



Annex
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Testing Reports
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As a part of the NGET Business Plan Submission

nationalgrid

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Executive summary

Introduction

The report summarises the main findings from acceptability testing research with household consumers and business end-users for National Grid's RIIO-T2 Electricity Transmission (ET) Business Plan. The research was carried out between July – September 2019 using a combination of quantitative and qualitative methods to obtain a robust and representative understanding of consumers' views on National Grid's proposals.

Research approach

The acceptability research featured three main stages, which considered the acceptability of National Grid's proposals for electricity transmission and gas transmission both separately and in combination in the context of overall energy bills:

Stage 1 - Qualitative Research: to probe consumers' understanding of National Grid and their overall views on the Business Plan proposals (July 2019 submissions). Findings also informed the design of the quantitative research material, to ensure it gave the right level of information to consumers to provide informed views on the acceptability of National Grid's proposals.

Stage 2 - Quantitative Research: design, implementation and analysis of nationally representative surveys of household and business consumers. Survey respondents were presented with National Grid's proposals for the electricity transmission network (Box ES.1) and directly asked whether they found the overall plan and bill impact acceptable, and whether they supported each of the component investments and associated bill impacts.

Stage 3 - Qualitative Research: to test and validate the survey findings, with particular emphasis on understanding the factors and motivations taken into account by consumers when considering the acceptability of National Grid's proposals. This included the overall bill impact for transmission, the proposed investments and their individual bill impact, along with wider considerations – such as the combined effect of the ET and GT bill impacts, the total amount paid for energy and other household expenses, and the value for money of overall energy bills.

Almost 3,000 consumers participated in the acceptability testing for the ET and GT Business Plans across the three stages of research. This included 1,258 household respondents and a further 161 business respondents to the ET version of the Stage 2 survey.

Box ES.1: Business Plan descriptions

Survey respondents and participants in the qualitative research were presented with a range of information describing National Grid’s proposals for the electricity transmission network.

High level summary of key investment areas, bill impacts, and overall change in bill by 2026

Plan summary

Current annual bill for electricity transmission (2019)	£25	
Proposed investments for 2021 – 2026	Current amount (£ per year)	Change by 2026 (£ per year)
Ensuring a safe and reliable network	£2.48	+£1.08
Protecting the system from external hazards	£0.30	+£0.43
Planning the energy system of the future	£0.38	+£0.42
Improving the environment and supporting local communities	£0.05	+£0.16
Innovation projects	£0.33	+£0.03
Returning efficiency savings to customers	-	-£1.14
Total change in annual bill by 2026		+£0.98
Annual bill for electricity transmission (by 2026)	£25.98	

Plan summary

Annual bill for electricity transmission (2019) – as percentage of current electricity bill	4.33%	
Proposed investments for 2021 – 2026	Change by 2026 (%)	
Ensuring a safe and reliable network	+0.19%	
Protecting the system from external hazards	+0.07%	
Planning the energy system of the future	+0.08%	
Supporting communities and improving the local environment	+0.03%	
Innovation projects	+0.01%	
Returning efficiency savings to customers	-0.20%	
Change in annual bill by 2026	+0.17%	
Future electricity transmission bill (by 2026) - as percentage of current electricity bill	4.50%	

Household consumer version: additional bill impact for electricity transmission of +£0.98 per year by 2026 (on top of current electricity transmission bill).

Business consumer version: additional bill impact for electricity transmission of +0.17 percentage points per year by 2026 (as percentage of current overall electricity bill).

Example of explanation of investment area and specific investments

Planning the energy system of the future

We invest to make sure that the transmission network can meet changing needs in the future.

- Upgrading the network to allow new developments and new power sources to connect easily.
- Upgrades so the system can cope with variable energy production from renewables (e.g. wind energy depends on unpredictable wind levels each day).
- Installing new infrastructure for fast charging of electric vehicles – aiming for 95% of electric vehicle drivers to be within 50 miles of an ultra-rapid charging station (e.g. at motorway service areas).
- Additional investments to manage the supply and demand of electricity to meet the growing demands of the energy system and reduce the costs of operating the system.



Connecting new power generators	Current amount (2019)	£0.24
• Investment for 17.3 gigawatts of connections, which will mainly be from renewable sources (73%).	Change by 2026	+£0.04
• This will be around a 30% increase in electricity from renewables compared to current levels.	Total amount (2026)	£0.28
Installing new infrastructure for fast charging of electric vehicles	Current amount (2019)	-
• Investments to upgrade connections from the electricity network to support ultra-rapid charging stations at 50 motorway service areas.	Change by 2026	+£0.33
• This means that drivers of electric vehicles could undertake longer journeys and recharge vehicles en route in a shorter time.	Total amount (2026)	£0.33
Investments needed to support future increases in supply/demand for electricity	Current amount (2019)	£0.14
• Investments to make sure the network can support forecast increases in supply/demand for electricity in the coming years.	Change by 2026	+£0.05
	Total amount (2026)	£0.19

The overall sample profiles were nationally representative in terms of key consumer characteristics (e.g. age, socio-economic group; or business size and sector) and geographic spread across England and Wales¹. Participants in the qualitative research stages reflected a mix of socio-economic and demographic backgrounds, ensuring that all aspects of the Business Plan acceptability testing provided a full and rounded account of consumer views.

Headline findings

Overall Business Plan Acceptability

There is a high level of acceptability for the ET Business Plan:

- 87% of consumers (household and business combined) stated that the overall plan and bill impact was “acceptable”.
- For household consumers, the acceptability of the Business Plan was largely driven by the perceived affordability of the transmission bill. For business consumers, the main reason for the acceptability of the Business Plan was that it would upgrade the network to ensure it met the needs of the future energy system, followed by maintaining safety and reliability, and the affordability of the bill impact (17%).

The high levels of acceptability are, though, subject to limited changes in overall energy bills:

- The ‘limit’ within which the Business Plan proposals were acceptable was around a 2.5% change in overall energy bill for household consumers. For a dual fuel consumer with an average bill (approximately £1,100 per year), this is approximately +£28 on the annual current bill.
- The ‘switching-point’ from “acceptable” to “unacceptable” for the electricity transmission component of the bill for household consumers was about +£11 on top of the current amount paid. For business consumers the equivalent threshold was +7 percentage points on top of the transmission bill amount.

The Business Plan proposal with a 4% increase in the transmission bill amount - corresponding to +£0.98 by 2026 on the current transmission bill amount for household consumers (approximately £25 per year) - is therefore within the constraints for both household and business consumers.

¹ The sampling for the ET survey was focused on England and Wales. Although the ET bill is ‘socialised’ across England, Scotland and Wales, some of the direct investments featured in National Grid’s proposals are for England and Wales only. The ET proposals were, though, included in the qualitative testing which took part in Scotland, detailing the specific aspects of the Business Plan that would benefit Scottish consumers (e.g. reliability, resilience, future demand/supply). Views from Scottish consumers were consistent with those observed in England and Wales. Further details are provided in the Qualitative Research report.

Overall, there was also limited variation in the levels of acceptability between different consumer segments, in terms of socio-economic and demographic characteristics:

- The greatest difference for household consumers was observed for the lowest income group (less than £6k per year), where there was a higher proportion of respondents who stated that National Grid's proposals were not acceptable (15% vs. 9% for the overall sample). This finding though is subject to a relatively small sample size.
- Lower levels of acceptability were also observed for households that reported difficulty paying utility bills or were behind with payments. Therefore, whilst most viewed National Grid's proposals as affordable, a small number of consumers were concerned about overall pressures on household budgets – particularly if other components of the overall energy bill were also to increase.

Acceptability of proposed investments

For the most part, consumers viewed the individual investments in the ET Business Plan as representing value for money:

- Typically, high levels of support (60% consumers) were stated for both the proposed investment and the associated bill impact. Moreover, very few outright rejected the investment proposals (typically less than 5%).
- Investments in safety and reliability were viewed as the top priority by both household and business consumers. This was followed by investments that are intended to meet the changing future needs for the electricity transmission network, although within this, there tended to be lower levels of outright support for investments to develop the (re)charging infrastructure for electric vehicles.
- Resilience investments tended to be mid-ranked, with lower priority in the survey responses placed on the specific environment and local community investments, and investment in innovation projects. In the qualitative research, these latter investments (especially environment and to some extent innovation projects) were, though, viewed as higher priorities.

Given the overall levels of support for each investment, however, the priority ranking across the range of investment areas is of secondary relevance.

A significant proportion of consumers (around 30%) – whilst supporting the investment proposals in principle, and indeed the overall plan - consistently challenged the individual investment bill impacts as “not acceptable”. Two main viewpoints underlie this finding:

- The first was from a subset of consumers who expressed concerns about the affordability of National Grid's proposals (around 10% overall). These respondents were more likely to receive

some form of support for energy bills, be a prepayment card/meter customer, and indicate that they encountered difficulty paying household bills. Hence whilst they supported National Grid's proposals in principle, their main concern was the change in bill and impact on their household budget.

- The second group (around 20% overall) in contrast featured consumers that tended to have higher than average (median) household income. Rather than being concerned about the affordability of National Grid's proposals, they tended to hold the view that current service levels were good enough and correspondingly viewed the proposed investments and overall energy bills as representing less value for money (compared to the overall sample results). Hence, they challenged the need for the scope and scale of National Grid's proposals, but ultimately even most consumers in this group found the overall plan acceptable because of the minimal impact on household budgets.

Views on efficiency savings

Consumers were also very supportive of the efficiency savings that were reported in the summary of the Business Plan bill impacts. Indeed, this appears to offset the concerns of some consumers that the bill impact of a particular investment might be too high. It was also evident – especially in the qualitative research – that consumers expected National Grid to meet efficiency challenges, although not to the extent where this would compromise current or future service or reliability. In this regard, there was support for National Grid reinvesting efficiency savings if it meant that more could be done in the Business Plan to address future investment needs. The investment areas that consumers had the strongest preferences for higher levels of investment were reducing carbon emissions from National Grid's operations, maintaining condition of assets (i.e. overhead lines, pylons, underground cables, and substations), and investments to support future increases in supply/demand for electricity.

Conclusions

All in all, the main findings from the research show that there is a high level of support for National Grid's proposals for the electricity transmission system. More than 8 in 10 household and business consumers expressed their support for the Business Plan.

The research process is judged to be robust and the results appropriate for use in National Grid's continuing planning for RIIO-T2. The initial stage of the research featured an iterative test and re-test approach for the development of the explanatory material and investment descriptions that were presented to both survey respondents and participants in the qualitative research. The purpose was to ensure that consumers were able to provide informed views on the acceptability of National Grid's proposals.

Feedback from consumers was very positive. Most found the survey easy to complete, and sizeable proportions of respondents also stated that the survey topic areas were interesting and educational. Overall, the feedback across each stage of the research indicated that there was a good level of engagement from consumers and that they gave valid and considered responses. Moreover, the survey samples were nationally representative in terms of key consumer characteristics (e.g. age, socio-economic group; or business size and sector) and geographic spread across England and Wales. Added to this, participants in the qualitative research stages reflected a mix of socio-economic and demographic backgrounds, ensuring that acceptability testing gave a full and rounded account of consumer views.

The high levels of acceptability are, though, subject to some limits, particularly in terms of changes in overall energy bills. National Grid's current proposals are, though, within these limits and also within the 'switching point' between an "acceptable" vs. "unacceptable" bill impact for the transmission component. It is also evident that consumers expect National Grid to be cost-efficient in its investments and associated bill impacts. However, there does not appear to be a strong appetite amongst consumers for significant bill reductions if the trade-off was to compromise either current and/or future safety and reliability in the system. Indeed, consumers typically recognised that increased levels of investment were needed by National Grid to meet future needs and demands on the transmission system, and in order to protect the environment and further reduce carbon emissions from operations.

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1. Introduction

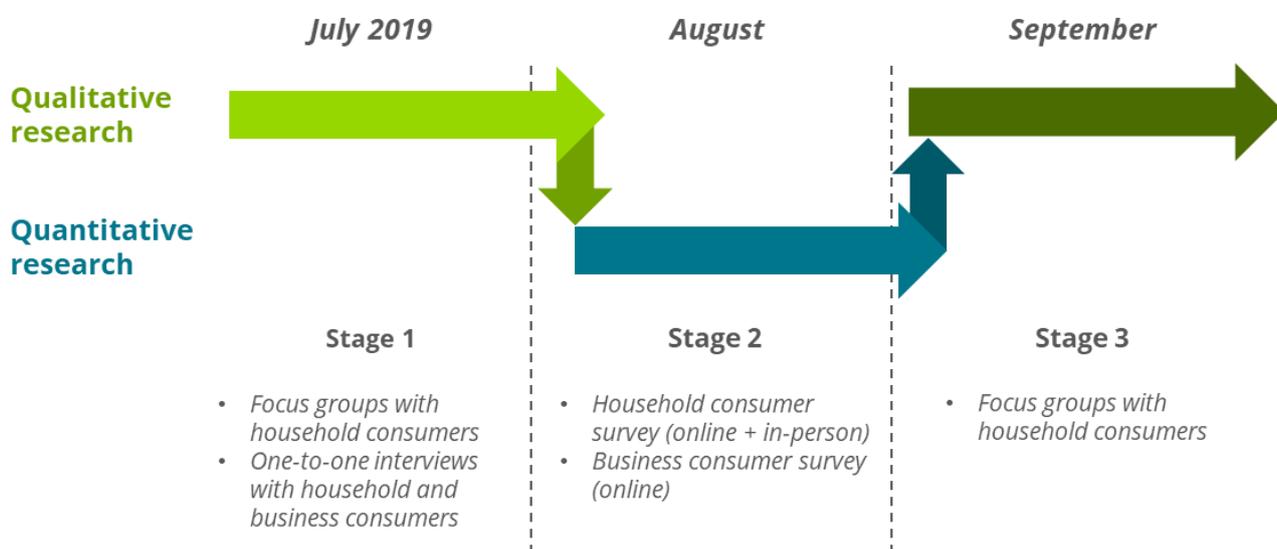
1.1 Overview

National Grid is undertaking a programme of consumer research to test the acceptability of the Electricity Transmission (ET) and Gas Transmission (GT) Business Plans for RIIO-T2. This report summarises the main findings from the acceptability testing for the Electricity Transmission (ET) Business Plan. It is one of four reports prepared for National Grid. The Gas Transmission (GT) Summary Report outlines the equivalent findings for the Gas Transmission Business Plan. Detailed accounts of the research methods and their implementation are provided in the Qualitative Research and Quantitative Research Reports. These describe the main aspects of the research - including the iterative test-re-test development process of the research materials (survey questionnaires and qualitative research topic guides), the fieldwork processes, and analysis – and present the full research findings and a detailed understanding of consumer views on National Grid’s proposals.

1.2 Research approach

The acceptability testing research was carried out between July and September 2019 in three principal stages (Figure 1.1).

