



Research Report for the Centre for Sustainable Energy

Understanding Disabled Consumers Needs in Relation to Smart Energy Options

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sustainable
energy**

Contents

About RIDC	3
Executive summary	4
1. Introduction	7
2. Methods	8
3. Findings	12
3.1 Overall Accessibility and Smart Energy Options	12
3.2 Researching Smart Energy Options	14
3.3 Purchasing Smart Energy Options	24
3.4 Installing Smart Energy Options	33

About RiDC

RiDC is the leading expert in inclusive research involving disabled consumers. We are an independent, national charity with over 50 years of experience in consumer research and insight in this specialist area.

It's the only type of research we do. We are run by, and for, people with a personal experience of disability.

We always start from the perspective of disabled and older consumers.

RiDC was one of the first organisations to establish a UK panel of disabled and older consumers. With over 4,000 members, we have the most extensive pan-disability consumer research in the UK. Over the years, we have developed a strong track record of providing unique insights and solutions to businesses, government and charities.

By working with disabled and older people, listening to their needs and reflecting on their experiences, we make sure nobody is excluded, and the insights we gather are grounded in real life.

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Executive summary

Research findings highlight the importance of being able to control energy use in a flexible way and explored various benefits as well as barriers of owning and using smart energy options. Areas covered in this report include:

- Accessibility and Smart Energy Options (page 12)
- Researching Smart Energy Options (page 18)
- Purchasing Smart Energy Options (page 24)
- Installing Smart Energy Options (page 33)

Main findings

Four key takeaways can be drawn from the research:

1. The vast majority of participants wanted to increase their use of smart energy options. This was primarily to reduce energy bills, however, many reported that the ability to control their energy was a significant benefit.
2. The process of finding out about smart energy options was considered to be overwhelming and time consuming. Participants reported that they did not know who to trust or how to find the right options for them.
3. Throughout the user journey, including researching, purchasing and installing, participants reported that the process was inaccessible to them. Disabled consumers wanted disability specific advice so they could buy accessible products that they could use independently.
4. Disabled consumers also faced barriers such as financial restrictions and dwelling restrictions. However, these issues were often exacerbated because of their disability. For example, many participants had larger heating bills because they had to power essential equipment. This in turn meant they had less money available to invest in smart energy options.

Accessibility

“I feel I’ve been left behind and it’s all designed for people who don’t have disability problems and I feel that this is a big, big fault of a lot of the modern equipment.”

Accessibility means different things to different people. However, the overarching principle is the same. Accessibility is making sure that everyone regardless of impairment can access a product, space or service. It means making sure that everyone can interact with social infrastructure in the same way and in the same time without additional effort or stress.

Throughout the focus groups, accessibility was a constant theme:

- Information about smart energy options was often inaccessible. This meant participants gave up or became frustrated before they could find products they could use.
- Participants reported that some smart energy products were not usable because they were not compatible with assistive technology.
- The installation process was seen as disruptive and exhausting. Participants wanted installers to understand the needs of disabled consumers.

Smart Energy Capabilities

The Smart and Fair Energy Capability Lens was suggested by researchers from the Centre for Sustainable Energy as a theoretical framework to guide the research design and analysis. Some research findings were in keeping with capabilities included in this lens as follows:

- Issues such as financial and dwelling restrictions were in-keeping with the Smart and Fair Capability Lens. These themes were discussed readily by participants and were considered to be barriers to using smart energy options.
- Energy Tech Usage was also considered as a barrier to some participants. Participants discussed the need for a consistent supply of energy, with some

feeling that they were unable to be flexible with their energy use due to the need to power medical equipment or maintain a consistent temperature in their home to keep themselves well.

- Digital tech readiness was also discussed by participants. The majority of participants were comfortable using digital technology. Some participants expressed frustration that digital technology changed frequently, which made it difficult for them to keep up with new technology without adequate instructions.
- The personal and social lens was most frequently raised in relation to research and the value of the opinions of friends and family. Due to a lack of trust of wider research sources participants often asked friends and family for their opinions about potential smart energy option purchases.

The following accessibility issues challenged the assumptions of the capability lens:

- Disabled consumers need smart energy options to be designed with them in mind for them to be usable. This includes ensuring each stage of the customer journey is accessible.
- In some cases, participants were motivated to use smart energy options and had the resources to do so, however, they were prevented because smart energy options were not accessible. For example, some devices had digital screens that were not usable for people with visual impairments because the digital display did not provide audible content or was not compatible with screen readers.
- Inaccessible practice was cited as a barrier throughout the focus groups. Participants discussed the lack of multiple modalities (speech, text, video, easy read and tactile displays) for accessing information. They also cited devices being placed in the home in a place that was unreachable for them due to physical disabilities or chronic health conditions. This meant consumers were unable to acquire, use or maintain smart energy options independently, or were restricted in the smart energy options they could use.

