

Midata in energy – User Research Outputs

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Fieldwork conducted Jul - Aug 2019 and Jan – Mar 2020



For any questions on the contents of this pack please contact:

FutureConsumers@ofgem.gov.uk

[3 – Foreword](#)

[4 – Midata Discovery user research findings](#)

[9 – Midata Alpha Proof of Concept user research](#)

[20 – Upcoming plans for midata](#)

[21 - Annex 1: Discovery user needs](#)

[25 - Annex 2: Proof of Concept testing approach](#)

What is midata?

The midata in energy project will put domestic energy consumers in control of their data – so they can quickly, securely and easily share their data with trusted third parties. More information can be found [here](#).

This presentation is to share with stakeholders the findings of the midata user research, as committed to in our [May 2020 open letter](#). Publication of these findings was delayed in response to the COVID-19 pandemic.

In line with the Government Digital Service Agile Delivery framework[1], the midata project undertook a Discovery phase and the first stage of an Alpha phase.

This slide pack covers:

- Midata Discovery user research findings - to understand consumers' experiences of the current tariff comparison journey, and understand their requirements for the midata service.
- Findings from a Proof of Concept (PoC), undertaken as the first stage of the Alpha phase. This used a functional prototype to explore the value of midata in the consumer price comparison journey, and how it can be best incorporated in the journey.

The contents outlined do not represent Ofgem's policy position on any design elements of the midata framework.

[1] More information on the GDS agile approach is available at <https://www.gov.uk/service-manual/agile-delivery/how-the-discovery-phase-works>

Discovery findings

During the Discovery phase, we engaged with energy suppliers and Price Comparison Websites (PCWs) to understand the volume of consumers dropping-out of their tariff comparison journeys and at what point in the journey they aborted the process.

Alongside this, in July-August 2019 we undertook 29 face-to-face qualitative interviews with consumers who used tariff comparison sites but did not complete the tariff comparison journey. The research questions focussed on understanding their journey experience, their reason(s) for leaving/dropping-out of the journey, and why they chose to use a PCW.

The following slides detail:

- Discovery key insight
- What consumers told us about why they did not complete the current tariff comparison journey

The research enclosed is qualitative research, and is not intended for use to form the basis of any quantitative analysis. The sample was not intended to be representative of the wider energy consumer population.

In our Discovery user research, we found that:

- **Consumers who use a comparison site aren't always looking to switch. They may drop-out and not proceed with a switch while still fulfilling their reasons for visiting the site.** These include seeing:
 - the deals offered so they know the premium they're paying to stay put
 - the deals offered to go back to their current supplier to negotiate with
 - the deals offered and go to check other sites (as sites don't show all the deals)
 - the deal they might want to switch to and call the supplier directly
 - rough quotations before undertaking a more comprehensive search (and further investigate offerings) at a later time.
- **When it comes to the information requested to make a tariff comparison, many consumers know what the information is, where to find it, or are happy providing a guessed usage amount or having the site generate the estimates for them,** based upon typical values. Although, even if they were able to source the information, most did not understand the energy information and terminology involved.
- **Some consumers do not know the information needed, and do not trust rough estimates.** We found that these reasons would cause them to drop out the process and not complete a tariff comparison, even if they were initially open to browsing new offerings. There is a clear need here that could be addressed through a midata enabled tariff comparison, which would provide accurate information for those consumers. This also recognises the potential benefit that midata would have for other consumer groups.