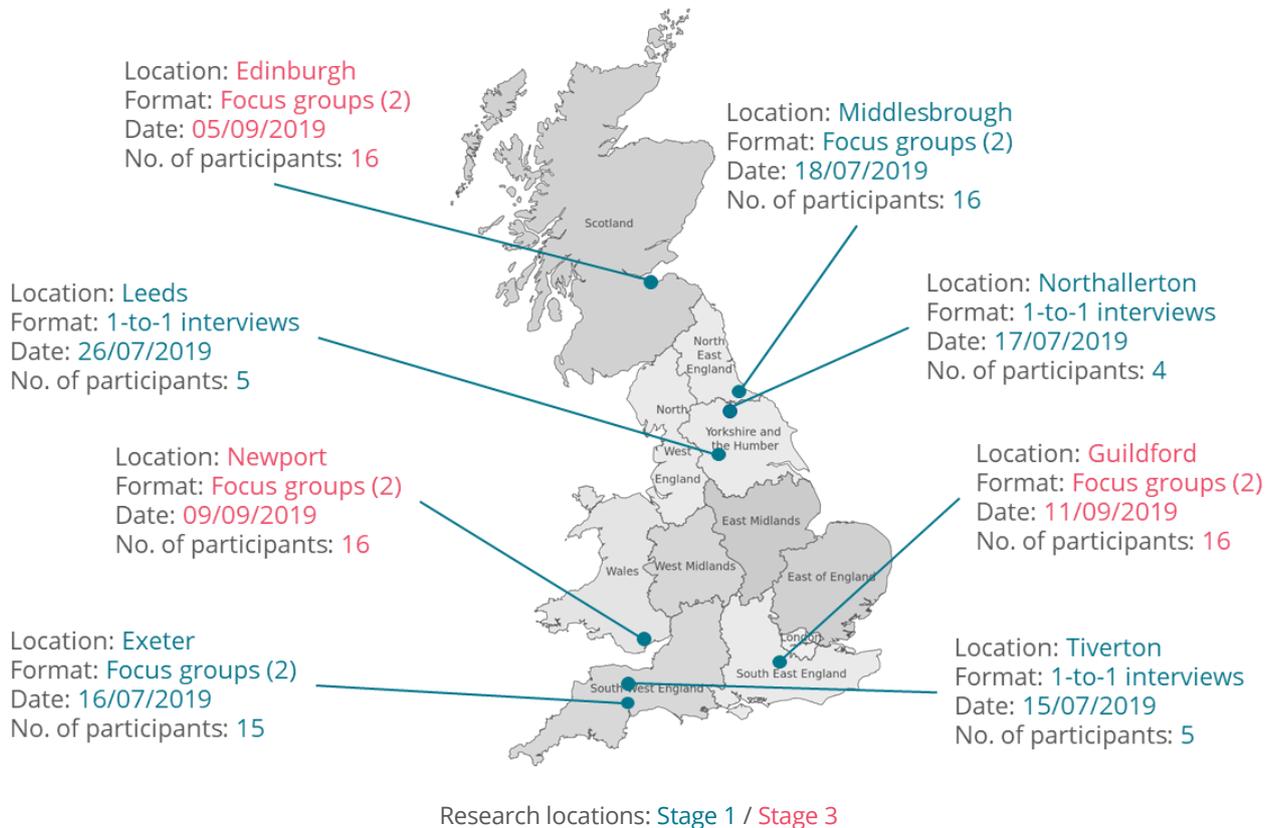
Figure 1.1: Outline of acceptability testing research process



Locations and the number of participants for the qualitative research stages (Stage 1 and 3) are shown in Figure 1.2. The quantitative research was conducted as a nationally representative survey with a varied geographical spread of respondents across England and Wales². Full details of the sampling approach and respondent quotas are provided in the Quantitative Research report.

² The survey sampling was focused on England and Wales. Although the ET bill is ‘socialised’ across England, Scotland and Wales, a number of direct investments featured in National Grid’s proposals are for England and Wales only, which in turn helped determine the scope of the survey sampling. The ET proposals were though included in the qualitative testing which took part in Scotland, detailing the specific aspects of the Business Plan that would benefit Scottish consumers (e.g. reliability, resilience, future demand/supply). Views from Scottish consumers were consistent with those observed in England and Wales. Further details are provided in the Qualitative Research report.

Figure 1.2: Qualitative research locations (Stages 1 and 3)



Note: Electricity transmission and gas transmission topics were discussed at all locations.

1.2.1 Stage 1 qualitative research

The Stage 1 research was implemented via a combination of 90-minute focus group sessions and 45-minute one-to-one interviews with household and business end-user consumers (Figure 1.2). A total of 45 consumers participated in the research covering both the ET and GT Business Plan proposals (31 focus groups; 14 one-to-one interviews), from a mix of socio-economic and demographic backgrounds. The business consumer participants were representatives from micro and small-sized enterprises.

As the starting point for the research programme, the purpose of Stage 1 was to probe consumers' understanding of the energy industry and the role of National Grid, before gathering participants' views on the ET and GT Business Plan proposals (July 2019 Business Plan submissions). Findings from the research informed the iterative development and updates of the quantitative survey material, to help ensure it provided the right level of information to consumers to provide informed views on the acceptability of National Grid's proposals. The feedback and views from participants also helped to identify the topics and issues that required further examination in the Stage 3 research.

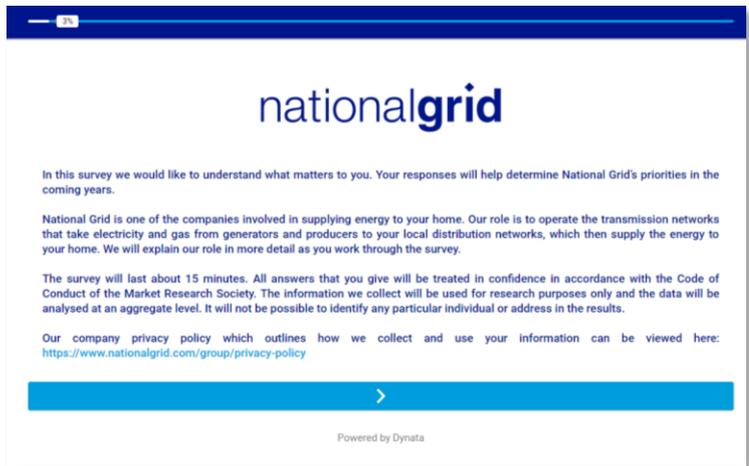
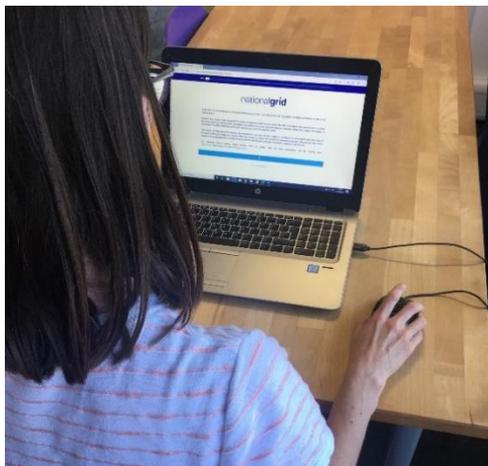
Figure 1.3: Stage 1 focus groups (Middlesbrough, July 2019)



1.2.2 Stage 2 research

The Stage 2 research took forward the quantitative component of the research, building on the research materials – explanatory information about National Grid’s transmission role, descriptions of the Business Plan proposal and investments, etc. - prepared and tested in Stage 1 and developed the ET and GT variants of the acceptability survey for household and business end-user consumers (Figure 1.4). Each variant was initially tested in a small-scale pilot prior to full implementation.

Figure 1.4: Online version of survey [left]; survey start screen [right]



A total of 2,852 consumers participated in the Stage 2 research across the ET and GT versions of the survey. This included 1,419 respondents for the ET version, with 1,258 in the household sample and 161 in the business (online) sample.

The household versions of the survey were administered to nationally representative samples of consumers through a combination of online and in-person interviews. Analysis of household consumer responses is primarily based on the pooled data that combines the online and in-person survey data. The business consumer versions were administered via the online format. The achieved sample sizes for each survey variant are summarised in Table 1.1. Household and business respondents were randomly allocated to either the ET or GT version. Average survey completion times were 18 minutes for household variants and 15 minutes for business variants.

Table 1.1: Stage 2 sample sizes by survey version and administration mode (no. respondents)

	ET version	GT version	Total	Overall targeted sample
Household - online	1,056	1,058	2,114	2,000
Household - in-person	202	212	414	400
Business – online	161	163	324	300
Total	1,419	1,433	2,852	2,700

The household and business versions of the survey followed the same general structure, but featured different consumer profile questions:

- Section A: respondent screening and quotas questions.
- Section B; D: explanation of National Grid’s transmission role and composition of energy bills, and introduction to the business planning process.
- Section C; E: presentation of the ET / GT Business Plan, including investment themes and overall bill, and detail on specific investment proposals. Respondents provide their views on the acceptability of each individual investment prior to giving their overall response on the acceptability of the Business Plan.
- Section F: follow-up questions that probe respondents’ motives and reasons for their responses about the acceptability of the Business Plan proposals.
- Section G: consumer profile questions.
- Section H: Survey with additional information for household consumers to find out more information about the Priority Services Register (PSR).

Overall respondent feedback was positive. Around 90% of the household and 87% of business respondents stating the survey was either ‘very easy’ or ‘easy’ to understand and complete. In addition, the majority indicated that the survey was interesting (household pooled: 69%; business: 54%), and a significant proportion also stating that they found it educational (household pooled: 29%; business: 27%).

1.2.3 Stage 3 research

The Stage 3 research was implemented via longer focus group sessions with household consumers (six groups, approximately 120 minutes each – see Figure 1.2) with the purpose of testing and validating the key findings and results from the Stage 2 survey. A total of 48 household consumers participated in the groups covering both the ET and GT Business Plan proposals, again from a mix of socio-economic and demographic backgrounds, including a number on pre-payment meters.

Particular emphasis was placed on understanding the factors and motivations taken into account by consumers when considering the acceptability of National Grid's proposals, including the overall bill impact for transmission, the proposed investments and their individual bill impact, as well as wider considerations – such as the combined effect of the ET and GT bill impacts, the total amount paid for energy, and other household expenses. Discussions also included consumers' views on the affordability of the proposals and whether they represent value for money.

1.3 Report structure

The remainder of this summary report is structured as follows:

- Section 2: Overall Business Plan Acceptability – the 'headline' acceptability testing results for the ET Business Plan and the reasons for consumers' responses.
- Section 3: Acceptability of Proposed Investments – the level of consumer support for the range of investments set out in National Grid's proposals.
- Section 4: Conclusions – key summary points for the acceptability of the ET Business Plan.

Full results and analysis of the Stage 2 survey are provided in the Quantitative Research report, along with details of the survey questionnaire and accompanying explanatory material provided to respondents. The Qualitative Research report summarises the main findings from the Stage 1 and 3 research stages.

2. Overall Business Plan Acceptability

Key messages

- Consumers were presented with an overview of the Electricity Transmission Business Plan and asked whether they found the plan acceptable.
- For household consumers the bill impact was an increase in their current annual electricity transmission bill of +£0.98 by 2026. This is approximately a 4% increase from current transmission bill amount of £25 per year.
- The equivalent bill impact for business consumers was presented as a percentage of the overall electricity bill, changing from 4.33% to 4.50% (a 0.17 percentage point increase).
- There is a high level of acceptability for the ET plan, with 87% of consumers (household and business combined) stating it was acceptable. For household consumers, the acceptability of the Business Plan is largely driven by affordability of the transmission bill. However, this is conditional on limited increases in other components of their overall energy bill.
- There is limited variation in the level of acceptability across different consumer segments, in term of household composition (e.g. age, socio-economic group). A lower level of acceptability was, though, found for consumers who stated that they encountered difficulty paying utility bills or were behind with payments; hence whilst most viewed National Grid's proposals as affordable, a small number of consumers were concerned about overall pressures on household budgets – particularly if other components of the overall energy bill were also to increase.
- For business consumers, acceptability is largely motivated by ensuring a secure electricity supply now and in the future. Almost all respondents (96%) indicated that their business operations where in some way or other reliant on electricity supply.
- Consumers that did not find the Business Plan acceptable stated tended to object to higher bills in principle, rather than the investments set out in National Grid's proposals.

This section summarises the overall acceptability of the ET Business Plan and reasons given by consumers for their responses. In both the quantitative and qualitative research, consumers were presented with a summary of the Business Plan in terms of investment areas and associated bill impacts, and the overall bill impact relative to the current amount paid for electricity transmission (Box 2.1).

Box 2.1: Electricity Transmission Business Plan Summary

Plan summary

Current annual bill for electricity transmission (2019)	£25	
Proposed investments for 2021 – 2026	Current amount (£ per year)	Change by 2026 (£ per year)
Ensuring a safe and reliable network	£2.48	+£1.08
Protecting the system from external hazards	£0.30	+£0.43
Planning the energy system of the future	£0.38	+£0.42
Improving the environment and supporting local communities	£0.05	+£0.16
Innovation projects	£0.33	+£0.03
Returning efficiency savings to customers	-	-£1.14
Total change in annual bill by 2026		+£0.98
Annual bill for electricity transmission (by 2026)	£25.98	

Plan summary

Annual bill for electricity transmission (2019) – as percentage of current electricity bill	4.33%
Proposed investments for 2021 – 2026	Change by 2026 (%)
Ensuring a safe and reliable network	+0.19%
Protecting the system from external hazards	+0.07%
Planning the energy system of the future	+0.08%
Supporting communities and improving the local environment	+0.03%
Innovation projects	+0.01%
Returning efficiency savings to customers	-0.20%
Change in annual bill by 2026	+0.17%
Future electricity transmission bill (by 2026) - as percentage of current electricity bill	4.50%

Household consumer version

Business consumer version

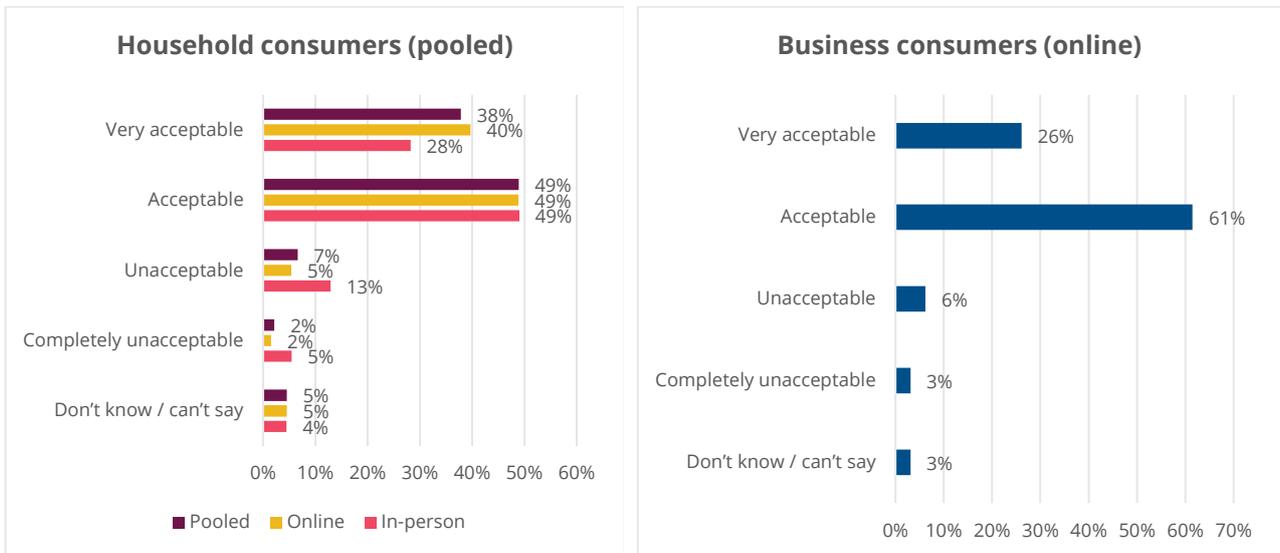
In both the quantitative and qualitative research, the ET Business Plan was described in terms of main investment areas and the associated bill impact relative to the current transmission bill amount. Subsequent information then set out the specific investments in each area and their contribution to the bill impact. For household consumers, bill impacts were presented in monetary terms. Accompanying explanatory information informed respondents that all bill impacts were presented in current day prices (i.e. excluding inflation – but the potential effect of inflation was also described). Business consumers were presented with bill impacts in percentage (%) change terms – showing the ET bill impact (current and additional) relative to the overall electricity bill - in order to accommodate the much greater variation in current bill amounts.