1. Introduction

The Centre for Sustainable Energy (CSE) has recognised a need for independent and specialist advice to help diverse households choose smart energy options that will work for them. CSE plans to further develop an inclusive and accessible tool which provides smart energy advice tailored to household capabilities.

In order to achieve this, CSE commissioned RiDC to research the needs, requirements and concerns of disabled and older consumers when searching for and purchasing smart energy options. For the purpose of this research, smart energy is defined as the process of using devices for energy-efficiency. It focuses on powerful, sustainable renewable energy sources that promote greater eco-friendliness while driving down costs.

This report discusses findings from six focus groups with 36 disabled members of the RiDC panel. Findings from this research will be used to inform the development of CSE's Energy Choices Tool.

2.1 Research Objectives that Guided the Project

- To review the assumptions made in CSE's Energy Choices Tool, which aims to link customer capabilities and the smart energy offer types that will be included in the Energy Choices Tool.
- To understand the specific needs of a range of people with disabilities in relation to energy consumption.
- To learn about smart technologies that disabled people use to ensure that these are included in the Energy Choices Tool.

2. Methods

Six focus groups were conducted with a total of 36 disabled members of the RiDC panel with various impairments, demographic backgrounds and vulnerabilities.

2.2 Focus group design

Focus groups were organised by impairment groupings and included participants who met vulnerabilities based on the Priority Services Register.

Topics covered in the focus groups included:

- Use of smart energy solutions by disabled consumers
- How disabled consumers felt smart energy options could benefit them and identifying the barriers to using smart energy options in their homes.
- Experiences with various stages of the customer journey, including researching, installing and using smart energy options.
- How the process of researching and purchasing smart energy solutions could be made more accessible for disabled consumers

Participants were asked to consider what smart energy options they already used and what smart energy options they would benefit from if they were able to obtain them. Participants were then taken through the customer journey, asked to explore the barriers preventing them from using smart energy options, and prompted to consider the five different lenses.

The customer journey included obtaining smart energy options, from the initial research stage to choosing and purchasing smart energy options, and finally, installing and using smart energy options.

2.3 Pre-task

Before the focus groups, the participants were given some tasks to complete prior to attending a focus group. This involved answering multiple-choice questions about the smart energy options they have and would like in their home. They were also asked what prevented them from using smart energy options.

This pre-task enabled participants to familiarise themselves with the terminology around smart energy options and allowed researchers to gauge to what extent terminology resonated or was difficult to understand prior to the focus groups. Researchers were able to use this and other background information to tailor focus groups to participants' understanding and needs.

The results section reports on the survey findings. Three main themes were chosen based on what respondents said was important to them. The themes are Appointments (both quality and availability), Accessing Specialist Care and The Accessibility of the Centres.

2.4 Theoretical Framework

The Smart and Fair Energy Capability Lens was suggested by researchers from the Centre for Sustainable Energy as a theoretical framework to guide the research design and analysis.

This framework is built on the assumption that if a consumer has (access to) certain capabilities, then they will be able to utilise smart energy options. The capabilities that are included in the lens are:

- Dwelling and local area
- Personal and social
- Digital tech readiness
- Energy tech and usage
- Financial

Focus groups were designed to allow for an exploration of the capability lens, while also allowing room for participants to introduce additional areas that may be present barriers to using smart energy options throughout the customer journey.

In each of the main sections in this report some reflections are provided on how research findings intersect with smart energy capabilities. Where participants discussed themes that aligned with the lenses of the Smart and Fair Capability Lens, this has been discussed in the report, alongside other themes the participants discussed.

2.5 Recruitment

A total of 153 participants from the RiDC panel were selected shortlisted who would be eligible for the research and who would meet the demographic requirements for the research.

Shortlisted participants were sent a screener survey to identify participants who were available and willing to participate in focus groups.

Out of the 153 who were contacted, 79 participants responded to the survey. Of these, 36 participants were chosen for the focus groups based on their demographic profile and availability.

The remainder of this section provides more details on the demographics of the 36 participants who took part in the focus groups. Please note many participants have multiple impairments and therefore fall into multiple impairment groups.

Participants were predominately located in London, the South West and the East Midlands.

Table 1 Research participants

Impairments
10 participants had mobility impairments
13 participants had chronic health conditions
10 of participants had cognitive impairments
6 of participants had visual impairments
7 of participants had hearing impairments
Types of Accommodation
15 of participants were renting
21 of participants were homeowners or other
Income Below £30,000
22 had a household income below £30,000
14 had a household income above £30,000
Ethnicities
5 participants were Black/Black British
2 participants were Asian/British Asian
3 participants had Mixed Ethnicities.
26 participants were White British.

3. Findings

3.1 Overall Accessibility and Smart Energy Options

“A small job for you, a big job for me”

Accessibility means different things to different people. However, the overarching principle is the same. Accessibility is making sure that everyone regardless of impairment can access a product, space or service. It means making sure that everyone can interact with social infrastructure in the same way and in the same time without additional effort or stress.