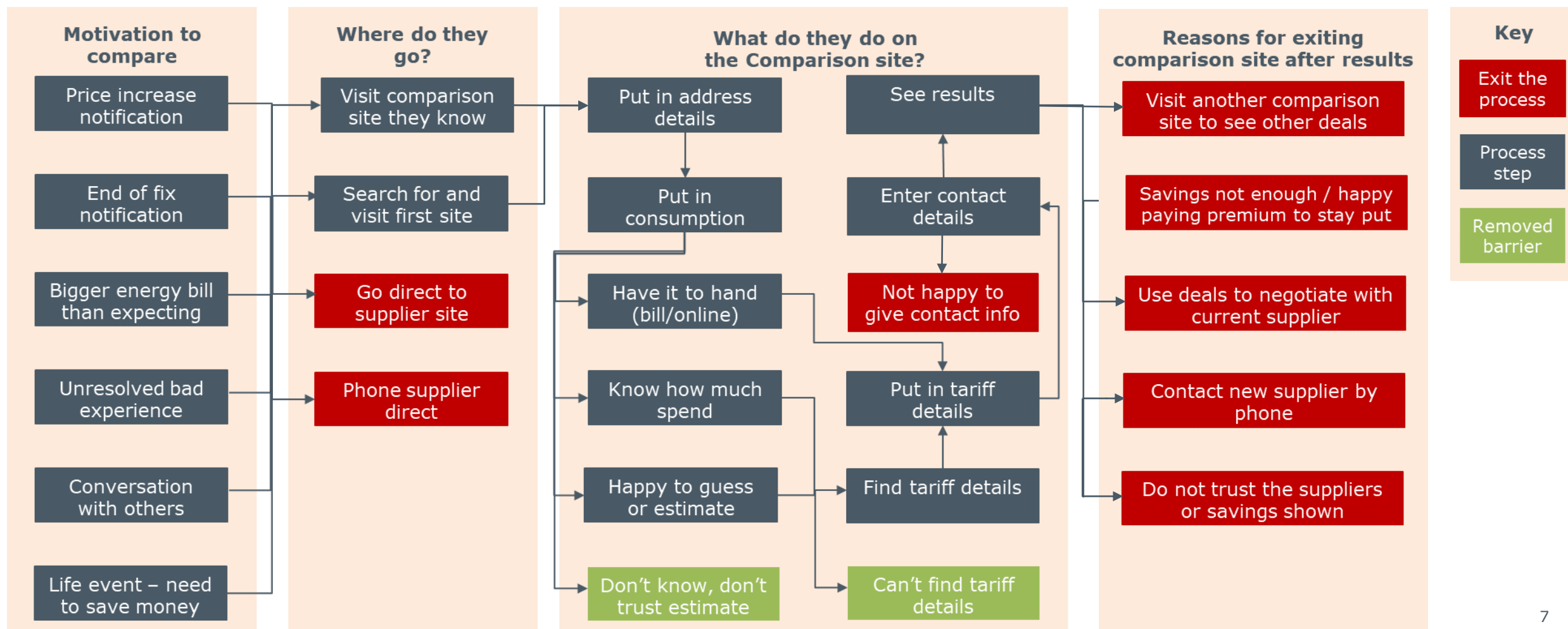
This insight enabled us to refine our identified problem statement to:

"Some consumers are not completing tariff comparisons, as they must source and input information that is not readily to hand to get accurate results"

The user needs identified from this work can be found in [Annex 1](#).

The flowchart below maps what the consumers we spoke to told us about: the reasons they make a price comparison; how they go about making a comparison; the information they had to enter & the elements that caused them to abort the process; and the reasons they exited the site after seeing the results.

The boxes in **green** are barriers that would be removed by a midata-enabled tariff comparison, where the boxes in **red** are behaviours that are unlikely to be influenced by a midata-enabled tariff comparison.



Our qualitative interviews provided us with a broad understanding of the consumers that use price comparison websites, and their intentions when undertaking this process. We were able to identify a subset of consumers who would directly benefit through a midata-enabled tariff comparison process, where their need for accurate results that are not generated through estimated values would be alleviated.

This was also supported by our analysis of where consumers drop-off the comparison journeys on PCWs and supplier tariff quotations, which confirmed a proportion of consumers abort the process at the points identified in the diagram on the previous slide.

This indicated that there was sufficient basis to move to an Alpha stage.

Proof of Concept - Alpha findings

What was the Proof of Concept stage?

In the first phase of the Alpha stage in January-March 2020, we undertook a Proof of Concept (PoC), which used a functional prototype of a generic-brand (fictitious) PCW to explore the value of midata in the consumer price comparison journey, and how it can be best incorporated in the journey. As part of this we tested a number of consumer authentication models, and have considered the security implications of these various options. The research focused upon functionality and interaction points rather than branding and visual stylising, and was agnostic of any back-end technical solution design.