2.1 Overall Business Plan acceptability

The majority of consumers that took part in the survey and qualitative research stated that the ET Business Plan and associated bill impact was acceptable. In the survey 87% of household consumers (89% online; 77% in-person); and 87% of business consumers said that the plan was either “acceptable” or “very acceptable” (Figure 2.1)³. Similarly, high levels of acceptability were observed in the qualitative research. In the Stage 1 research, all but one participant (45 participants in total) felt that National Grid’s proposals were acceptable.

The Stage 3 focus groups asked participants whether they agreed with and understood why high levels of acceptability had been found in the preceding research stages. The majority felt that the acceptability results were reasonable based on National Grid’s proposals. Indeed, participants were clear that this level of acceptability was well above any threshold needed to ensure the plan is ‘right’. Moreover, some held the view that it may not be possible to achieve higher levels of acceptability, especially as National Grid is a monopoly business that makes profits. The Stage 3 participants were also posed with the question if it would be more acceptable to keep the bills flat, but the consensus was that it would be less acceptable than the proposed plans.

Figure 2.1: Overall Business Plan acceptability – electricity transmission



Household pooled: n=1,258 (online: n=1,056; In-person n=202); Business n=161.

³ This corresponds to 1,091 household consumers and 141 business consumers (out of 1,419 in total for the ET version of the survey). The confidence limits or ‘error margins’ for these results are around +/- 3 percentage points for the pooled household consumer sample (online + in-person) and +/- 6 percentage points for the business consumer sample based on the sample sizes for the respective surveys.

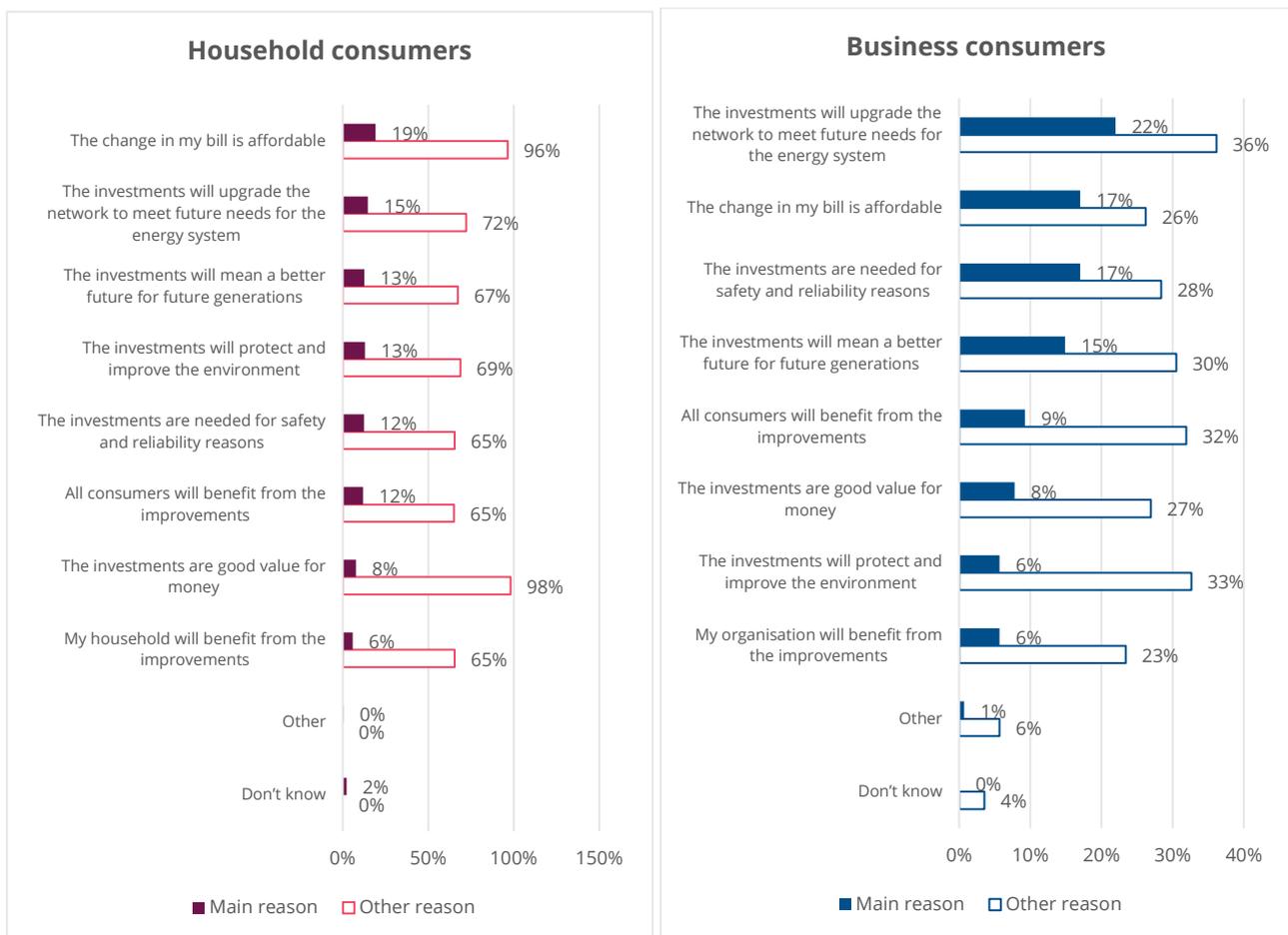
2.2 Reasons for acceptability of the Business Plan

A series of follow-up questions in the survey and discussion points in the qualitative research probed the reasons for consumers’ views on the acceptability of National Grid’s proposals, including the acceptable limit for bill impacts and other considerations that conditioned their responses.

2.2.1 Reasons for stating the ET Business Plan was acceptable

Survey respondents provided both their main reason for stating why the ET Business Plan was acceptable, plus any other reason(s) that were important in their response (Figure 2.2). For household consumers, a varied range of reasons were provided as the main motivation, including the affordability of the bill impact, agreement that the proposed investments were needed to ensure safety and reliability, or protect the environment, or meet future needs, or because of the overall benefits of the proposed investments to all consumers and future generations.

Figure 2.2: Reasons for acceptability of Business Plan – electricity transmission



Household pooled (online + in-person): n=1,091; Business n=141. Only includes respondents that indicated that the ET Business plan was either “acceptable” or “very acceptable”.

Taking account of the full set of motivating factors for household consumers, however, shows that the key reasons for the acceptability of the plan are the affordability of the bill impact and associated view that the proposed investments represent value for money. These reasons were given by 96% and 98% of

respondents, respectively, who stated that the ET Business Plan was acceptable.

The survey results are in line with the qualitative research findings. Stage 1 participants viewed the proposed additional bill impact as minimal, particularly taking into account the investment needs to ensure the reliability of the electricity transmission network for years to come. There was also a general view that it was preferable to be proactive now to maintain service levels rather than reactive to problems later on. In Stage 3 focus groups, a further view was that most consumers would not notice the proposed change to bill (even with inflation), since it was negligible and would be dwarfed by changes in other household bills.

For business consumers there was a spread of views. The most common primary reason for the acceptability of the Business Plan was that it would upgrade the network to ensure it met the needs of the future energy system (22% respondents), followed by maintaining current service levels in terms of safety and reliability (17%) and the affordability of the bill impact (17%). Looking at the full set of motivating factors, however, shows fairly even proportions of responses across aspects such as affordability and value for money, safety and reliability, benefits to all consumers and future generations, and protecting the environment (all in the range 26% – 36% respondents). The view that the business plan would directly benefit the respondent's organisation was the least frequently selected reason (23%).

2.2.2 Reasons for stating the ET Business Plan was unacceptable

For household consumers who stated that the ET Business Plan was either “unacceptable” or “very unacceptable” (9% overall; a total of 110 respondents) the main reason was an objection to paying a higher bill irrespective of the investments that were proposed (37%; 41 respondents). A further 15% (17 respondents) stated that energy companies make too much profit. In combination these responses reflect a form of protest response, which is based more on principles rather than a comment on the actual plan and investments proposed by National Grid. A smaller proportion of respondents highlighted affordability issues (16%; 18 respondents), and more generally these were associated with the concern that other parts of the energy bill would increase, rather than the change in the transmission bill *per se*. This latter finding was consistent with feedback in the Stage 3 qualitative research, where participants suggested that affordability of the overall energy bill would likely be the primary reason why consumers might find the Business Plan proposals unacceptable.

Protest responses were also the most common reason why business consumers stated that the ET Business Plan was unacceptable (54%; 8 respondents out of 15). However, the small sample size makes it difficult to draw firm conclusions in this regard.

2.2.3 Wider views on affordability and value for money

The issue of affordability was explored further with household consumers in both the quantitative and qualitative research stages. Whilst the majority felt the ET bill impact was affordable to them and therefore the proposals were acceptable, more nuanced views were apparent.

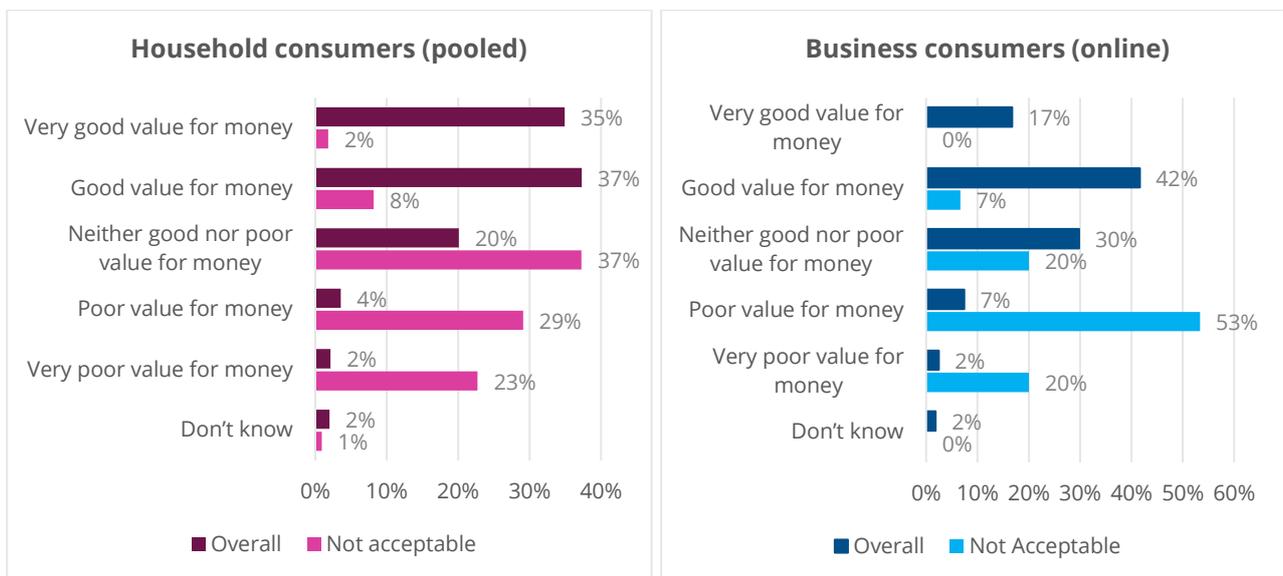
The Stage 3 qualitative research highlighted how consumers made the distinction between the affordability and value for money considerations of the Business Plan. Participants were clear that affordability was concerned with the ability to pay given household income and other expenses. In contrast, value for money was concerned with fair prices and service reliability. In this context there were mixed opinions on the value

for money for the overall energy bill. In general, the qualitative research found that household consumers did not consider overall energy bills to be value for money. The survey results, though, showed that a large proportion of consumers felt their overall bill did represent either “good” or “very good” value for money (43% households; 43% business), or they were neutral (“neither good nor poor value for money”; 37% households; 46% business). Smaller proportions explicitly stated that overall energy bills were “poor” or “very poor” value for money (19% households (pooled); 9% business)

Much greater consistency was observed with respect to the electricity transmission component of the bill, particularly in the qualitative research (Stages 1 and 3). The consensus – following an explanation of the role of transmission owners - was that it represented good value for money. It is also evident that additional bill impact of the ET Business Plan does not substantially alter this view. In the survey 72% of household and 58% of business respondents also viewed the additional bill increase – when taking into account the associated investments - value for money. A further 20% of household respondents and 30% business respondents gave neutral responses (“neither good nor poor value for money”). Fewer than 10% in both samples felt that National Grid’s proposals were “poor” or “very poor” value for money.

Overall, the conclusion is that if the consumer does not feel the proposed investments for the ET Business Plan are value for money, they are unlikely to find the Business Plan acceptable. This is borne out in the survey results, which show a clear pattern of consumers who stated the ET Business Plan was not acceptable were also more likely to find it to be either poor value for money or be indifferent (neither good or poor value for money) (Figure 2.3). The observed pattern in responses also follows through to results concerning the acceptability of individual investment areas (see Section 3).

Figure 2.3: Value for money of Business Plan proposals – overall sample vs. ‘not acceptable’



Household pooled (online + in-person): Overall n=1,258; Not acceptable n=101. Business: Overall n=161; Not acceptable n=15.

2.2.4 Limits of acceptable bill impacts

Whilst both the survey results and qualitative research findings show a high level of consumer support for the ET Business Plan, it is evident that the acceptability of National Grid’s proposal is subject to limits and

conditions. For instance:

- In the qualitative research (Stage 1) some participants recognised that whilst the plan was acceptable in absolute terms (i.e. +£0.98 per year), a different perspective could be taken when viewed in relative terms (approx. +4% increase on current transmission bill amount). For the most part this recognition sharpened the view that National Grid's proposals would not be acceptable if all parts of the energy bill were to increase by similar proportions.
- In line with this view, the majority of survey respondents (84% household; 87% business) indicated that they took their overall energy bill into account at least "a little" when deciding whether the ET Business Plan was acceptable. Hence the headline acceptability results need to be interpreted in the context of current overall energy bills, and not accounting for significant changes in other components of the bill. Indeed, only 26% of household and 21% of business consumers indicated that the National Grid's proposals were acceptable irrespective of changes in the rest of the energy bill, while notable proportions (12% household and 11% business) indicated that the plan would not be acceptable if other parts of the bill increased.
- Accordingly, most survey respondents (57% household and 61% business) were clear that the ET transmission plan was acceptable up to a certain point in terms of the bill impact. For household consumers, the limit of acceptability or 'switching point' for the additional bill impact for the ET bill amount was approximately +£11 per year (n=687) on top of the current amount (£25 per year). This is based on (mean) average maximum acceptable change in bill for household consumers; the median result was lower at +£5 per year. National Grid's proposal (+£0.98 per year) is within these thresholds. For business consumers the average maximum acceptable change in bill was approx. +7 percentage points (on current amount paid), with a median of +5 percentage points (n=95). From the perspective of business consumers, the proposed change (approx. 4%) is therefore closer to the limit compared to household consumers.
- The limit in terms of the overall energy bill for household consumers was approx. +£28 per year (mean average) – i.e. roughly +£2.30 per month – with a median of +£15 per year (n=366). Hence the 'headroom' around the acceptability of the ET Business Plan is about a 2.5% increase in the overall household energy bill – assuming an annual dual fuel bill of approx. £1,100 per year.
- Broader considerations were also heard in the Stage 3 focus groups, where 'conditions' of the acceptability of the ET Business Plan included that bills need to be efficient, National Grid should not take financial risks, and that returns to executives and shareholders should be fair and reasonable. Some participants even challenged whether National Grid would be incentivised to put in higher costs than it would need – in anticipation of a regulator giving them less.