- It is not possible to say what will or will not be accessible for disabled consumers based on their impairments.
- Within each impairment category there are many forms of impairment which can affect people in different ways.
- People experience different severities of the same impairment, leading to different accessibility requirements.
- Disabled people develop different work arounds throughout their lives and, as a result, may have different access requirements.
- Many disabled people have more than one impairment, leading to different access requirements.

Recommendations

In relation to improving the overall accessibility of smart energy options, key insights from the focus groups could be summarised as follows:

- Participants wanted disability specific advice about smart energy options from someone who was trained to understand about different impairments.
- Participants wanted installers to be disability aware so they understood their needs and respected their requests.

- Participants valued being able to try products before purchasing them to make sure they worked with their assistive technology or to check that they could use them independently.
- Participants felt that there was not enough information about the accessibility of smart energy products. They wanted this information to be more readily available.

3.1.1 Accessible Product Information

Importantly, participants needed information presented to them in an accessible way in order for them to access it. Access needs varied depending not just on impairment type, but also on what participants considered to be convenient ways to obtain information.

The lack of accessible information presented a substantive barrier to many participants' ability to find smart energy options. For some, this was because the information was not presented in a way that they could access at all. For example, those with visual impairments needed websites to be compatible with assistive technology, such as screen readers.

For other participants, particularly those with chronic health conditions or cognitive impairments the time, volume and energy required to navigate the information was seen as an insurmountable barrier. Some participants put off finding out about smart energy options until they felt they would have time to put the significant cognitive effort needed into researching and selecting appropriate products, services and tariffs.

"I don't have the capacity anymore, the energy capacity, to actually sit for hours going through. And you've got to do it almost in one go cos you're following threads of information to try and find out what will work and what won't work. And I don't.. I can't do that."

Participant 28: Hearing Impairment, Cognitive Impairment, Chronic Health Condition

In the focus groups, participants highlighted the value of being able to be guided through the process by someone who knew what smart energy options were available and who also understood the needs of disabled consumers.

However, different participants valued this information being provided in different ways. For some participants, there was a strong preference for an instant messaging service. For others, particularly those with chronic health conditions and visual impairments there was a preference for having someone come to their home to tell them what would work best for them. Others preferred being able to speak on the phone to an advisor.

3.1.2 Accessible Products

Additionally, there was a need to ensure the products themselves were accessible **before** people made the investment to pay for them. Some participants were frustrated with the lack of information about accessible smart energy options.

“The energy companies have apps but...they're not accessible... with a screen reader. So, you've got this problem of there might be solutions out there, but they're not solutions that then include your disability, right?”

Participant 13: Chronic Health Condition

To manage this issue, some participants with visual impairments said it was helpful to be able to trial products at home alone to ensure they could use them independently.

For those with mobility impairments, it was not always readily apparent that a product would not be accessible for them. In some cases, this became obvious when maintenance was required or when participants needed to read digital displays. Participants would then find they could not reach or access the device because of its placement in their home.

“What I do over the years before I buy any equipment or gadgets, I generally ask if I could get it, like to spend a week at home or a few days to, you know, test run.”

Participant 4: Visual Impairment

3.1.3 Compatibility

Participants reported that a number of smart energy options were not accessible. In some cases, this was because it was impossible to read the screens on devices, such as smart meters, without voice activation technology. Participants with visual impairments explained that even switching to more energy efficient white goods could be difficult because they were unable to read the display screens.

They also explained that applications such as Aira, a visual interpreting service, were not always compatible with digital displays. There are many different types of assistive technologies that disabled consumers may use, as a result, disabled consumers may need to try products themselves to know if they are compatible with their assistive technology.

Many participants used Alexa or phone applications to manage their devices remotely. For others, it was about ensuring new technology did not interfere with life sustaining equipment, such as breathing machines. This could happen if the technology caused the energy supply to trip or stop suddenly.

“I mean, the compatibility is really important because...if it doesn't sort of go with the rest of the devices I have, then it's gonna be very difficult to use it...it's gonna be useless basically.”

Participant 9: Cognitive Impairment

“I've got the smart meter but I can't actually read it and it frightens me because having a degenerative disease which, which at the end I will be sort of mostly blind. You know, I feel that I don't want to be at a disadvantage that I, I lose control over such matters. That's so important to me..”

Participant 5: Visual Impairment, Chronic Health Condition

“I think one of the first questions I'd ask if I was researching things would be, is this compatible with the voice activation technology?”

Participant 33: Mobility

Participants were best placed to judge what products may or may not work with their assistive technology. However, for them to be able to judge this they wanted to be able to ask questions about the product or to be able to test the product in their home.

3.1.4 Independence

Throughout the focus groups, participants stated they wanted to use products independently without the need to get help for tasks that should be quick and simple. Inaccessible products meant that disabled consumers were reliant on friends, families or carers to help them.

