Up-front cost was the most selected answer for the most important piece of information (35%).

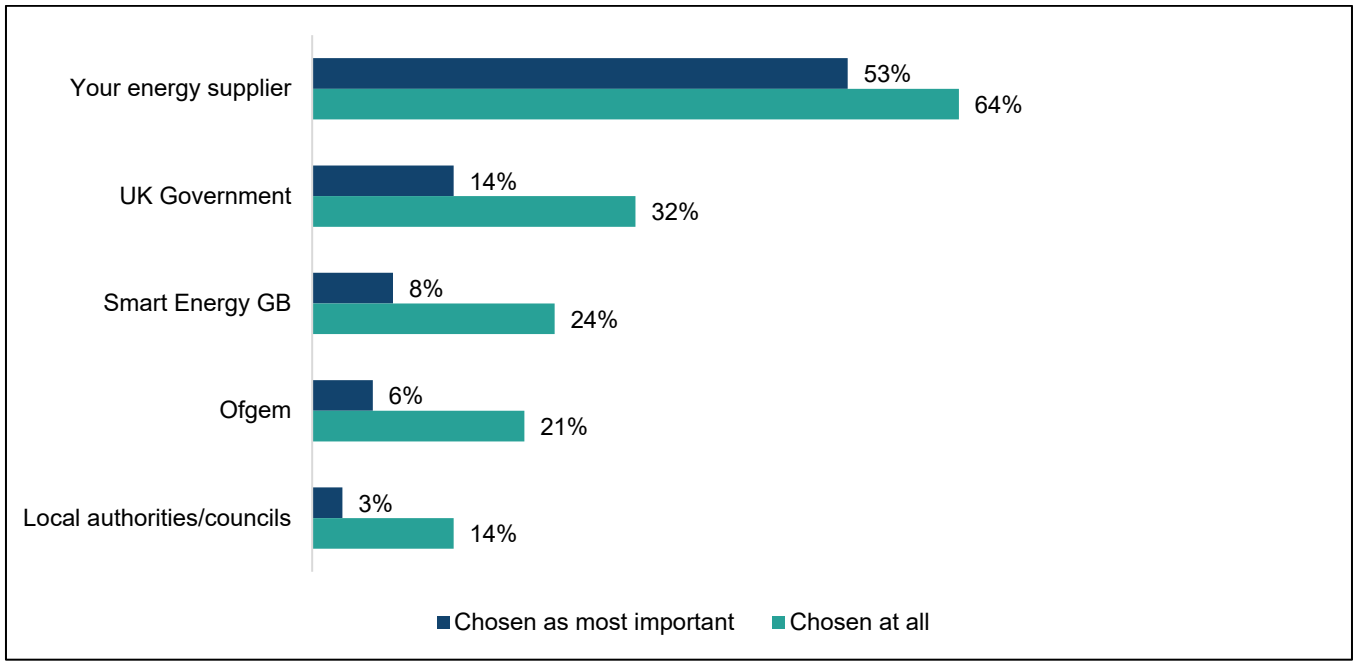
Figure 7 shows the top five sources respondents wanted to hear from about the exchange. These were: energy suppliers (64%), the UK government (32%), Smart Energy GB (24%), Ofgem (21%) and Local Authorities/councils (14%). When prompted to select the one source they would most want to hear about the communications hub exchange from, 53% said their energy supplier.

Figure 6. What information customers want to know before agreeing to an exchange (Top 5 responses)



Question: *'Which (if any) of the following would you need to know before accepting an appointment to exchange your Communications Hub? / And which of those are **most** important for you to know before accepting an appointment to exchange your Communications Hub?'.*
Total weighted base n = 1,010.

Figure 7. Who consumers would want to hear about the exchange from (Top 5 responses)



Question: *'Who would you want to hear about the Communications Hub exchange from? / Who would you **most** want to hear about the Communications Hub exchange from (i.e., why it needs to happen, who is affected, how to get a Communications Hub exchange?'.*
Total weighted base n = 1,010.