Overall, a coherent set of messages came through the survey and qualitative research, that sets the high levels of acceptability for the ET Business Plan in an appropriate context. Specifically, that overall energy bills do not commensurately increase, that National Grid's investments are cost efficient, and that top-level salaries and dividends are not excessive.

2.3 Results by consumer segments

The high level of acceptability of the ET Business Plan suggests that there is likely to be limited variation in consumer views across different segments, such as socio-economic group (SEG)⁴, age cohort, location, etc. A series of such comparisons are shown in Figure 2.4, which show the extent of variation in the level of acceptability for different types of socio-demographic breakdowns of the household consumer survey responses⁵.

Figure 2.4: Overall Business Plan acceptability by household consumer segments – electricity transmission



Household pooled (online + in-person): n=1,258.

⁴ Market Research Society definitions are: A = professionals, very senior managers, etc.; B = middle management in large organisations, top management or owners of small businesses, educational and service establishments; C1 = junior management, owners of small establishments, and all others in non-manual positions; C2 = skilled manual labourers; D = semi-skilled and unskilled manual workers; E = state pensioners, casual and lowest grade workers, unemployed with state benefits only

⁵ Note also that these comparisons do not control for other potential explanatory factors, and the reported results are subject to certain confidence limits or error margins based on the number of observations for each consumer sub-group. These are up to around +/- 8 percentage points for each sub-group.

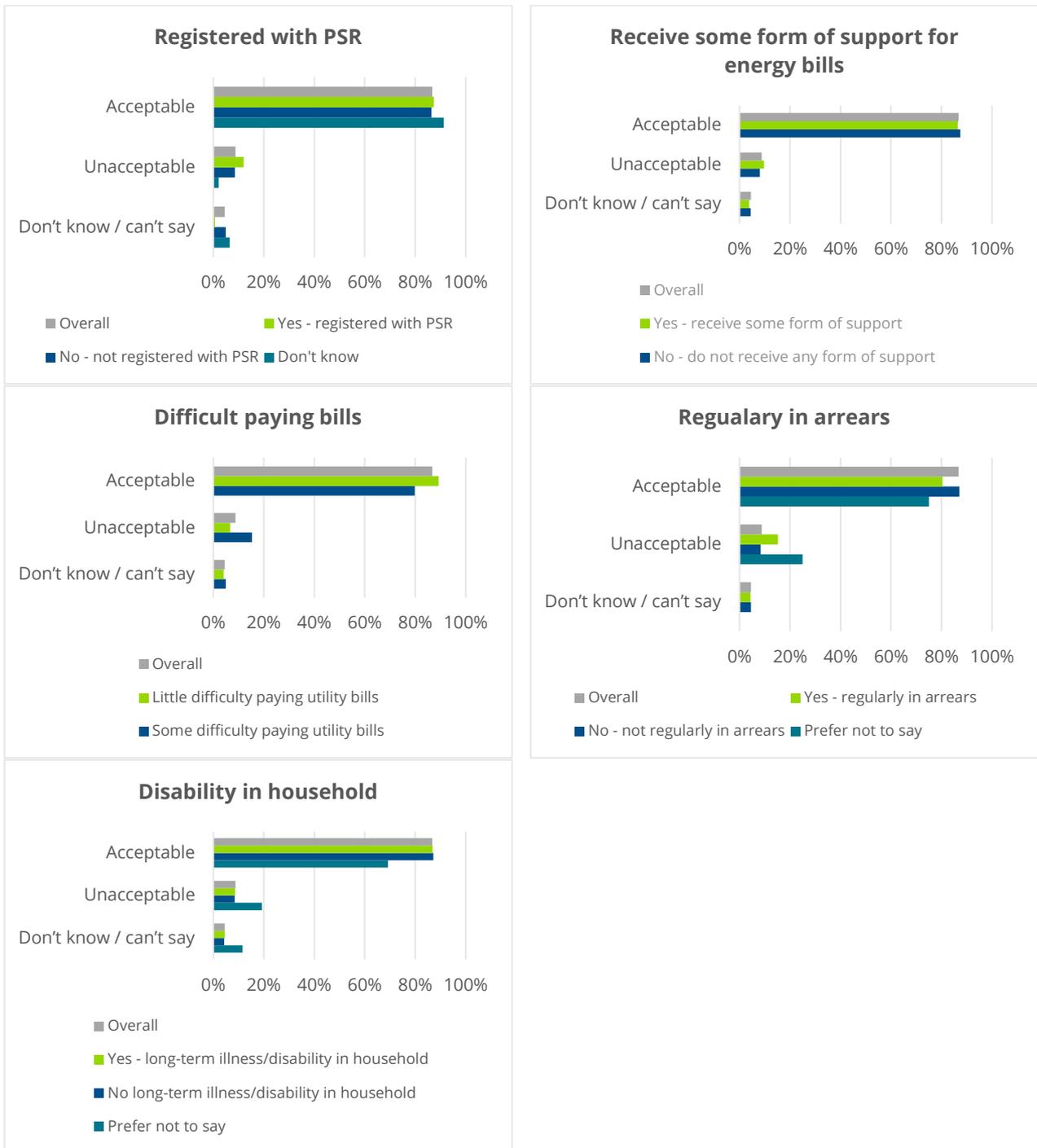
For the most part, the observed differences between different consumer segments are not statistically significant. The main patterns in the results are:

- Respondent age and socio-economic group: there is very limited variation in the level of acceptability of the ET Business Plan for these segments (“acceptability” range = 84% to 91%);
- Location: consumers in Wales (“acceptability” = 84%) were observed to have a marginally lower level of overall acceptability for the ET Business Plan compared to England (87%). Note there was no noticeable difference in the acceptability in urban versus rural consumers.
- Annual household income: consumers in lowest household income bracket (less than £6k per year) have a notably lower level of overall acceptability for the Business Plan (“acceptability” = 79%), with a corresponding increase in the proportion of respondents stating that the plan is not acceptable (“unacceptable” = 15% vs. 9% for the overall sample)⁶. Results for all other income segments are consistent with the overall sample results (“acceptability” range = 86% to 92%).

Figure 2.5 shows an alternative set of breakdowns of the acceptability results by whether a respondent reported that their household: (a) is on Priority Services Register (PSR); (b) had received some form of support for paying energy bills (e.g. winter fuel payments); (c) encountered difficulties paying utility bills; (d) was regularly in arrears; and/or (e) whether any members have a long term illness or disability. These provide a set of indicators for consumers in potentially vulnerable circumstances and hence potentially also affordability concerns regarding the ET Business Plan bill impacts.

⁶ Note that the sample size for the lowest income bracket is relatively small (n=34; 3% of the overall sample).
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Figure 2.5: Overall Business Plan acceptability by vulnerable circumstances indicators (household consumers) – electricity transmission



Household pooled (online + in-person): n=1,258.

The main observations with respect to the indicators of consumers in potentially vulnerable circumstances are:

- Registered with PSR and/or receive some form of support for energy bills and/or disability in the household: no clear difference in level of acceptability for the ET Business Plan compared to the overall sample.
- Difficulty paying bills and/or regularly in arrears: consumers who stated that they encountered difficulty paying their utility bills or were behind with payment (both “acceptability” = 80%) had a lower level of overall acceptability for the plan compared to those who did not⁷. Correspondingly, a higher proportion of these respondents stated that the plan was not acceptable (“unacceptable” = 15%).

These findings help to reinforce the preceding observations that whilst for most National Grid’s proposals are affordable because of the minimal additional bill impact (Section 2.2.3), a proportion of consumers do struggle with paying bills. That even a marginal increase in the transmission bill is seen is unacceptable likely ties in with the concerns raised that other aspects of energy bills will increase. If these are in similar in relative terms (approx. 4% increase) there could be significant pressure on household budgets. In further follow-up questions in the survey, around 15% of household respondents were concerned about difficulty paying bills in the future⁸.

⁷ Given the respective sample sizes – ‘Some difficulty paying bills’ (n= 306; error margin approximately +/- 4 percentage points); ‘Yes – regularly in arrears’ (n=46; error margin approximately +/- 8 percentage points) - it is not possible to conclude that these differences are statistically significant. This is because the results overlap the error margins for the main sample result (87%; +/- 3 percentage points). Nevertheless, the results can be interpreted as indicative that the ET plan has a lower level of acceptability among household consumers who stated they struggled with paying bills (noting, though, that the level of support is still relatively high at around 8 in 10 consumers in this group finding National Grid’s proposal acceptable).

⁸ This is based on responses to the question “If the bill that you pay for electricity transmission was to increase... how easy or difficult would it be for you to pay your overall energy bill? 12% of household respondents stated, “I would sometimes find it difficult to pay my future energy bill”; 3% stated “I would always find it difficult paying my future energy bill”.

3. Acceptability of Proposed Investments

Key messages

- Consumers were presented with details of the proposed investments featured in the Electricity Transmission Business Plan and asked to state whether they supported the proposal and the associated bill impact.
- The majority of household and business consumers (around 60%) expressed their support for the proposed investments and the individual bill impacts were also acceptable to consumers. However, a relatively significant proportion (around 30%) stated their support for the proposed investments in principle but consistently challenged the bill impact, either due to concerns regarding the affordability of energy bills or their value for money.
- Investments in safety and reliability were viewed as the top priority by both household and business consumers. This was followed by investments that are intended to meet the changing future needs for the electricity transmission network, although within this, there tended to be lower levels of outright support for investments to develop the (re)charging infrastructure for electric vehicles. Resilience investments tended to be mid-ranked, with lower priority in the survey responses placed on the specific environment and local community investments, and investment in innovation projects. In the qualitative research, these latter investments (especially environment and to some extent innovation projects) were viewed as higher priorities.
- Consumers were also very supportive of the efficiency savings and these helped offset the concerns of some that the bill impact of a particular investment might be too high. It was evident also that consumers expected National Grid to meet efficiency challenges, although not the extent where this would compromise current or future service or reliability.
- Furthermore, there was support for National Grid reinvesting efficiency savings if it meant that more could be done in the Business Plan to address future investment needs. The investment areas that consumers had the strongest preferences for higher levels of investment were reducing carbon emissions from National Grid's operations, maintaining condition of assets (i.e. overhead lines, pylons, underground cables, and substations), and investments to support future increases in supply/demand for electricity.

This section summarises consumers' views on the acceptability of a range of investments proposed in the ET Business Plan. As part of the explanatory information presented in the survey and qualitative research, consumers were given a breakdown of the bill impact of the plan and the 'line-by-line' investments (Box 3.1). Further information was then provided about the overall investment area along with more specific descriptions of the individual investments (see Sections 3.2 – 3.7).

The high-level investment areas in the ET Business Plan were described as:

- Ensuring a safe and reliable network;
- Protecting the network from external hazards;
- Planning the energy system of the future;
- Improving the environment and supporting local communities;
- Innovation projects; and
- Returning efficiency savings to consumers.

Box 3.1: Electricity Transmission Business Plan bill impact breakdown

Electricity transmission bill impact

Current annual bill for electricity transmission (2019)		
	Current amount (£ per year)	Change by 2026 (£ per year)
Proposed investments for 2021 – 2026		
Maintaining condition of overhead lines, pylons, underground cables, and substations	£2.48	+£1.08
Protecting the network from external hazards	£0.30	+£0.43
Connecting new power generators	£0.24	+£0.04
Installing new infrastructure for fast charging of electric vehicles	-	+£0.33
Investments needed to support future increases in supply/demand for electricity	£0.14	+£0.05
Reducing carbon emissions from our activities	£0.01	+£0.07
Reducing visual impact of existing equipment in protected areas	£0.04	+£0.03
Supporting local communities	-	+£0.06
Innovation projects	£0.33	+£0.03
Returning efficiency savings to customers	-	-£1.14
Total change in annual bill by 2026		+£0.98
Annual bill for electricity transmission (by 2026)	£25.98	

Household consumer version

Electricity transmission bill impact

Annual bill for electricity transmission (2019) – as percentage of current electricity bill	
	Change by 2026 (%)
Proposed investments for 2021 – 2026	
Maintaining condition of overhead lines, pylons, underground cables, and substations	+0.19%
Protecting the network from external hazards	+0.07%
Connecting new power generators	+0.01%
Installing new infrastructure for fast charging of electric vehicles	+0.06%
Investments needed to support future increases in supply/demand for electricity	+0.01%
Reducing carbon emissions from our activities	+0.012%
Reducing visual impact of existing equipment in protected areas	+0.005%
Supporting local communities	+0.01%
Innovation projects	+0.005%
Returning efficiency savings to customers	-0.20%
Change in annual bill by 2026	+0.17%
Future electricity transmission bill (by 2026) - as percentage of current electricity bill	4.50%

Business consumer version

As with the summary shown to consumers (Box 2.1), the bill impact breakdown was presented in monetary terms for household consumers and percentage (%) change terms for business consumers (excluding the effect of inflation).

A total of 10 individual investments were presented within the six high-level areas. In the survey, respondents were asked in turn about the acceptability of each individual investment proposal (with the order rotated across respondents to avoid potential sequencing biases in responses). The qualitative research featured broader discussion about the rationale and requirement for action by National Grid within the higher-level investment areas.

3.1 Overview of findings

There were high levels of acceptability for the individual investment proposals in the ET Business Plan, with around 90% of respondents in both the household and business consumer survey expressing their support for a given investment proposal. Respondents were able to state whether: (a) they agreed with the proposed investment and its specific bill impact; (b) they agreed with the proposed investment but not the bill impact; (c) they did not agree with the proposed investment; or (d) don't know. The purpose of this approach was to obtain a more varied pattern of responses by giving consumers the opportunity to state their support for the investment itself but challenge the cost-efficiency in delivering it.

The pattern of results across the 10 investment proposals was consistent:

- The majority of household and business consumers expressed their support for the proposed investments and indicated that the individual bill impacts were acceptable. On average, this was around 60% for household respondents, and 61% for business respondents;
- A smaller, but consistent proportion of consumers stated their support for the investment proposals, but challenged the individual bill impacts (on average 27% household respondents, and 30% business respondents); and
- Very few consumers outright rejected the proposed investments and the need for action by National Grid (on average 5% household respondents; 4% business respondents).

Analysis of the survey responses of household consumers who accepted the need for the investment but challenged the efficiency of bill impact revealed two distinct profiles (Table 3.1).