“For me, being visually impaired, I can't find that much easy. For example, let's say we have a heat pump and there is something that has to be seen visually on screen, like your water boiling temperature, something like that...I can't read that and I have to ask somebody to read it for me or make a call or use the SeeingEye or Aira the application for blind people.”

Participant 1: Visual Impairment

3.1.5 Lack of Information

Participants felt there was a lack of information about accessible products. Despite some participants being well informed and comfortable with spending time researching, they were unable to find the information they needed. Some participants highlighted Age UK and Which? as useful resources to identify smart energy options that could work for them. However, participants suggested there was a gap in smart energy options advice that met their requirements.

“Anybody who's got any form of impairment, there's no information out there.”

Participant 21: Chronic Health Condition

3.1.6 Disability Specific Advice

Across the focus groups, participants raised the need for disability specific information about smart energy options. Participants noted that without information about the accessibility of products and installation at the start of the process, they were unable to know if a product, service or tariff would work for them. It was felt that this sort of information was not currently available.

“I'd like to also see that the energy companies have a, a dedicated accessibility line dealing with disabilities so that... they can have a bit more understanding, empathy, but also more enabling to guide people to whatever service they need.”

Participant 13: Chronic Health Condition

3.2 Researching Smart Energy Options

A majority of participants were motivated to have smart energy options in their homes, with many having spent a considerable amount of time and energy trying to find suitable options. However, participants noted that the research process could be overwhelming, time-consuming and inaccessible.

Key insights

- Participants wanted information to come from trusted and independent sources. Many participants were concerned about being scammed or being sold products and services that were “too good to be true”.
- Participants found the volume of information overwhelming. Several participants said they wanted an advisor to tell them what smart energy options would work well for them.
- Participants needed information to be accessible to them. This meant that information had to be presented in an accessible format, such as being produced in an easy read format or being compatible with assistive technology. However, information format preferences were varied, with some participants wanting an advisor to come to their home, others preferring a hotline and some preferring online chat.
- Participants wanted to know if smart energy products, tariffs and services would be accessible for them to use. Many suggested a disability specific hotline or website that would allow them to find out if they could use the products that they wanted in their home. homes

Recommendations

In relation to improving the accessibility of smart energy options, key insights from the focus groups could be summarised as follows:

- Participants wanted information to be presented to them in an accessible format. Requirements can vary depending on the nature of the impairment.

- Participants wanted specific information about accessible smart energy options and communicating with someone who was trained to understand the requirements of disabled consumers.
- Participants valued independent and impartial advice. It is important to build trust prior to making recommendations.
- Participants want advice that is tailored to their personal situation that takes account of their dwelling, finances and impairment.

Smart and Fair Energy Capabilities

The process of researching smart energy solutions was considered to be difficult by the majority of participants. Even those who had professional backgrounds in a relevant scientific field reported that they had to spend many hours finding the right products for their home and some participants were unable to find accessible solutions for them.

As a result, the biggest barriers to successfully researching smart energy options were the lack of accessible information and the lack of trusted information sources. Additional barriers included:

- Personal and Social: Participants needed the time to find suitable smart energy options. Participants who had a professional background relating to smart energy options, for example engineering, often found the process easier to navigate.
- Dwelling: Participants could be restricted by their dwelling, for example, some participants reported that landlords had prevented them from changing tariffs or installing new products. These participants often felt research was futile given the lack of control they had over their surroundings.
- Personal and Social: Participants needed the time to find suitable smart energy options. Participants who had a professional background relating to smart energy options, for example engineering, often found the process easier to navigate.

3.2.1 Trust

Before participants were able to research smart energy options, they needed to identify a source or sources of information that they trusted. Participants were wary of the majority of sources and found it difficult to know where to get impartial or independent advice.

“Do I need it? is it being sold to me because I'm gullible or is it actually going to help me? An awful lot of stuff. There's so much stuff around that people are trying to get you to buy, which ends up being thrown away. “

Participant 10: Cognitive Impairment

A number of participants were concerned that they were (or were perceived to be) vulnerable to scams. In some cases, this was due to their age or disability. However, participants also felt that scams were prolific and, as a result, anyone could be caught out if they were not careful.

Participants also noted that while they were researching they were often required to provide their name and contact details. This meant that some were then “bombarded” by phone calls or emails from companies trying to sell to them. This reduced trust and meant some participants avoided giving out their details.

“We live in an area of council properties which nearly all the properties are council owned, bungalows for people with disabilities or over fifties. So, we are a prime target for scams...I know a lot of my neighbours have been caught out and have been victims of either outright scams or schemes that are genuine but maybe aren't as good as like they are advertised, and they haven't really understood what they're getting into.”