Different options, solutions, and messaging could be rapidly tested in this environment. This approach enabled us to observe how consumers would actually behave rather than how they tell us they would behave in a hypothetical scenario. More information on the testing approach can be found in [Annex 2](#).

Participants could not follow through with a switch in this environment and Ofgem has no intention of launching such a live service.

What was the hypothesis being explored?

“The number of consumers that gain a tariff comparison result will increase by enabling PCWs to access their Tariff, Consumption and Consumer data on their behalf.”

What were the research questions being tested?

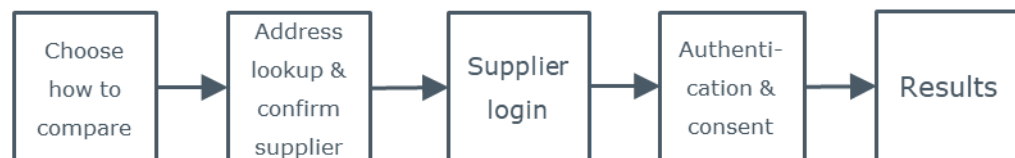
To test our hypothesis, we identified a number of research questions that we wanted to explore:

- How do you get consumers to engage with a midata-enabled service? Is there a need to explain what the service is? If so, how is best to define it?
- What is the best way to authenticate a consumer and gain their consent to enable their data to be shared?
- What elements are required for the consumer to understand the deals are actually based upon their data?
- How much do consumers need to understand about the process?
- What are consumer’s opinions on sharing their energy data with Price Comparison Websites?
- How early do you introduce midata in the journey?
- Should data be replayed to the consumer as part of the process?

First iteration 'simple' journey:



First iteration 'complex' journey:



Key authentication option tested:

Description	Authentication category	Factors	Level of security
Single authentication category with two or more factors	Something you know	Email address and password	Medium

The initial prototype started with two versions tested concurrently with participants: a simple journey, with minimal steps in the process, and a complex journey, with a login with the participant's current supplier to authenticate.

The simple journey presented participants with a particularly streamlined journey, with the midata route as the default option and limited messaging to explain the process and the consent to data sharing. The participant was to enter their address, enter their payment method, confirm consent to data sharing, then was presented a results page.

The complex journey by comparison had an increased level of messaging, options, and simulated a more robust authentication process. It introduced "get my information from my supplier" as the midata option, alongside the existing options of using a bill to enter the information or an estimate. After the address lookup, a 'confirm supplier' screen was shown where the participant was presented with the logo of their supplier, and asked to confirm if this is correct. Following this, the service redirected the participant to a page by their energy supplier to log in to their online account to authenticate. Data sharing consent and relevant messaging was provided to the consumer in both the PCW space and supplier space during authentication, for repeated consent.

Sample wireframe:

Based on what you told us,
we think your supplier is:

[supplier logo]

Is this information correct?

What did participants say?

"I'd stop here as I
don't have an
online account"

"I always
forget my
password"

"They might get
into your account
& see your bank
details"

"Its extra pain. I'd
just stop & use a
site that doesn't
ask me to log in"

"Why would I set up
an account when
I'm looking to
leave?"

"It's good they can show who
your supplier is, it makes you
think the other information
will be right"

What did we find out about these journeys?

- Most participants were able to complete the 'simple' journey with relative ease and very little hesitation. Participants, however, could not ascertain that the results displayed were based upon their energy data.
- Most understood that information sourced from their current supplier would be accurate, even if they opted to use a different comparison method.
- Participants had mixed views about the purpose and trustworthiness of logging into their current supplier account for authentication.
- Switching between the price comparison website and supplier website caused varying levels of confusion amongst participants. The relationship between the websites wasn't understood, and consequently, questions were raised around the security of logging in to their account and information sharing. Some aborted the process and were put off by the request to log in with their supplier.
- Some participants were concerned that the information provided to the third party would in turn be used to send unwanted marketing emails to them. Participants expressed concerns that their financial account details from their supplier would be accessed by the PCW.