Table 3.1: Profile of household consumers that stated individual investment bill impacts were not acceptable – electricity transmission

	Group 1: Affordability concerns	Group 2: Attitudinal factors
Respondent profile – compared to overall sample	<p>Consumers who were more likely to:</p> <ul style="list-style-type: none"> • Pay their energy bills using a prepayment card/meter • Be registered with their energy supplier’s Priority Services Register • In low income group, with gross annual household income less than £13k • In either the youngest age group (18-24) or the oldest (65+) • Report having no education or professional qualifications • Receive some form of financial support for energy bills (e.g. cold weather payment) • Report some difficulty paying household bills and regularly being in arrears with household energy bills 	<p>Consumers who were more likely to:</p> <ul style="list-style-type: none"> • Gross annual household income greater than UK median (approx. £32k) • Employed with no dependants (children or elderly) • State that their overall energy bill did not represent value for money • State that National Grid’s proposals for electricity transmission did not represent value for money
Percentage of consumers	Around 10% of overall sample (roughly 1/3 of respondents that stated individual investment bill impacts were not acceptable)	Around 20% of overall sample (roughly 2/3 of respondents that stated individual investment bill impacts were not acceptable)

The responses from the first profile of consumers (about 1 in 10 overall) were primarily driven by affordability considerations. These respondents were more likely to receive some form of support for energy bills, be a prepayment card/meter customer, and indicate they encountered difficulty paying household bills. Hence whilst they supported National Grid’s proposals in principle, their main concern was the change in bill and impact on their household budget.

The second profile of consumers (about 2 in 10) tended to hold the view that current service levels were good enough and correspondingly viewed the proposed investments and overall energy bills as representing less value for money (compared to the overall sample results). This group tended to have higher than average household income. The affordability of the bill impacts was not their key concern, but rather they questioned the need for the investments at the present time.

3.2 Ensuring a safe and reliable network

This topic area presented consumers with investments for inspecting, maintaining and replacing existing equipment to ensure reliable service and that legal and regulatory obligations for safety and protecting the environment continue to be met (Figure 3.1). The one specific investment requirement that was set out was the need to increase spend over current levels in order to continue to maintain service levels for reliability and safety (Figure 3.2).

Figure 3.1: Investment area description – safe and reliable network

Ensuring a safe and reliable network

To make sure the transmission network is operating safely and in line with all regulations, our equipment is maintained in a healthy state and is replaced as it reaches the end of its life.

- We check, repair and replace our equipment, including overhead lines, pylons, underground cables, and substations.
- Our investment meets all legal requirements for health and safety, and protecting the environment.
- This ultimately protects against power cuts and blackouts that can affect thousands of homes and businesses. Power cuts may still occur, but this will most likely be due to local distribution problems and not the transmission network that we operate.

Figure 3.2: Individual investment descriptions (household consumers example)

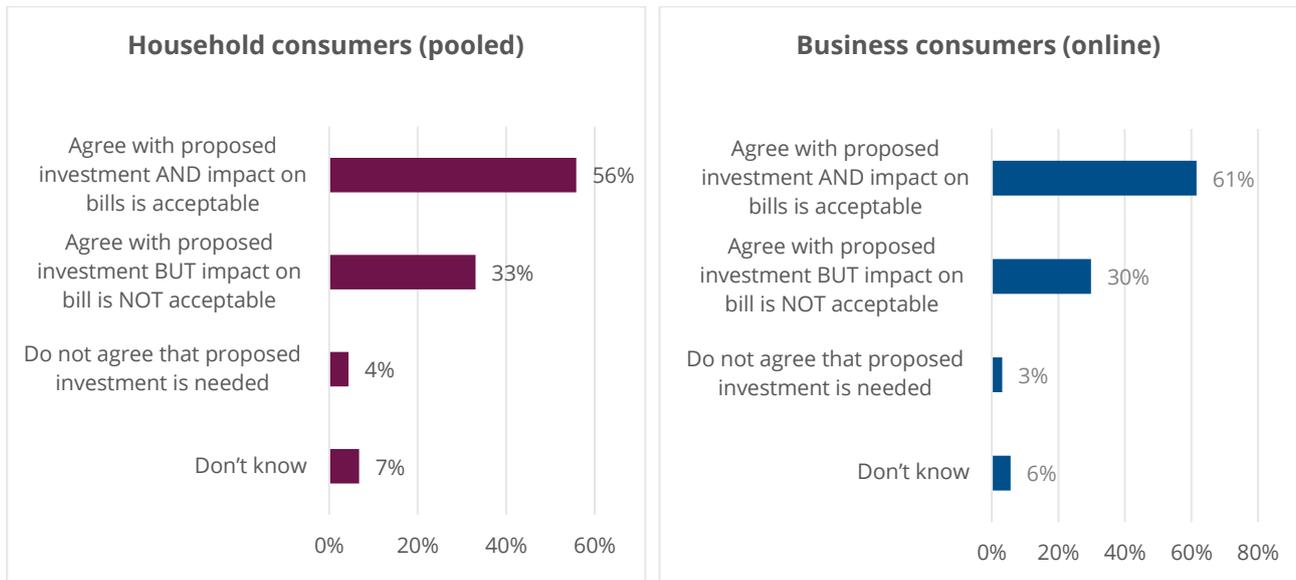
Maintaining condition of overhead lines, pylons, underground cables, and substations

- Extra investment to replace and refurbish the aging equipment on the network.
- This means we will continue to keep the network safe and maintain the current level of reliability, meaning that the chance of a power cut affecting lots of people is very low.

Current amount (2019)	£2.48
Change by 2026	+£1.08
Total amount (2026)	£3.56

Overall, 89% of household consumers and 91% of business consumers indicated that they agreed with the set of proposed investments. As shown in Figure 3.3 for household respondents, this was split between the majority (56%) that indicated the investment proposals and their bill impacts were acceptable, and a smaller proportion (33%) that agreed with the investment need but not the bill impact. For business respondents, the 61% indicated both the proposal and bill impacts were acceptable, whilst 30% agreed with the investment need but not the bill impact. Only 4% of household respondents and 3% of business respondents expressed the view that the investments were not needed.

Figure 3.3: Acceptability of safety and reliability investments



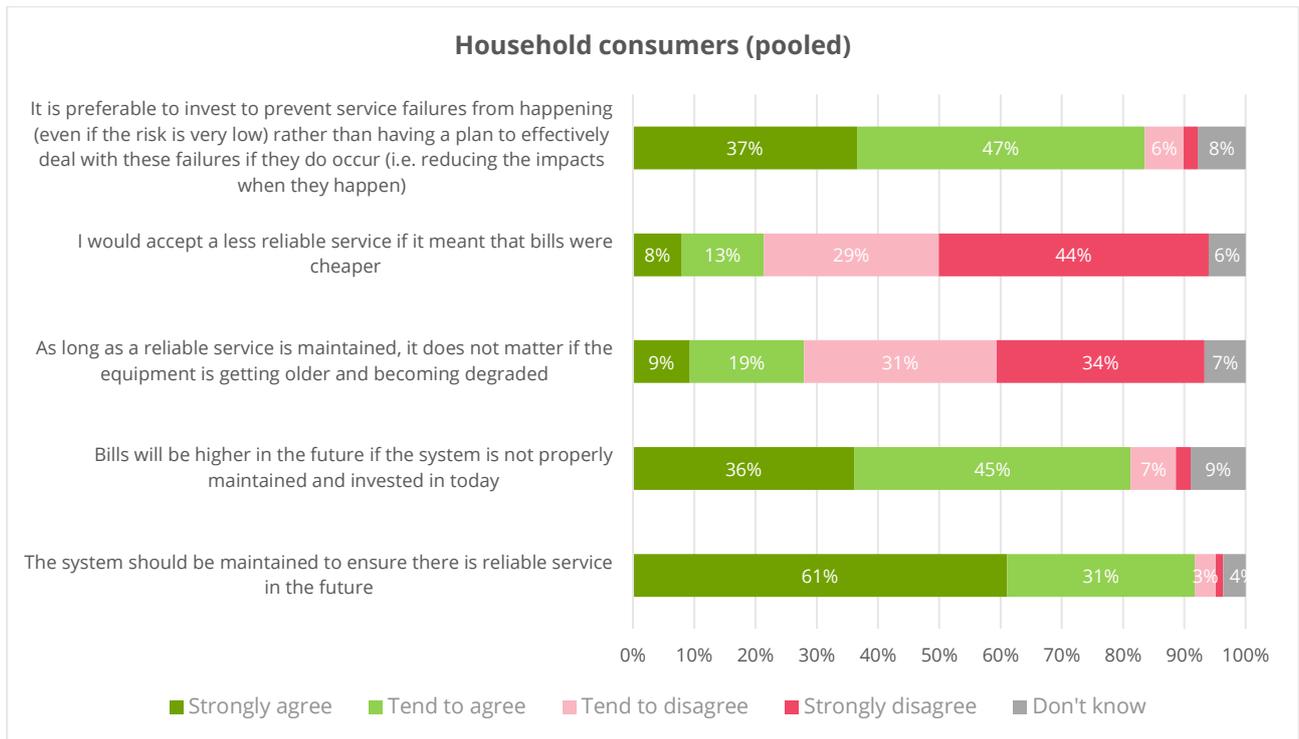
Household pooled (online + in-person): n=1,258. Business online: n=161

Safety and reliability was the top priority for consumers in both the survey results and the qualitative research. In Stage 3 research, it was evident that significant weight was placed on maintaining reliability, with the view that National Grid should not be taking risks by reducing investment levels, since the potential impact on people now and in the future is too great. There was also an understanding of why investment might need to increase just to maintain current services levels, with participants recognising that an aging asset base would require more work, and also that more stringent safety and environmental protection standards would also mean that more expenditure was required.

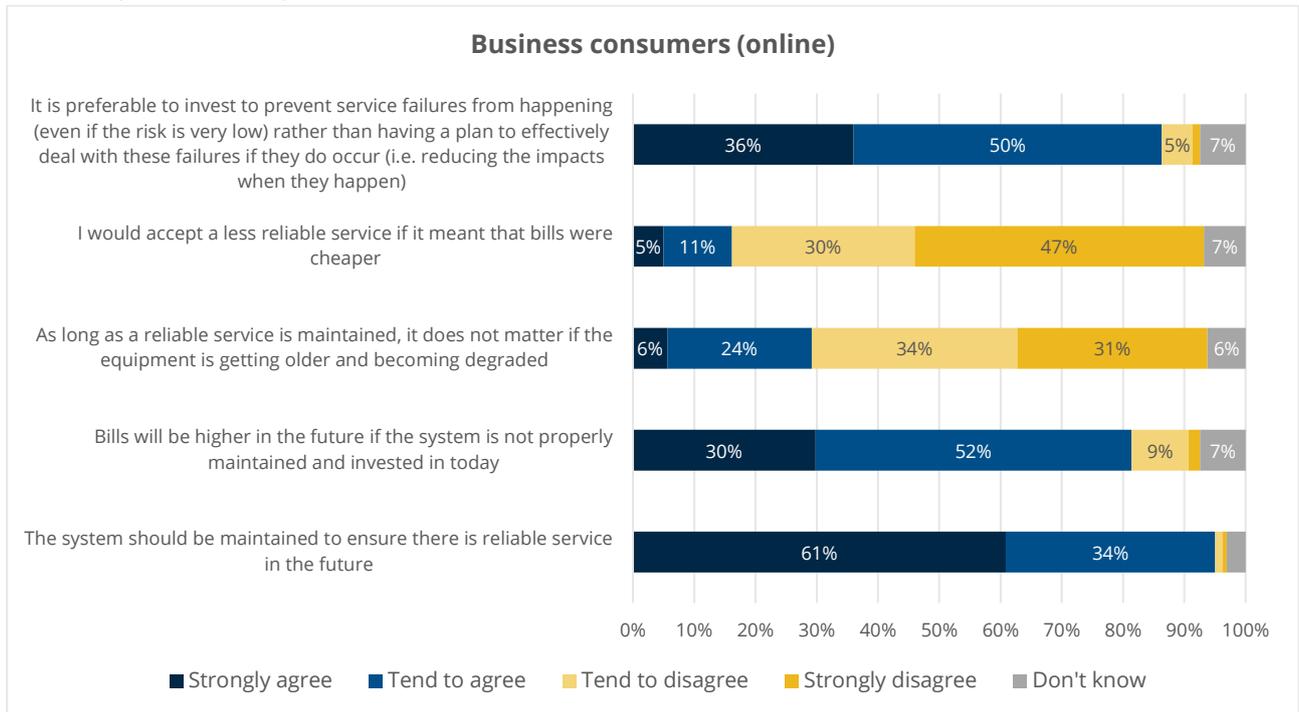
Broader views on asset health were also sought, with survey respondents asked to consider how much they agreed or disagreed with a set of attitudinal statements concerning trade-offs between investment levels and reliability in the short and longer term (Figure 3.4). In all cases, the majority of household and business consumers (over 80%) agreed with statements that emphasised the need to ensure long-term reliability and disagreed (over 65%) with those that suggested a compromise between lower bills and lower reliability. That said, there was an observed tendency for respondents in the 'Group 2 – attitudinal factors' to disagree with the need for proactive investments that prevent service from occurring instead of dealing with them if they occur.

All in all, the overriding observation from the acceptability testing – particularly from the qualitative research – is that consumers are aware of the consequences of deteriorating reliability and support National Grid improving and maintaining their infrastructure for the long term. Participants indicated that they thought it was acceptable to pay the proposed bill impacts for investment in this area, with several commenting that a safe and reliable network is essential, and the additional impact on transmission bills was minimal, especially in the context of the overall energy bill.

Figure 3.4: Consumer views on asset health considerations



Household pooled (online + pooled): n=1,258.



Business online: n=161.

3.3 Protecting the network from external hazards

This investment area presented consumers with investments concerning resilience and protecting the transmission network, IT systems and employees against criminal activity and extreme weather events (Figure 3.5). Only one specific investment need was set out (Figure 3.6).

Figure 3.5: Investment area description – external hazards

Protecting the network from external hazards

We protect the transmission network and our employees from criminal activity and severe weather.

- We protect our sites from all external hazards.
- Vandalism and theft are an ongoing concern for the network.
- Cyber attacks and changing weather patterns are growing threats.
- Some hazards can cause power cuts and blackouts that affect large parts of the country and it could take up to a week to restore power to everyone.
- As well as trying to prevent these things from happening, we also plan and put in place arrangements to recover from these events as quickly as possible.



Figure 3.6: Individual investment description (household consumers example)

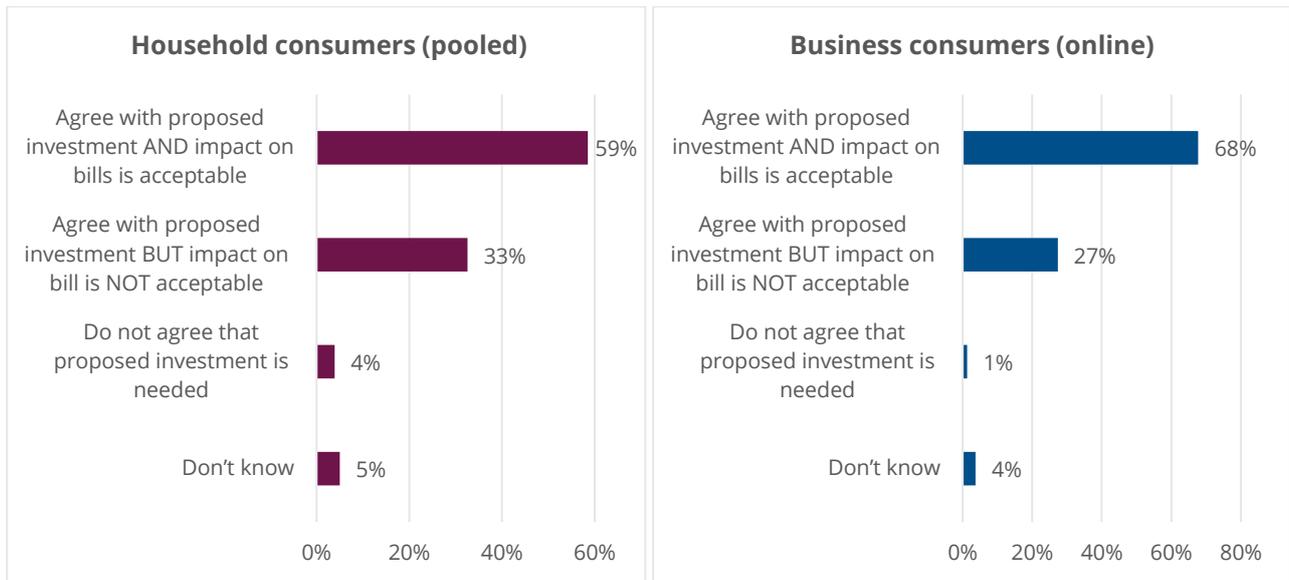
Protecting the network from external hazards

- Investment to:
 - Meet new cyber security standards set by Government.
 - Upgrade on-site security at certain locations.
 - Build new flood protection measures for 111 sites.
 - Improve how quickly we can get the network up and running if it is affected by a shutdown.
- This means that electricity supplies will be better protected from external hazards, and that supplies can be restored more quickly if there is a problem.