Participant 35: Cognitive Impairment and Mobility Impairment

“You just get bombarded by sales calls all the time and it's so annoying”

Participant 15: Chronic Health Condition

“I'm getting left behind and that's how I feel as well and I used to feel like I was quite competent, but these days I really don't. There's just too much information out there and too much conflicting information and you don't know who to trust.”

Participant 15: Chronic Health Condition

Despite their concerns, most participants had identified information that they felt could be trusted to help them find smart energy options that might work for them. Many participants stressed the need for independent advice from reputable sources. Charities such as Age UK and organisations such as Which? were mentioned as trusted sources.

Many participants also valued the opportunity to speak to family, friends or neighbours before making large purchases. This was largely for two reasons:

- Participants wanted to see if products or services had worked for other people before trying them. Many had heard of, or experienced, losing money because a product or service had worked poorly or turned out to be too good to be true.
- Some participants felt they had lost confidence due to age or disability. They valued getting the opinion of a trusted friend to reassure them that they weren't making a mistake.

3.2.2 Simplicity

When asked to discuss some of the barriers they faced when researching smart energy options, the following reoccurring themes were raised by participants:

- Many participants described not knowing where to start to find out what smart energy options were suitable for them.

- The language describing smart energy options was considered to be confusing and difficult to understand. Participants wanted uniform terms so they could understand what was being offered.
- The process of researching about smart energy options was considered to be time consuming and difficult. Many participants delayed purchasing smart energy options because they did not have time to research.
- Participants felt overwhelmed with the information available to them about smart energy options. This was particularly the case for those with cognitive impairments and chronic health conditions.

“Everything is so conflicting...It's very difficult, especially when you're older. It's harder to understand it all.”

Participant 3: Visual Impairment.

“The information is just not there or if it is there, it's more like you've got to be a university graduate in sustainability to understand it. It's not in layman's terms. It's very, very difficult to understand.”

Participant 30: Hearing Impairment and Mobility Impairment.

3.2.3 Tailored Advice

Participants were often time poor and did not want to spend a long time researching, only to find out that their chosen product or service would not work for their household.

This was particularly true for those with chronic health conditions, who may be impacted by fatigue and pain, and those with children.

Additionally, participants wanted advice that was tailored to their access needs. For example, those with visual impairments wanted recommendations for products that could be voice activated or provided auditory readings.

Participants wanted tailored advice that told them what would work best depending on:

- The type of house they lived in.
- Their financial situation.
- Their ability to be flexible with their energy use.
- Their impairments and accessibility requirements.
- Any restrictions imposed by their local area

“That would be ideal for someone to come in, review your house and say, you know, how could you actually improve and to go through your lifestyle as well. Because everyone's individual, you know, when you've got children and things like that. So, yeah, that would be really helpful if we could have the ability to sort of have that tailored advice rather than just the generic research that you might find out.”

Participant 33: Mobility Impairment.

“Just a simple telephone call. If there was somebody there to answer your questions and say this is the route you take, this is the best way of doing it. We can help you. This is how we can finance it. This is what it's going to cost you.”

Participant 19: Chronic Health Condition.

“It's very frustrating that there's almost a one size fits [approach], a lot of the population will be covered by that, but there will be a lot of people that aren't. “

Participant 28: Hearing Impairment, Cognitive Impairment, Chronic Health Condition.

3.3 Purchasing Smart Energy Options

Many participants already had smart energy options in their homes and were enthusiastic about the benefits in terms of convenience and savings. However, others were unable to make use of smart energy options due to issues such as inaccessibility, finance or the type of dwelling they lived in.

Key insights

- Those with smart energy options frequently reported the benefits of having them in the home. This included increased control, convenience and independence. Across the focus groups, participants valued being able to control their energy use remotely.
- However, some products were inaccessible. This was particularly the case for participants with visual impairments due to the lack of voice activation technology or incompatibility with screen readers.
- The majority of participants reported that the inability to afford smart energy options prevented them from purchasing them. Many reported that living with a disability cost them more in terms of energy costs due to the need to run essential equipment or keep warm.

Recommendations

In relation to improving the purchasing process of smart energy options, key insights from the focus groups could be summarised as follows:

- Participants wanted to be provided with information about grants disabled consumers can apply to so they can afford smart energy options.
- Participants wanted to be provided with information that lets them know if a smart energy option will work for their type of dwelling.
- Participants wanted to be provided with information about options to control devices and energy use remotely.
- Participants wanted to be provided with information that allows them to assess how accessible products are and whether they are compatible with assistive technology.

Smart and Fair Energy Capabilities

Financial and dwelling concerns were substantial barriers to disabled consumers. However, the inaccessibility of some smart energy options was raised as a significant issue that prevented many participants from accessing new products.

For disabled consumers, issues such as financing smart energy options were a greater concern due to the cost of disability. Many reported spending more on their energy consumption to power essential equipment or to keep warm. Further, many reported that they were unable to be flexible with their energy usage due to the need to maintain a continuous energy supply. As such, smart energy options felt out of reach for a number of participants for reasons that were often exacerbated by disability.