As testing progressed, we made several iterative changes throughout the research sessions. Key changes tested included:

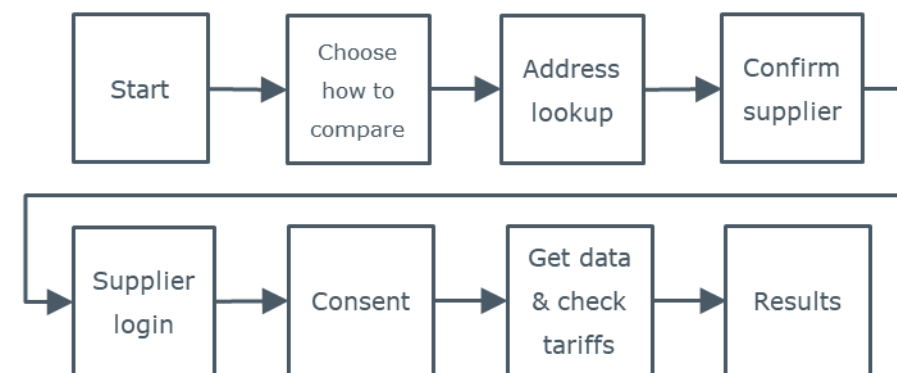
The two consumer journeys were amalgamated to incorporate feedback from the sessions on both the 'simple' and 'complex' journey iterations. An example journey flow can be seen in the flowchart below.

The messaging displayed at various points in the journey was adjusted and expanded to address participant concerns around data sharing, confusion on the online login process for authentication, and to better explain how the results displayed were personalised to the participant. As part of this, an explicit statement was included that no personal information (e.g. financial information) will be shared, and the information that would be shared was listed.

Where there were concerns raised by participants when redirected to their supplier website to log in for authentication, a login screen embedded within the PCW page was tested.

Lastly, some participants were sceptical that the process actually retrieved their data in the short loading time from confirmation to the results page. A loading screen with a short delay was introduced to test whether this convinced the consumer that the process is contacting their supplier for the information.

Example journey iteration:



What did consumers tell us about these journeys?

- Participants would sometimes default to their 'go-to' method of comparison over the 'get my information from my supplier' option, and were unlikely to explore what this option is. For example, some would choose to manually enter their data having started the process with their bill already at hand, or proceed with a comparison based upon a generated estimate. It can be deduced that marketing could be required to communicate the process to consumers beforehand.
- The improved messaging was successful in conveying to consumers that the data being shared does not include financial data nor sensitive payment details. This was a key concern repeatedly expressed by participants, who would not use the service unless it was explicitly clear that they would not use the service if this information was included.
- Participants did not perceive the data shared as sensitive and were generally happy to share this data with the PCW. Some participants expressed scepticism about their supplier's motives for allowing their data to be shared. A minority were concerned that by making their supplier aware of their intention to switch, they would negatively impact their negotiating stance with their supplier. Some were concerned this would prompt their current supplier to re-engage with them and offer counter-deals.
- Participants continued to recognise that sharing data from their supplier would be the most accurate option.
- The introduced loading screen worked in convincing some participants that the results were based upon their data, but fell short of convincing enough participants.

Sample wireframe:

We'll only get the following information from your supplier:

- ✓ Tariff name (the deal you're currently on)
- ✓ Your energy usage and when you use it
- ✓ Your payment method (but no bank or financial information)
- ✓ Your meter type(s) and number(s)

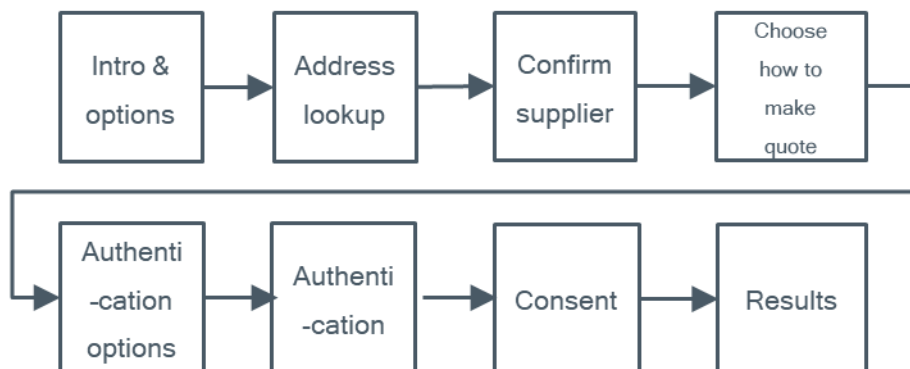
We can only use this information once

Confirm & see results

What did participants say?