Current amount (2019)	£0.30
Change by 2026	+£0.43
Total amount (2026)	£0.73

As set out in Figure 3.7, over 90% of survey respondents indicated that they agreed with the proposed resilience investments (92% households; 95% business). For household consumers, this was split between the majority (59%) that indicated the investment proposals and their bill impacts were acceptable, and a smaller proportion (33%) that agreed with the investment need but not the bill impact. For business consumers, the majority (68%) also indicated that the proposal and bill impacts were acceptable, and a smaller proportion (27%) agreed with the investment need but not the bill impact. 4% of household and 1% of business respondents expressed the view that the investments were not needed.

Figure 3.7: Acceptability of external hazards investments



Household pooled (online + in-person): n=1,258. Business online: n=161

Despite the high level of support, this investment area tended to be mid-ranked by both household and business survey respondents in terms of the priority for National Grid. In the Stage 3 qualitative testing, it was apparent that most participants were initially unaware of the cyber security risk faced by National Grid, and that the bill impact seemed relatively high compared to other investment areas. However, with further discussion and clarification most welcomed security as a priority area for investment and in general were reassured that the company was taking measures to safeguard the transmission network and systems. For example, whilst cyber security was understood to be a growing problem for all types of organisations, few thought National Grid would be a high priority target – mainly because the headline hacking cases tended to involve consumers’ personal information which National Grid does not hold (e.g. compared to banks, other financial institutions, and retailers). The overriding sentiment was that - as with safety and reliability - this was not an area where consumers felt National Grid should be taking risks.

3.4 Planning the energy system of the future

This investment area presented consumers with investments that are intended to meet the changing future needs for the electricity transmission network, including new connections, infrastructure for electric vehicle charging, and the capacity for forecast increases in supply/demand (Figure 3.8). Three specific investment needs were set out (Figure 3.9).

Figure 3.8: Investment area description – energy system of the future

Planning the energy system of the future

We invest to make sure that the transmission network can meet changing needs in the future.

- Upgrading the network to allow new developments and new power sources to connect easily.
- Upgrades so the system can cope with variable energy production from renewables (e.g. wind energy depends on unpredictable wind levels each day).
- Installing new infrastructure for fast charging of electric vehicles – aiming for 95% of electric vehicle drivers to be within 50 miles of an ultra-rapid charging station (e.g. at motorway service areas).
- Additional investments to manage the supply and demand of electricity to meet the growing demands of the energy system and reduce the costs of operating the system.

Figure 3.9: Individual investment descriptions (household consumers)

Connecting new power generators

- Investment for 17.3 gigawatts of connections, which will mainly be from renewable sources (73%).
- This will be around a 30% increase in electricity from renewables compared to current levels.

Current amount (2019)	£0.24
Change by 2026	+£0.04
Total amount (2026)	£0.28

Installing new infrastructure for fast charging of electric vehicles

- Investment to upgrade connections from the electricity network to support ultra-rapid charging stations at 50 motorway service areas.
- This means that drivers of electric vehicles could undertake longer journeys and recharge vehicles en route in a shorter time.

Current amount (2019)	-
Change by 2026	+£0.33
Total amount (2026)	£0.33

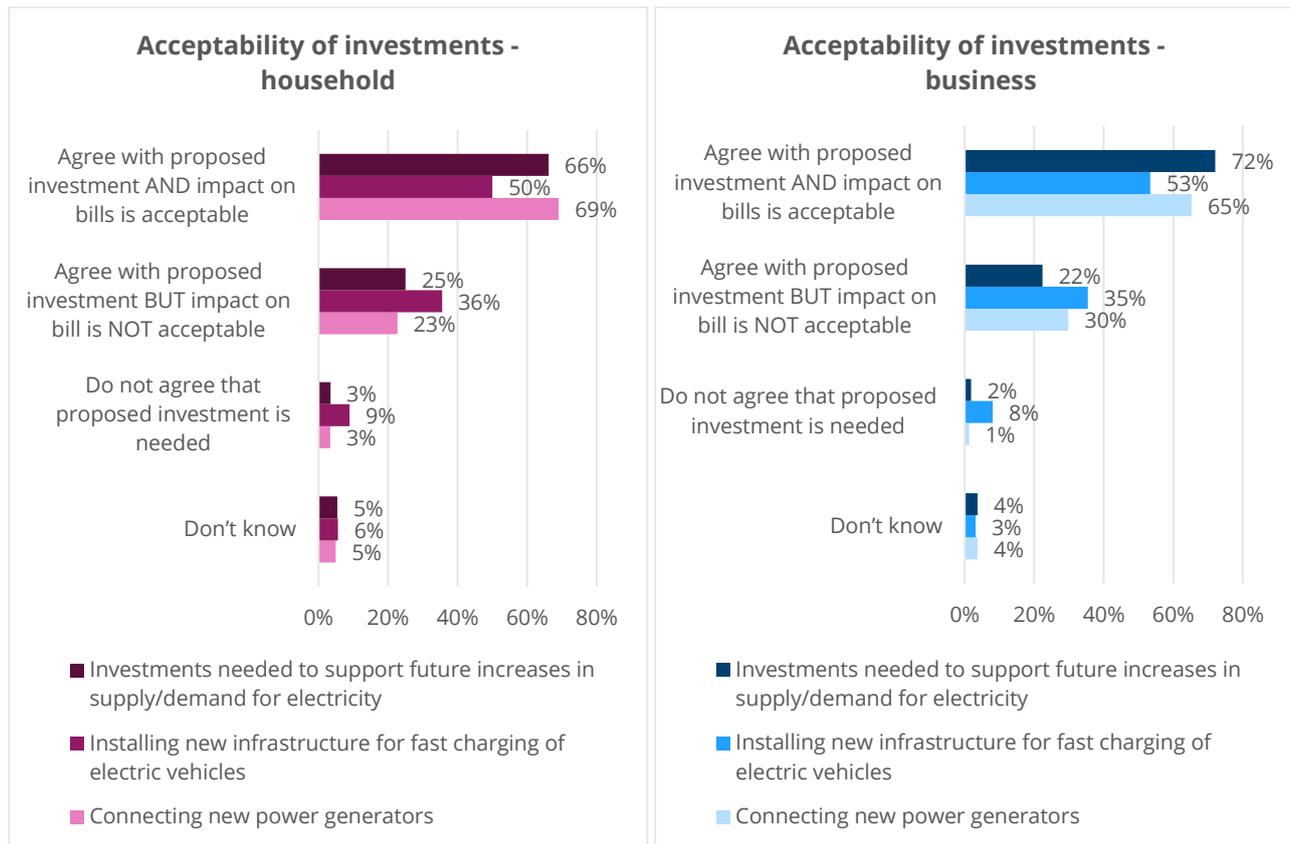
Investments needed to support future increases in supply/demand for electricity

- Investments to make sure the network can support forecast increases in supply/demand for electricity in the coming years.

Current amount (2019)	£0.14
Change by 2026	+£0.05
Total amount (2026)	£0.19

As with all other investment areas, there were high levels of support for the individual investments, with over 90% of household and business consumers supporting the new connections and future supply/demand capacity investments. A similar pattern of responses is also observed with the majority of household and business consumers (over 66% and over 65%, respectively) stating that investments and their individual impacts were acceptable, and a smaller proportion supporting the investments in principle but not the bill impacts (over 22% and over 23%, respectively) – as shown in Figure 3.10.

Figure 3.10: Acceptability of future energy system investments



Household pooled (online + pooled): n=1,258. Business online: n=161

Although the overall level of support for installing electric vehicle infrastructure investments were comparable (86% household; 88% business), a greater proportion of respondents viewed the bill impact as unacceptable (36% households; 35% business). A slightly higher proportion of consumers also stated the investment was unacceptable (9% household; 8% business). Electric vehicle charging infrastructure was also one of the most debated ET investment areas in the qualitative research.

In the Stage 1 research, a number of participants questioned whether it was National Grid’s role to support electric vehicle use, since effectively all consumers being asked to subsidise a small proportion of road users (currently). This topic was returned to in Stage 3 research, where participants felt that even though the investment had the lowest level of support (85%), this was still higher than a reasonable minimum threshold for acceptability (around 70% - 75% was suggested). In addition, one view that came through was that if National Grid did not take on the responsibility for developing the infrastructure that would support wider electric vehicle use, who else would. Some also had a longer-term perspective, recognising that they were being asked to pay for infrastructure now that they would eventually become users of.

3.5 Improving the environment and supporting local communities

Consumers were presented with a variety of investments under the general theme of continuing to protect and help improve the environment and supporting the local communities, reducing carbon emissions from National Grid’s operations, undergrounding pylons in protected landscape areas (National Parks and Areas of Outstanding Natural Beauty), and local community projects (Figure 3.11). Three specific investment needs were described (Figure 3.12).

Figure 3.11: Investment area description – environment and communities

Improving the environment and supporting local communities

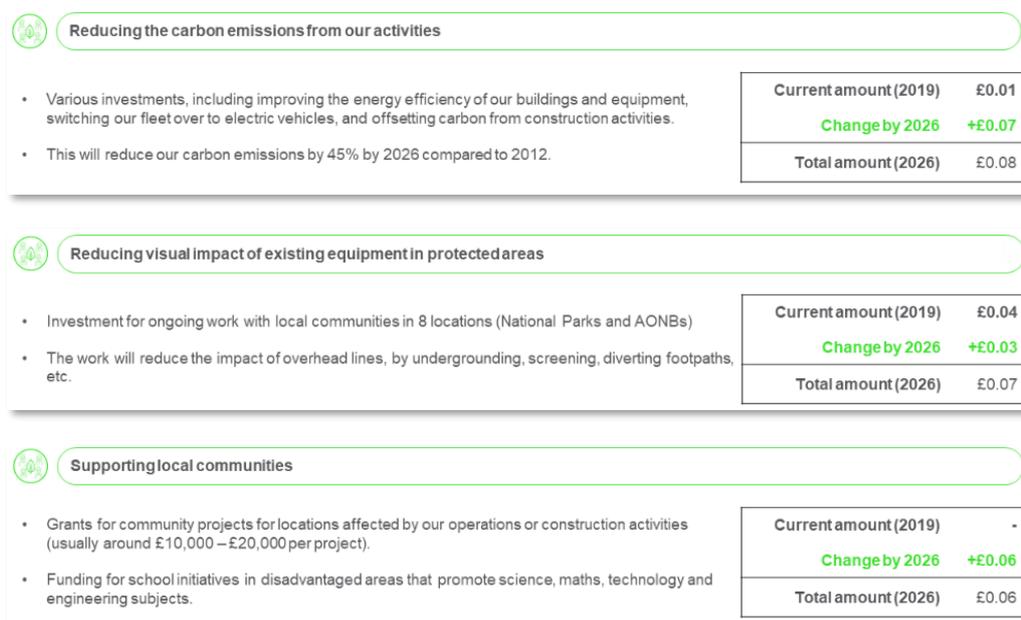
We invest to support communities and continue to protect and help improve the local environment:

- Improving plants and wildlife in and around our sites - including introducing wildflower meadows, introducing beehives/animals to graze and planting trees to screen our sites.
- Putting overhead electricity lines underground in National Parks and Areas of Outstanding Natural Beauty to reduce their visual impact.
- Reducing our own carbon impact, for example by offsetting our emission and changing our vehicle fleet to low/zero emissions.
- Providing education - promoting and sponsoring electrical safety and engineering.
- Providing employment and training opportunities to vulnerable people and young people.



In the qualitative research there was strong support for investments that delivered improved environmental outcomes. For instance, in the Stage 1 qualitative research the general view was that, particularly ‘environment’ investments, were almost as important as safety and reliability for National Grid. Indeed, a number of the participants felt passionately about the environment and were very supportive of National Grid working to improve it. Similar views were also heard in the Stage 3 research, including suggestions that some consumers would be happy to forfeit the return of efficiency savings if they were channelled into improved environmental outcomes.

Figure 3.12: Individual investment descriptions (household consumers) – environment and communities

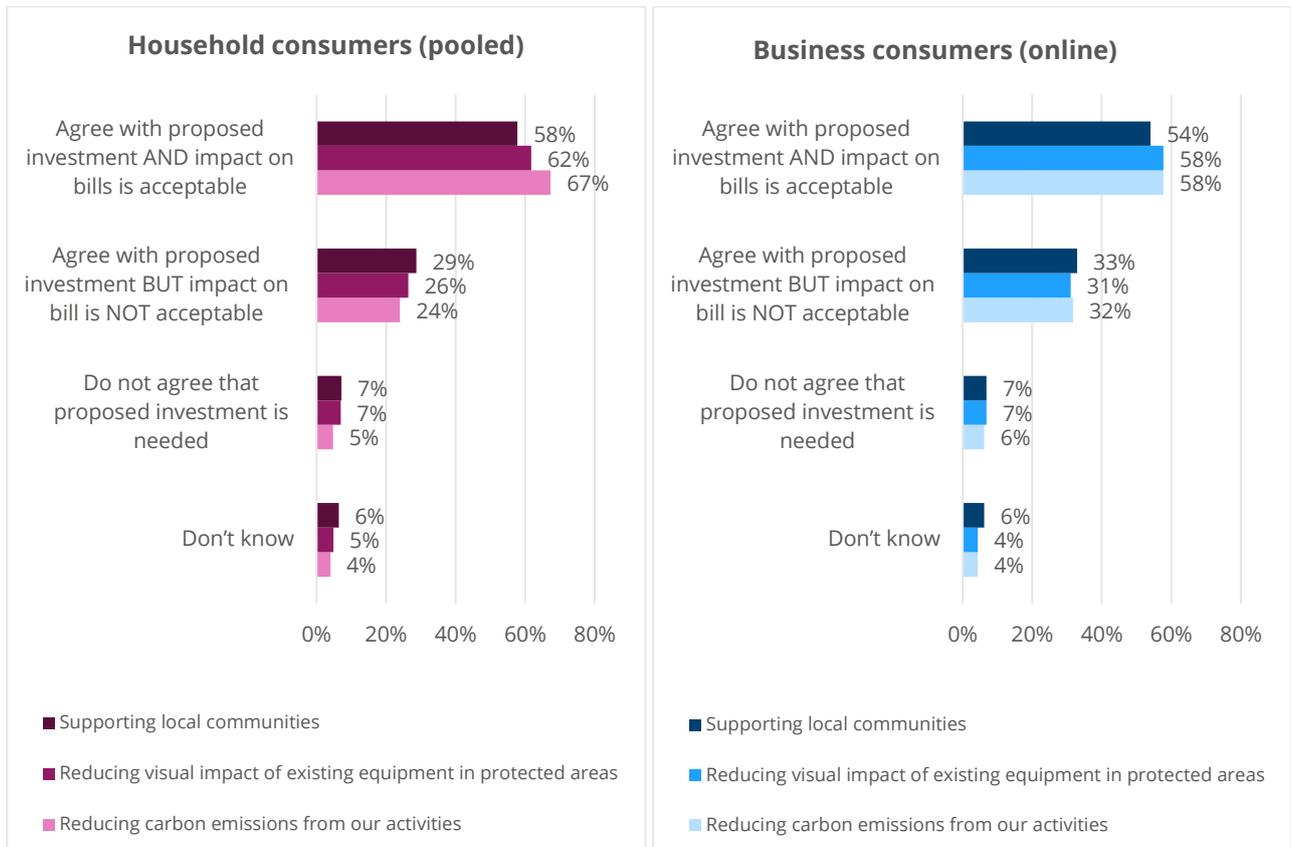


In contrast, the environment and local community investment area was mid-low ranked by household and business consumers in the survey. In part the differing views may be a reflection of the general value attached to the ‘environment’ *per se* – which tended to underlie the qualitative research discussion – and the specific proposals set out in the ET Business Plan, which potentially are not as far reaching as consumers would prefer. Indeed, supplemental responses showed that the highest level of support would be for more investment in further reducing carbon emissions from operations (around 20% respondents in total) – just ahead of support for increasing investment in maintaining the condition of ET network assets (i.e. overhead lines, pylons, etc). and investments to support future increases in supply/demand for electricity.