For participants with chronic health conditions or those who were dependent on medical equipment a continuous energy source was essential for wellbeing and survival. These participants were unable to be flexible with their energy use, with some spending large amounts on their energy bills. This meant that they were unable to use a demand flexibility service or a smart tariff. Some were concerned about changing tariffs or using other smart energy options for fear of their energy supply being cut off during installation or during day to day use.

3.3.1 Frequently Used Smart Energy Options

The focus groups and pre-task provided insights in the various number of smart energy options that disabled consumers were already using in their homes.

- Remote-controlled or timed lighting was used by 14 participants (38%). Participants with mobility impairments and chronic health conditions found this particularly helpful because it allowed them to control their lighting from when they were unable to reach switches.
- Just under a quarter (24%, n=9) of participants already used a demand flexibility service to manage the cost of their energy bills.
- Mechanical timer plugs were used by 8 participants. This allowed disabled consumers to turn their devices on and off without reaching for plugs.
- 6 participants (16%) had solar panels installed in their homes. These participants were enthusiastic about the benefits of solar panels because of the reduced energy costs. However, many participants found they could not install solar panels because of the cost or because their dwelling or living situation prevented them from doing so, this was particularly the case for those who were renting or who lived in older dwellings.

3.3.2 Less Frequently Used Smart Energy Options

- 19% of participants (n=7) did not currently use any smart energy options in their home. However, some of these participants cited other ways to manage their energy use by using air fryers or purchasing energy efficient white goods, such as washing machines and fridges.
- Many participants noted that they managed their energy use by rationing. Participants would reduce their heating use and, instead, used blankets, jumpers and hot water bottles to stay warm.
- Participants were less likely to have items that required significant upfront expenditure, such as heat pumps, electric cars and battery storage. Some who did had used government grants to access them. Participants also cited that they could not install these items because of issues with their home or because they were renting. A total of 22 participants said they would like to install solar panels if they were able to, but they currently could not due to financial barriers or because of dwelling restrictions.

- Those who had invested in “big” smart energy options were likely to have more than one product in their home. Some participants talked about future proofing their home so they were able to manage their energy when they were older or when their impairment progressed.

“Yeah, I mean, I've tried to use big smart energy as much as possible as I say, I've got an air source heat pump system. I've got solar panels on my roof. The lofts insulated as much as it can be. So I've done those big things.”

Participant 16: Chronic health condition

3.3.3 Control and Use

Many disabled customers explained that controlling energy remotely was important to manage their health and wellbeing. Themes included:

- **Keeping Safe**

For some participants it was not safe to turn things off manually. Plugs and switches could be out of reach or in difficult places. Controlling devices remotely allowed them to save energy without compromising their safety.

- **Saving Money**

Better control allowed participants to only use energy when they wanted to, which helped them save money.

- **Managing health**

Participants said that they valued being able to control the heating to keep warm and stay well. Those with limited mobility were able to control their energy use independently, even on days where they could not leave their beds.

- **Comfort**

Participants valued being able to warm their house ready for when they came home.

These factors were important in creating a sense of independence. Participants felt they had control over their environment which supported their physical & mental wellbeing.

“I'm in a wheelchair. I mean, all radiator dials, all plugs are at a level that I find really difficult to reach. So something that would help me to manage that from a smartphone or whatever would be good.”

Participant 16: Mobility, Chronic Health Condition

“If you're disabled there's times that you can't move about and things like that and where you would struggle to go and switch things off or try and move or do things. If you've got your phone, it's just so easy, it's just tap it on the phone and that's it. And that is so much, much easier and more comfortable.”

Participant 3: Visual Impairment

“Another nice little thing is that if we're on our way home and we've been out and it's getting really cold so it can be really cold in the house. We can just use the app on the phone and tell it to, you know, boost the heating. So when we get in, it's nice and warm. ”

Participant 6: Visual Impairment

“I find it really, really useful to use smart plugs and the digital assistant, it saves money with the electricity.”

Participant 30: Hearing Impairment, Mobility Impairment

3.3.4 Continuity of Supply

Many of the participants discussed the importance of a continuous supply of energy in order for them to manage their health condition.

- For those who were reliant on medical equipment, a continuous supply was often essential for survival.
- Many participants, particularly those with chronic health conditions, reported that they needed to maintain the heat in their home to manage pain and prevent flare ups.
- Participants were aware that requiring a continuous supply of energy was costing them substantial sums of money. However, reducing energy use further was not a safe option.
- When considering purchasing smart energy options, participants needed to know that their energy supply would remain constant.

“I can't take the cold. The cold makes my body seize up and it causes me pain. So, if it's too cold, I just have to turn it on or I have to boost it in order for me to be comfortable, you know, in order for me to move around.”

Participant 7: Cognitive Impairment.