7. Implications

Taken together, the results of this study suggest that most smart metered households would agree to a communications hub exchange. In the qualitative phase, participants generally accepted that the exchange was necessary to maintain their smart meter benefits and found the practical details of the visit itself acceptable. This was also borne out in the survey, with 56% of all respondents saying they were likely to accept an exchange in the next six months if offered one by their energy supplier. Even among those who said they were unlikely or indifferent to the offer, the majority indicated that they would probably be willing to accept an exchange at some point, just not within six months.

Initial qualitative pre-testing suggested participants were more likely to value practical messaging. In some cases, participants found messaging highlighting potential benefits of the new communications hub exchange caused confusion and scepticism, given that the exchanges would maintain existing smart meter benefits and not offer additional ones. Therefore, the messages tested in the quantitative phase were designed to be 'matter of fact', setting out in plain English why the existing communications hub needs to replaced and focusing on the practicalities of the exchange visit.

The four messages all led to similar levels of willingness to accept an exchange (52-59%), with no statistically discernible differences between them. However, there was some evidence that referring to the 2025 start date for the first exchanges increased the proportion of customers who would proactively seek out a communications hub exchange for their smart meter.

In both stages of the research some participants were more amenable to acting early to secure an exchange than others. Renters and those who expected to move home before 2033 were less motivated to secure an exchange early, as they wanted to avoid having to organise more than one exchange. Reasons for deferring the exchange until later in the exchange period also included anticipating technology issues with the first wave of exchanges and the lack of perceived benefit while current communication hubs continue to function. From the quantitative research a higher proportion of consumers aged 18–34, homeowners, men, smart or low carbon technology users, and those who experienced smart meter issues said they would proactively seek out an exchange visit. In contrast, a higher proportion of women, social renters, and those who do not use smart/low carbon technology were indifferent towards the exchange. Future work could investigate these differences further and focus on how best to engage customer groups who are less proactive towards accepting an exchange.

Consumers appear open to the exchange being framed as a requirement and most found this acceptable, possibly because many assumed that it would be. This was borne out in both stages of the research: in the qualitative research, generally participants felt that it made sense for the exchanges to be made mandatory or, if not mandatory, perceived they would still have to agree to an exchange to retain their current smart meter benefits. In the survey between 40% and 50% of those who saw a message that did not explicitly state whether exchanges would be a requirement or not assumed the exchange would be mandatory anyway

(CONTROL, START DATE, END DATE). Also, framing the exchange as a requirement did not increase the proportion of respondents who would accept or seek one out, relative to the other messages tested. Overall, between 60% and 74% said they would find it acceptable if all smart metered households were required to agree to an exchange, this was highest in REQUIREMENT (74%).

Around 4 in 5 respondents in the quantitative research felt well-informed by the message (79% said they understood what the communications hub does, 81% why it needs to be replaced). However, there are gaps in understanding that future communications development should seek to address, as the most common reason cited by participants who said they never wanted a communications hub exchange was that they did not understand why they needed one.

Future research could also address key misconceptions about the visit. Although all four messages explicitly stated that there was no additional charge associated with the exchange, around 1 in 4 (26%) respondents assumed there might be. Similarly, around 1 in 3 (34%) thought their home would briefly lose power during the exchange visit, despite the messages stating that this should not need to happen.

Communications should also seek to manage expectations around what the communications hub exchange will achieve and what it will not. In the qualitative phase, some participants who had experienced issues with their current smart metering system saw the 4G communications hub as an upgrade that could fix those issues, which may not be the case. Likewise, the survey experiment found a higher proportion of respondents who reported previous issues with their smart meter said they would likely seek out an exchange, compared to those who had not. Also, 60% of survey respondents thought that the 4G communications hub would work better than their current one does now.

In terms of customer expectations of communications, the most frequently requested information pertained to the practicalities of the visit itself, especially whether there would be an additional charge. Most participants wanted to hear about the exchange from their energy supplier, although around 1 in 3 (32%) would want to hear from Government and 1 in 4 (24%) from Smart Energy GB.

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