In addition, the survey responses may also reflect the effect of combining local community outcomes and environment investments under one topic area. Certainly, lower priority was assigned to local community investments in the qualitative research, since these were seen as somewhat targeted in scope and therefore having a small number of beneficiaries – in contrast to reducing carbon emissions, for example. Added to this, there was recognition among participants in both the Stage 1 and Stage 3 research that environmental benefits would also be delivered through the other investment areas, including safety and reliability, and the future energy system.

The lower priority placed on the environment and local community investments in the survey responses did not, though, equate to lower levels of consumer support for the proposed investments (Figure 3.13). Between 87% - 91% of household respondents indicated that they agree with the proposed investments, whilst 87% - 90% gave the corresponding view among business respondents.

Figure 3.13: Acceptability of investments - environment and communities



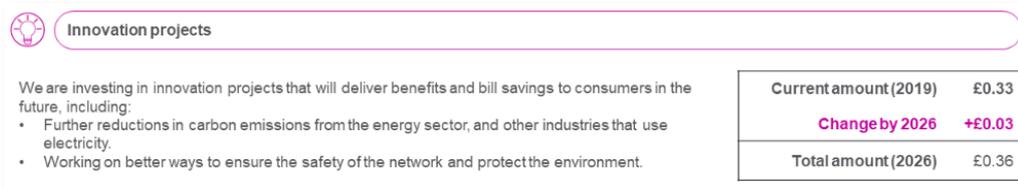
Household pooled (online + in-person): n=1,258. Business online: n=161

Similar to other investment areas, the level of support was split between the majority (on average 62% households; 57% business) stating that both the individual investments and impacts on bills were acceptable, and a smaller proportion majority (on average 26% households; 32% business) that stated their support for the proposed investments but not the associated bill impacts. Around 6% - 7% of respondents stated that each of the investments was not needed.

3.6 Innovation projects

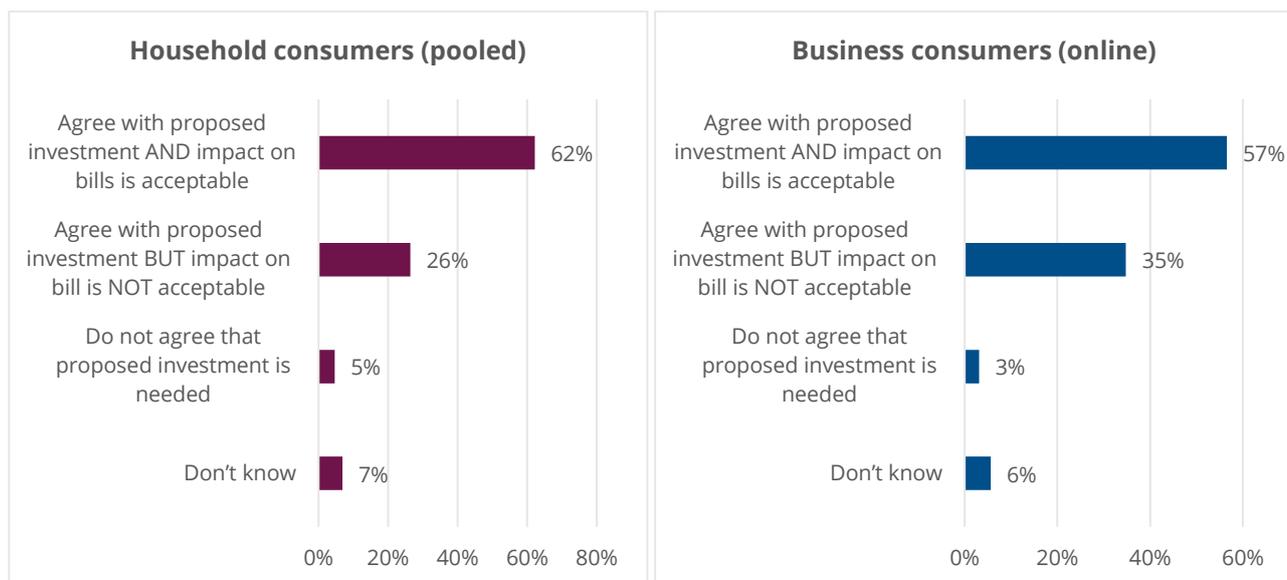
This investment area was presented as part of the additional bill changes in the ET Business Plan, describing National Grid’s investment in ‘innovation projects’ that have the aim of improving the company’s operations in order to deliver future cost-efficiency and/or carbon savings (Figure 3.14).

Figure 3.14: Investment area description – innovation projects



In the survey responses, this investment area was lowest ranked by both household and business consumers. Nevertheless, the majority of household (89%) and business (91%) consumers indicated that they agreed with the proposed investment (Figure 3.15). The level of support from household consumers was similar to other investment areas, with 62% stating that the investment and the impact on bill was acceptable. A smaller proportion indicated that the investment was acceptable, but the bill impact was not (26%). The level of outright support from business consumers was slightly lower compared to over investment areas (57% acceptable for both the investment and bill impact). Accordingly, more business respondents indicated that the investment was acceptable, but the bill impact was not (35%). Very few, household (5%) and business consumers (3%), though, stated that the investment was not needed.

Figure 3.15: Acceptability of investments – innovation projects



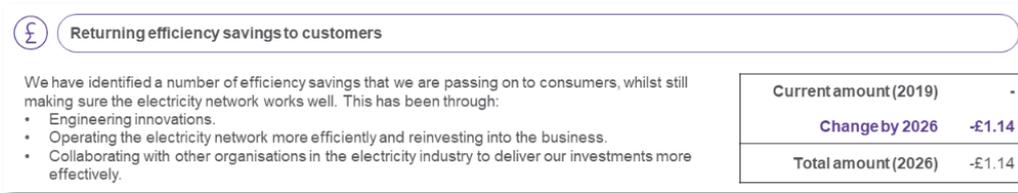
Household pooled (online + in-person): n=1,258. Business online: n=161

In the Stage 3 qualitative research, innovation projects was one area where participants tended to think that National Grid could actually do more, since it represented potentially more savings in the future, and also taking a broader view that innovation in the energy sector was an opportunity for the economy overall.

3.7 Efficiency savings

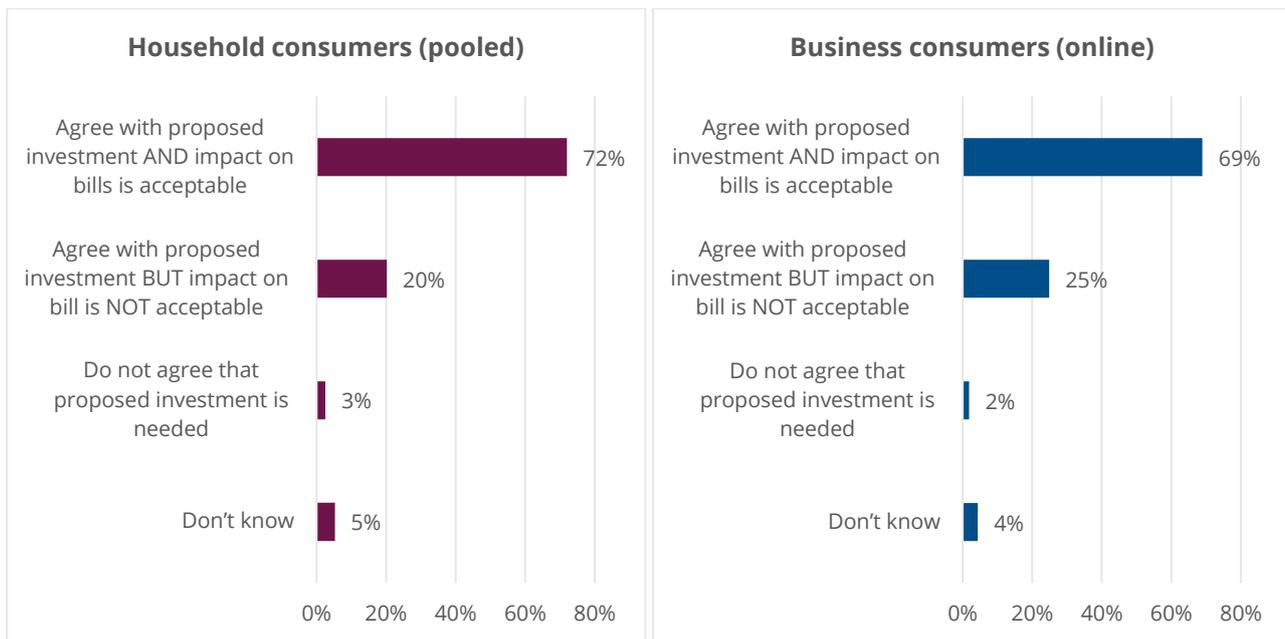
The final component of the ET Business Plan breakdown set out the efficiency savings that would be returned to consumers, in terms of a reduction in their annual bill (Figure 3.16).

Figure 3.16: Investment area description – efficiency savings



Overall this aspect of the bill impact for consumers was a mid-ranked low priority, ranked fourth out of six for both household and business consumers. Overall, 92% of household consumers and 94% of business consumers indicated that they agreed with National Grid’s proposal, although a sizeable proportion (over 20% in both household and business samples) did not support the bill change amount (Figure 3.17).

Figure 3.17: Acceptability of investments – efficiency saving



Household pooled (online + in-person): n=1,258, Business online: n=161

A consistent observation throughout the qualitative research was that consumers were very supportive of the savings and these helped to offset some participants’ views that bill impacts were a bit high for other investment areas. This finding helps to reconcile the differences that observed between the overall acceptability of the ET Business Plan, and the lower levels of acceptability that were seen from the bill impacts associated with the individual investments. However, consumers were keen to point out that National Grid does need to challenge itself and be sure the costs are efficient; although at the same time, it was apparent that consumers do not want National Grid to ‘cut corners’ either. Overall it was recognised that there is a balance to achieve.

The Stage 3 qualitative research also highlighted that for some the efficiency savings are very small per household (around £1 per year). Given this, they took the view that it would be preferable for National Grid to reinvest the overall savings, rather than dividing them up to negligible amounts. Underlying this view was concerns about future service levels and investment needs and questioning if National Grid could actually do more in the Business Plan. For example, some consumers felt that they would rather see a mechanism that drives reinvestment rather than too tough an efficiency challenge. In effect the view was if there is financial resilience in place then the efficiency challenge does not have to be so tough as to risk the outcomes of the plan.

4. Conclusions

4.1 Summary

The acceptability testing research for National Grid's RIIO-T2 Electricity Transmission (ET) Business Plan used a combination of quantitative and qualitative methods to obtain a robust and representative understanding of consumers' views.

The initial stage of the research featured an iterative test and re-test approach to develop the explanatory material and investment descriptions that were presented to survey respondents and participants in the qualitative research. The purpose was to ensure that this material gave the right level of information to consumers to provide informed views on the acceptability of National Grid's proposals. Feedback from consumers as to the research process was very positive. Most found the survey easy to complete, and sizeable proportions of respondents also stated that survey topic areas were interesting and educational. Similar feedback was provided by qualitative research participants, who felt that it was important for National Grid to engage with end-users over the plans and the impact on consumer bills. Overall, the response across each stage of the research indicates that there was a good level of engagement from consumers and that they gave valid and considered responses.

Almost 3,000 household and business end-user consumers participated across the three stages of research for the ET and GT Business Plans, which included 1,258 household respondents and a further 161 business respondents for the ET version of the Stage 2 survey. The overall sample profiles were nationally representative in terms of key consumer characteristics (e.g. age, socio-economic group; or business size and sector) and geographic spread across England and Wales. Participants in the qualitative research stages reflected a mix of socio-economic and demographic backgrounds, ensuring that all aspects of the Business Plan acceptability testing provided a full and rounded account of consumer views.

4.2 Main findings

All in all, the main findings from the research show that there is a high level of support for National Grid's proposals for the electricity transmission system. Almost 90% of household and business consumers stated that the overall plan and bill impact (approximately a 4% increase on current transmission bill) was either "acceptable" or "very acceptable". For household consumers, the acceptability of the Business Plan was largely driven by perceived affordability of the transmission bill. For business consumers the need to maintain reliability and a secure electricity supply was the main determining factor.

The high levels of acceptability are, though, subject to limited changes in overall energy bills. The 'limit' within which the Business Plan proposals were acceptable is around a 2.5% change in the overall energy bill. For a dual fuel household consumer with an average bill (approx. £1,100 per year), this is approximately +£28 on the annual current bill. The 'switching-point' from "acceptable" to "unacceptable" for the transmission component of the bill for household consumers was about +£11 on top of the current amount paid. For business consumers the equivalent 'switching-point' on the overall bill was +7 percentage points on top of the transmission bill amount. The Business Plan proposal is therefore within the constraints for both household (bill impact: +£0.98 per year) and business consumers (bill impact: +4 percentage points in

terms of the change in the electricity transmission bill amount).

In addition to the high level of overall acceptability, there is also limited variation in the levels of acceptability between different customer segments, in terms of socio-economic and demographic characteristics. The greatest difference for household consumers was observed for the lowest income group (less than £6k per year). This finding, however, is subject to a relatively small sample size. Lower levels of acceptability were also observed for households that reported difficulty paying utility bills or were behind with payments. Therefore, whilst most viewed National Grid's proposals as affordable, a small proportion of consumers were concerned about overall pressures on household budgets – particularly if other components of the overall energy bill were also to increase. For this segment the level of acceptability was around 80% of consumers.