Final journey iteration tested:



Key authentication option tested:

Description	Authentication category	Factors	Level of security
Two authentication categories used with one factor in each	<ul style="list-style-type: none"> Something you have Something you know 	<ul style="list-style-type: none"> SMS code to phone Payment method Q 	Medium/high

The final journey tested incorporates a further-developed consumer experience and authentication method that had a much improved success rate.

Initially, the participant was provided with a simple explanation of the comparison process before entering their address and confirming their supplier as previously tested. It is only at this point that the consumer would choose a comparison method (between “get data from my supplier”, “get an estimate”, or “use my bill to provide information”). A drop-down information message provided a concise explanation of each option, particularly providing a brief note to say what information the supplier would provide in the automatic option.

The next step provided the consumer with a choice of 3 authentication options: login with existing supplier (as previously tested) or a one-time security code sent to either the email or mobile number held by their supplier. As part of the one-time passcode options, the participant then confirmed their email address or the last 4 digits of their mobile number. To complete the authentication process, the participant entered the one-time password sent to their medium of choice, followed by a multiple-choice question on the their payment method as an extra security factor.

Lastly, the previously tested loading screen before displaying the results was prolonged in duration. This contained a progress bar displaying a new customised message: “bear with us, we are contacting [supplier name]”. Whilst not an entirely necessary feature from a technical perspective, this prolonged delay and custom messaging aimed to provide participants with the reassurance that ‘something was happening in the background’.

Sample wireframe:

Choose how you'd like to share your information to get better deals:

- Getting a one-time security code sent to my mobile phone by my energy supplier
- Getting a one-time security code sent to my email by my energy supplier
- Logging into the online energy account I have with my supplier

Continue ->

What did participants say?

"My phone is more accessible. It feels easier"

"I haven't changed my mobile in 20 years"

"Pretty standard these days, I use it in banking too"

"Someone could get into my [supplier] account but I don't know what good it'd do"

What did we find out about this journey?

- All participants recognised and were familiar with the general process for a one-time password to confirm their identity. Many participants chose the one-time password to the mobile option, noting that this was the most familiar option to them, and that their mobile device is more accessible than their emails. This was also seen as a stable option, as participants stated that whilst they have multiple email addresses and were unsure which one, if any, their supplier had on file, their mobile number has remained consistent for many years.
- For those that weren't sure if their supplier had their mobile number on file, a one-time password to email was a viable alternative. However, they could highlight challenges with this option, such as a delay in receiving emails, not being able to easily find the email in their inbox, and the perceived hassle of switching from the PCW to their email site.
- A small minority were aware they held an online account with their supplier, could source the login details, and would choose the login option as their authentication option. Sometimes, these were participants who would have typically used the information from their bill.
- Coupling an artificially prolonged loading screen with a message at the results page to say "the deals shown have been calculated based upon your data" worked to convey to consumers that the results were based upon their data.

Proof of Concept key insight

We found that participants need to think the value proposition is worth it for them. Is putting the time in to use this alternative method of comparison going to yield more useful results for them?

How to encourage use of midata?

- Participants told us they typically do a price comparison at a time where they just want to get it done quickly, and so will stick with the comparison method they know for familiarity. They will need to be aware of the midata tariff comparison process before they embark on a tariff comparison.
- We heard that there is a need to know the process will be quick, easy and accurate.

What did we find worked for the authentication step?