“For my conditions, I need a lot of equipment that takes electricity. So, I've got a 34-lift electric hoist, electric chair, electric bed. I've also got a hot tub because it's the only thing that helps me in regards to pain. So I'd be really interested to anything that could help me manage all of those devices and you know, wave a magic wand personally to make them cheaper.”

Participant 30: Hearing Impairment and Mobility Impairment.

“I need to rely on my heating to survive.”

Participant 14: Chronic Health Condition.

“Both me and my husband also use like bipap machines at night, and we couldn't survive more than like 24 hours without that. So that's quite scary to know that you're dependent on that kind of equipment.”

Participant 35: Mobility Impairment and Cognitive Impairment.

3.3.5 Financial barriers

Participants explained that the ability to finance smart energy options was often a significant barrier for them. Prior to the focus group, 67% participants (n=24) reported that they could not afford to install smart energy options.

- Many participants were struggling financially and could not afford smart energy options unless they received a grant.
- For some, energy use was a significant financial expenditure. This was especially true for those who were reliant on medical equipment or those who needed to keep their house warm to manage their condition.
- Participants wanted to know if they would get value for money from their investment. Those who were able to save were willing to invest if they knew they would benefit financially.
- Participants also considered potential savings as one of the biggest benefits to using smart energy options. Those who were able to afford the initial outlay spoke positively about the reduction in their energy bills.

“it's cost and, it is quite a big outlay. On top of all the other, things that we have to do when we're disabled.”

Participant 11, Cognitive Impairment..

“We would love to do more. You know, we're on, on benefits. So, you know, income is, is pretty static.”

Participant 28, Hearing Impairment, Chronic Health Condition, Cognitive Impairment

“I wouldn't mind solar panels but I'm not 100% convinced of the value for money of it.”

Participant 33, Mobility Impairment

““I gather that you'd have to pay upfront anyway, which we don't really have the finances to do and even a monthly payment would just be quite difficult at the moment. We kind of live month to month with our finances because my husband gave up work like a few years back. So, we sort of live pretty much on a bread line.”

Participant 25, Hearing and Mobility Impairments.

“Cost it will have to be cost definitely...How much would it cost me? Would it cost me more because I have a disability or would it cost me the same as everybody else?.”

Participant 20, Chronic Health Condition.

3.3.6 Dwelling

The type of dwelling participants lived in played a large part in what smart energy options they could use, or whether they could use them at all. A third of participants (33%) reported that they did not have the right type of home to install smart energy options.

- Those who lived in rented, council or housing association properties reported that they had very little control over what they could install. This remained the case for small products such as thermostats.
- Those who owned properties could not always install smart energy options due to issues such as thick walls, lack of space and reliance on oil tanks for fuel.
- For some, particularly those living in rural areas, poor or unreliable internet access meant that some smart energy options were not viable for them.

“So obviously I'd like a new thermostat but the council obviously, no. So that's not happening, even to get a working thermostat again. No, not happening. I have talked about an electric vehicle as well cos that would be a huge bonus. But again, the setup of where we are, it's like bungalows. So, there's no parking anywhere nearby, which is really annoying for an accessible bungalow when there is nothing. So again, that's out the question as well. So, I will be stuck with petrol, I think for a while.”

Participant 15: Chronic Health Condition.

“I would like to have solar panels, but I can't because the direction of my house faces both front and rear is not feasible. So that's out.”

Participant 18: Chronic Health Condition

“It's a rented flat, the thermostat doesn't work and so we managed to get the heating on very occasionally manually. It's all a bit of rough bit of a mess. The landlord seems to be very reluctant to sort out what should be a smart meter...the owners of the estate supply the energy. So we don't really have a lot of say in that at all.”

Participant 10: Cognitive Impairment.

3.4 Installing Smart Energy Options

The installation process could put some disabled consumers off from installing smart energy options. Many stated that it caused them anxiety and could require significant preparation.

Key insights

- Installation was often seen as disruptive and energy draining. Participants appreciated knowing what to expect beforehand so they were able to prepare.
- Installers needed to be aware of the accessibility needs of participants. This included not placing products in out of reach locations.
- Participants had a range of access requirements in terms of reading and understanding instructions. This included having videos available, providing easy read formats, demonstrating how to use products in person and having the option to print out instructions.
- Participants wanted to know there was someone to call or contact should a product stop working. It was essential that they were able to get timely help to maintain their energy supply.

Recommendations

In relation to improving the installation of smart energy options, key insights from the focus groups can be summarised as follows:

- Participants want to be provided with information about the installation process will help disabled consumers to plan for disruptive installations.
- Participants want to be provided with information about maintenance of products, including whether they have a guarantee.
- Participants want signposting so they know where they can turn to if their smart energy options stop working.

Smart and Fair Energy Capabilities

In terms of installation, the primary issues raised by participants were disruption and inaccessible installation practices. During this part of the focus groups, participants did not raise issues such as the type of dwelling they lived in or digital tech usability. Instead, participants focused on the amount of time and energy that could be required during the installation process.

Participants also raised how that installing products themselves could be draining or impossible depending on the nature of their disability. Participants also stressed that they need reassurance that their energy supply would be safe should something go wrong.

3.4.1 Easy of installation

During the focus groups we asked participants about the installation of smart energy options.

The process of installation could cause stress and anxiety for disabled consumers. Many explained that they would need to mentally prepare before having products installed to ensure they were not negatively affected.

Others reported that they found the experience exhausting. Installation could require preparing the house beforehand, being available on the day(s) and then cleaning up any debris afterwards. On top of that, consumers would then need to learn to master a new smart energy product.

“Another one is spacing them out. So, it's not just the impact of preparation, it's the impact of what happens afterwards and then that person being in the house, the toll, it may have taken. “

Participant 8: Cognitive Impairment

“A lot of it revolves around my mental health needs and needing to know who's coming. Is it gonna be a man or a woman? Obviously, that's important to me and if it's gonna be a man, I can do it, but I need to know it's gonna be a man and if they promise a woman's coming. I need a woman to turn up. I need a significant amount of different preparation for a man coming to the house. “

Participant 11: Cognitive Impairment

3.4.2 Ease of Installation

Another concern was whether the energy supply would need to be turned off during installation. For those reliant on medical devices, a continuous supply could be essential for health and wellbeing. Participants needed honest estimates so they were able to plan how to mitigate the loss of energy.

“How long will I be without services? For example, when I had my heating grants and they changed my electric heating system to gas, I was without heating for an entire day. So, I had to prepare myself for that.”

Participant 22: Chronic Health Condition

Participants also discussed installing smaller products themselves. Participants said that they required more information prior to receiving a product so that they could assess whether they could install it independently.

“...with the installation, I wouldn't want it too fiddly because I get pain in my hands. So if I've got to do a lot of, you know, detailed work, I would struggle with that so I'd want to know in advance what at least the sort of basic requirements would be that you need to complete, you know, dexterity in your fingers or there's a weight to it or whatever it happens to be so that there's no surprises.”

Participant 28: Chronic Health Condition, Hearing Impairment, Cognitive Condition

3.4.3 Installation and Support

For some participants, the installation process could further increase problems with accessibility if not handled correctly.

- Disability awareness– participants wanted installers to be aware of the impact of disability. Particularly wheelchair users or those with limited mobility needed installers to place items in areas that were easy to reach.
- Installation support – some participants were unable to install products, even if these were small, because of their impairments. In these cases they needed someone to install them on their behalf.
- Flexibility– Many participants stated that waiting in all day for an appointment caused anxiety. For some, it was not possible due to the need to attend other critical appointments.
- Accessible Instructions – Instructions needed to be provided in an accessible format.

“...If it's gonna have a panel, it should be a panel where I should be able to access if I need to do anything on the panel. Yeah, it should be easy reach for me..”

Participant 14: Chronic Health Condition.

“And then the actual physical side of like these devices, installing them and things because I can't bend forward to do anything. Because I have clots quite severely and I will just pass out. ”

Participant 18: Chronic Health Condition

“...It's also getting someone that knows about disability to come in and work around us. You know, they just give you an appointment and it's quite difficult to mitigate. It will be an all day appointment, for example. And that really puts me off...I can't be in all day, you know, I've got that many appointments to attend to and things like that. It really does tie me down. So that puts me off quite a lot..”

Participant 15: Chronic Health Condition

3.4.4 Maintenance

Participants also discussed the maintenance of smart energy options.

- Participants wanted to know that there would be someone to call or to contact to ensure they could get help if their product stopped working.
- Participants also needed accessible instructions so they knew how to maintain and use their products. Some recommended videos whereas others had a preference for written or easy read instructions. Many reported that they liked the option to print out instructions.
- Participants also wanted a guarantee that their product would be replaced or fixed should it become faulty.

“I probably would want a guarantee. So, if things do fail that there's the backup I can use if necessary...I need to know that I can easily pick up the phone, speak to somebody or text someone, you know, text and chat. For example, if I can't speak to someone over the phone sort of thing, I need to have reassurance that there is support when things go wrong. For me, it's really crucial that there's some form of back up.”

Participant 31: Mobility Impairment, Chronic Health Condition, Cognitive Condition.

“...when you've got all these products, they have to have a tendency to go wrong sometimes. And then you've got to try and fix the problem, which is quite, I find quite tricky...if they could have easy to use guides of how to use them in an accessible format, so, you know, you can have large print or, you know, obviously, if it was on an app or a website, it was easy to see you can change the colour and also a simplified version would be really good.”

Participant 33: Mobility Impairment

“It could fail anytime. When it happens am I gonna get support even at odd hours?. “

Participant 14: Chronic Health Condition.



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