- There is no 'one size fit all' option for authentication, consumers need options that are tailored to their unique circumstances
- One Time Password by SMS worked well for most participants, who expressed that SMS messages were the most convenient and accessible way to get a one-time code, and that their mobile number is a stable point of contact
- Online login with the current supplier didn't work for the vast majority. Participants had security concerns about this approach, especially when considering the financial information associated with their supplier account
- An 'offline' security approach option will be needed to include those who may have these options available to them
- Accurate data (e.g. correct contact details) to support the authentication process is crucial

What were consumer views on data sharing?

- Participants we spoke to did not perceive the energy data shared as personal. This perception also applied to data on their consumption patterns, which was not met with concern during the testing process.
- Participants do, however, regard financial data as personal and were nervous about any link to their financial data, like their payment details.
- Participants are comfortable with data sharing when it is clear to them what they are consenting to. This includes specifically highlighting that the aforementioned financial data will not be shared.

What needs further exploration?

- Some participants failed to realise that the results were based upon their data, more could be done to address this.
- The journey requires further exploration around the journey for consumers with a different supplier for each fuel.

The research detailed does not represent Ofgem's policy position on any design elements of the midata framework.

Work on midata has been paused for 2020/21, as we recognise that there are a number of programmes in train across the industry that will also impact industry data availability and quality.

For more information please read our [May 2020 open letter on midata](#).

Annex 1: Discovery high- level user needs

As an energy consumer on a comparison site

I need to see information about other energy deals

So that:

- I can check I'm not paying more than I should
- I can bargain with my current supplier to get a better deal
- I can get a better deal with someone else
- I can decide whether to switch or not

As an energy consumer, when I've seen some new deals

I need reassurance about the deals

So that I know I am understanding them correctly, and can decide what to do next

As an energy consumer when I've decided to switch

I need reassurance about switching

Because I really don't want anything to go wrong, like get an unexpected bill

As an energy consumer on a comparison site

I need to avoid giving out my contact details

Because I don't know what they'll be used for

As an energy consumer on a comparison site

I need to see the best deals for me

So that I can decide what to do next

As an energy consumer on a comparison site, who doesn't trust rough estimates

I need to see deals based on accurate information about my energy use

So that I can decide what to do next

As an energy consumer on a comparison site

I need to see deals I can trust without having to know anything about energy

So that I can decide what to do next

As an energy consumer on a comparison site

I need to trust energy suppliers I haven't heard of

So that I can consider moving to them

As an energy consumer on a comparison site

I need to see deals that are personalised to me

Because I'm not interested in changing to a deal that doesn't fit my circumstances

As an energy consumer on a comparison site

I need to know what will be done with my data

So that I know it's safe and not being misused.

Annex 2: Proof of Concept testing approach

How were the sessions conducted?

The usability testing was conducted through 1:1 face-to-face interviews with participants, where the participant sat at a desktop computer for hands-on prototype testing. Participants were presented with the prototype service and progressed through the journey, prompted for comment by the facilitator as appropriate. The prototype utilised data derived from the participant screening process for simulation purposes – this did not involve end-to-end testing with live-data.

Who did we test with?

55 research interviews took place throughout January to March 2020, with sessions in locations across England, Scotland and Wales. The final session was cancelled due to COVID-19. A recruitment agency was commissioned to recruit participants who were responsible for managing the energy in their household, and have used a price comparison website to look at an energy tariff comparison within 3-6 months prior to the session.

Whilst our target consumers identified in Discovery (those who are unable to source the information required for a tariff comparison but do not trust estimates) would benefit from a midata-enabled tariff comparison, we wanted to broaden the target audience to reflect the changing retail landscape and future direction of midata. This would particularly explore consumer attitudes to a midata-enabled service with a Time of Use (TOU) tariff. Therefore, the following participants were recruited:

- Those who have and haven't switched their energy in the last 18 months
- Those who have and have not actively viewed their energy bill/online account recently (within the last 3 months)
- 50/50 split of those who do and do not have online accounts with their energy supplier
- 50/50 split of participants with and without smart meters

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We do this by:

- **working with Government, industry and consumer groups to deliver a net zero economy at the lowest cost to consumers.**
- **stamping out sharp and bad practice, ensuring fair treatment for all consumers, especially the vulnerable.**
- **enabling competition and innovation, which drives down prices and results in new products and services for consumers.**