For the most part, consumers also viewed the individual investments in the ET Business Plan as value for money. Typically, high levels of support (60% consumers) were stated for both the proposed investment and the associated bill impact. Moreover, very few outright rejected the investment proposals (typically less than 5%). Investments in safety and reliability were viewed as the top priority by both household and business consumers. This was followed by investments that are intended to meet the changing future needs for the electricity transmission network, although within this, there tended to be lower levels of outright support for investments to develop the (re)charging infrastructure for electric vehicles. Resilience investments tended to be mid-ranked, with lower priority in the survey responses placed on the specific environment and local community investments, and investment in innovation projects. In the qualitative research, these latter investments (especially environment and to some extent innovation projects) were viewed as higher priorities.

It is also evident that consumers expect National Grid to be cost-efficient in its investments and associated bill impacts. However, there does not appear to be a strong appetite amongst consumers for significant bill reductions if the trade-off was to compromise either current and/or future safety and reliability in the system. Indeed, consumers typically recognised that increased levels of investment where needed by National Grid to meet future needs and demands on the transmission network, and in order to protect the environment and further reduce carbon emissions from operations.

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Acceptability Testing- National Grid Gas & Electricity Transmission

Final Report – Stage 1 Qualitative Research

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Document evolution

Draft report	19/08/2019	Reviewed by Allan Provins
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This report is based on eftec's Version 1 - May 2019 report template



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Summary

Introduction

As part of developing its plans for RIIO-T2, National Grid is undertaking a programme of consumer research to test the acceptability of the Electricity Transmission (ET) and Gas Transmission (GT) Business Plans. At the heart of this research is a quantitative survey that will measure the acceptability of the business plans; supported by qualitative research to ensure National Grid has a rich and detailed understanding of its consumer views on its proposals.

The research consists of three key stages:

- Stage 1** Qualitative research to understand consumer views in general on the energy industry, energy bills and National Grid; and to support the design and development of the quantitative survey of Stage 2;
- Stage 2** Quantitative research to understand acceptability across a representative sample of consumers, including a pilot and main study; and
- Stage 3** Qualitative research to drill down into the acceptability findings of Stage 2, and to explore in depth the key issues around acceptability.

This draft report summarises Stage 1 of the programme.

Stage 1 is a key part of the programme. It ensures that the quantitative survey reflects consumers' current understanding (or lack thereof) of the energy industry and National Grid; that the survey presents information in a way that is meaningful yet unbiased through the development and testing of the draft questionnaire and material; and highlights issues that need to be explored in Stage 3 as part of making certain the research is a complete and comprehensive assessment of the acceptability of National Grid's proposals.

Research activities

The Stage 1 research was carried out via a combination of focus groups and one-to-one interviews with a sample of household and business consumers. In total 45 consumers participated in the research, from a mix of socio-economic and demographic backgrounds. The business consumer participants were representatives from micro and small-sized enterprises.

Draft Survey: A draft survey was developed prior to the focus groups and cognitive interviews. The structure of the survey involves presenting the key investment proposals that make up the plans to consumers along with their individual bill impacts. Consumers are asked their views on the individual

elements of the plans; and the overall plan and total bill impact.

The proposals presented in the survey were taken from the published July 2019 business plans, grouped into key investment areas (i.e. topics/themes) that were agreed with National Grid.

Focus groups: The focus groups discussion centred around:

- Familiarity with National Grid, its role and the gas transmission system (GT) and electricity transmission network (ET);
- The business planning process and high-level investment priorities for National Grid;
- Proposed investments and their bill impact; and
- Overall acceptability of the plan and affordability considerations.

Cognitive interviews: Fourteen one-to-one interviews were conducted with a mix of household and business consumers to test draft and revised versions of the survey. These were held in two sets – with revisions to the draft survey in between. Two of the interviews in Leeds were conducted with small business owners (i.e. business consumers).

The draft survey was updated after each set of focus groups and each group of cognitive interviews. The final proposed survey was tested in the final set of cognitive interviews. This is ready to be piloted and rolled out in Stage 2.

Research Findings

The key findings from Stage 1 are summarised as:

Survey length and structure

- Consumers consider a 15-20 minutes survey the right length for the quantitative research. It is important to provide just the right of information that they can make informed decisions within the survey.
- Consumers start with low levels of understanding of National Grid and its role in the energy industry. There was more familiarity with energy distribution and supply. This means contextual information about the energy industry and National Grid's role is key in the survey.
- The survey testing process worked well. The process of starting with the descriptions and images in the July Business Plan, reviewing and revising based on consumer feedback has resulted in a survey ready to pilot that consumers consider to be interesting, educational and easy to complete. This process involved replacing some concepts considered industry specific "jargon" with consumer-friendly language.

Investment areas

- Safe and reliable network: safety and reliability are considered one of the most important areas of investment for customers. Many realise the consequences of not having a safe and reliable network, and support National Grid improving and maintaining their infrastructure for the long term.
- Protecting against external hazards: most participants welcomed this as a priority area for investment by National Grid and were reassured that the company was taking measures to safeguard its networks and systems.
- The energy system of the future: consumers want National Grid to plan for the future, although consumers tended to be less interested in this aspect of the business plans. Some questioned whether elements of the proposed investment were within National Grid's remit; e.g. electric vehicle charging points.
- Improving the environment and supporting communities: this was also a top priority for participants, with some calling for more investment in this area, in response to the high value placed on the environment and environmental improvements.
- Being a responsible company: consumers supported National Grid being a transparent and responsible company, although for many this is what is expected of all companies, and thus the information presented about this was of least important to consumers
- Efficiencies: consumers welcomed efficiency savings being used to contribute towards funding investment.

Acceptability findings

- During the testing process both the electricity transmission and gas transmission plans were found to be acceptable. All but one participant in the Stage 1 process indicated the plans to be acceptable or very acceptable; and there was strong overall support for the proposals that make up the plans.
- Overall energy bills are considered to be high, and participants indicated they were concerned about affordability for some households. However, consumers are generally surprised how little of the energy bill is to fund transmission, and this is a key reason for high levels of acceptability: i.e. it represents a relatively small proportion of the total bill so bill changes are seen as low or minimal. The one participant that indicated 'don't know' when asked about acceptability indicated that they were mindful that other parts of the energy bill may increase.
- Consumers do not consider that National Grids' business plans can impact on affordability; even large percentage changes in the transmission costs cannot offset the rest of the energy bill. Linked to this, proportionate increases (approx. 12-15%) in other parts of the energy bill (generation/production, distribution and supply) would not be acceptable. Consumers consider steps needed to reduce other parts of the energy bill.

- For some, there are some conditions that National Grid needs to meet to ensure its plans are truly acceptable: services should be efficient, profits and dividends are not excessive, and director pay is fair.

Next steps

The Stage 1 findings have informed the subsequent refinement of the ET and GT quantitative surveys. The next step is to pilot and roll out the full surveys in Stage 2.

The final part of the programme will consist of further focus groups to discuss the issues that surround the acceptability of the ET and GT plans. Based on Stage 1, an initial candidate list of discussion topics and issues to cover in Stage 3 has been collated:

- **Acceptability of bill changes.** A 'drill-down' into the findings of Stage 2 for all consumers and consumer segments, to understand what drives acceptability, and what are the limits or conditions of acceptability. This will include grouping the acceptability findings for gas and electricity together – to ask if the combined gas and electricity transmission bill is acceptable.
- **Affordability and value for money.** In the Stage 1 research, a consistent message was that National Grid provides services that seem to be affordable and value for money, and is proposing investment and bill increases that are acceptable. However, the overall energy bill is not seen as affordable, value for money, or acceptable for all. If this finding is borne out in the Stage 2 research, then understanding more about the role National Grid has in ensuring bills are affordable and value for money will be a key consideration in Stage 3. This could cover what can be done to support consumers, and how can National Grid support those efforts.
- **Justification for specific investment options.** National Grid's ET and GT business plans are made up of many separate business cases, summarised into five key investment areas in each version of the survey. The focus groups in September provide an opportunity for consumer views on specific aspects of the plan to be explored. For example, for discretionary investment consumer views can be used to support the selection of the preferred option.
- **Overall thoughts on the energy sector.** To understanding consumers' perceptions of National Grid and the wider industry. For instance, what steps, if any, would consumers wish to see made to ensure the entire energy bill is acceptable and affordable to all.

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1. Introduction

1.1 Research objectives

As part of developing its plans for RIIO-T2, National Grid is undertaking a programme of consumer research to test the acceptability of the Electricity Transmission (ET) and Gas Transmission (GT) Business Plans. At the heart of this research is a quantitative survey that will measure the acceptability of the business plans, supported by qualitative research to ensure National Grid has a rich and detailed understanding of its consumer views on its proposals.

The programme consists of three key stages:

- Stage 1** Qualitative research to understand consumer views in general on the energy industry, energy bills and National Grid; and to support the design and development of the quantitative survey of Stage 2;
- Stage 2** Quantitative research to understand acceptability across a representative sample of consumers, including a pilot and main study; and
- Stage 3** Qualitative research to drill down into the acceptability findings of Stage 2, and to explore in depth the key issues around acceptability.

This draft report summarises Stage 1 of the programme.

Stage 1 is a key part of the programme. It ensures that the quantitative survey reflects consumers' current understanding (or lack thereof) of the energy industry and National Grid; that the survey presents information in a way that is meaningful yet unbiased through the development and testing of the draft questionnaire and material; and highlights issues that need to be explored in Stage 3 as part of making certain the research is a complete and comprehensive assessment of the acceptability of National Grid's proposals. Overall, the research has considered:

- How familiar household consumers are with National Grid and the structure of the energy sector, particularly the transmission component. The purpose is to understand what contextual information is required in the quantitative survey and how much is needed for respondents to be sufficiently informed to provide a view on the acceptability of the plan;
- To assess how much effort was required to complete the acceptability survey, including how easy or difficult it was to complete, the clarity of instructions, in order to be assured that the survey results will be reliable; and
- To gauge what factors and motivations are taken into account by consumers when considering the acceptability of the ET or GT plan, including the overall bill impact for transmission, the proposed investments and their individual bill impact, as well as wider considerations – such as the total amount paid for energy, and other household expenses.

Findings throughout Stage 1 informed the iterative test-re-test development and refinement of the acceptability testing survey, including the terminology used, the layout and the onscreen presentation. These updates were then fed-back into the subsequent testing with consumers.

1.2 Research activities

The Stage 1 research with consumers was implemented via a combination of focus group sessions and one-to-one interviews with household consumers.

Draft survey

The draft survey was developed prior to the focus groups and cognitive interviews. It was developed from a templated design that has been successfully used in other sectors, tailored to National Grid and its circumstances. The structure of the survey involves presenting the key investment proposals that make up the plans to consumers along with their individual bill impacts. Consumers are asked their views on the individual elements of the plans; and the overall plan and total bill impact.

The proposals presented in the survey were taken from the published July 2019 business plans, grouped into key investment areas (i.e. topics/themes) that were agreed with National Grid.

The summaries of proposed investments with supporting images and icons in the business plan were used to develop the first draft of the survey. The focus groups and cognitive interviews were used to review and amend this information - so that the survey provides the right level of information to consumers for them to be suitably informed to provide their views on acceptability of the entire plan and the individual investments, within a 15-20 minutes customer survey.

The draft survey was updated after each set of focus groups and each group of cognitive interviews. The final proposed survey was tested in the final set of cognitive interviews. This is ready to be tested in Stage 2.

Focus groups

The focus groups discussion centred around:

- Familiarity with National Grid, its role and the gas and electricity transmission networks;
- The business planning process and high-level investment priorities for National Grid;
- Proposed investments and their bill impact; and
- Overall acceptability of the plan and affordability considerations.

There were four groups in total (2 each for ET and GT). The participant profile for the 31 attendees to the groups is shown in Table 1.1. Table 1.1: Focus group participant profile (July 2019)

Location	Topic area	SEG	Age	No. participants	Date
Exeter	GT	C2DE	18-45	6	16/07/19
Exeter	GT	ABC1	46+	9	16/07/19
Middlesbrough	ET	C2DE	46+	8	18/07/19
Middlesbrough	ET	ABC1	18-45	8	18/07/19

Annex 1 provides the focus group topic guide and copies of the explanatory material shared with participants.

Throughout the groups, participants were highly engaged and indicated they enjoyed learning about the energy industry, National Grid and the detail of the discussions around the plans:

“Very informative, easy to understand session”

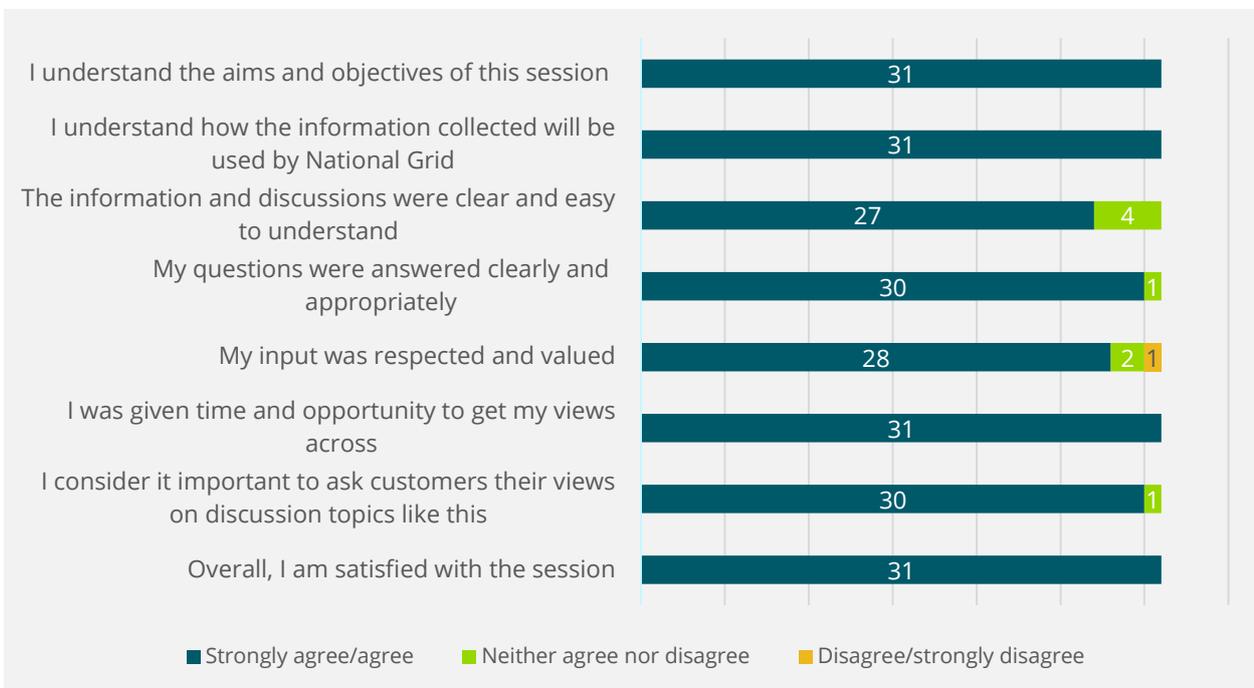
“My opinion was valued”

“Very informative and interesting”

“Really enjoyed the session”

Figure 1.2 summarises consumer feedback collected across the four groups.

Figure 1.2: Participant evaluation of focus group sessions (no. respondents)



Source: Focus group respondents, July 2019 (n = 31).

Figure 1.3: Middlesbrough focus groups



Cognitive interviews

Fourteen one-to-one interviews were conducted with a mix of household and business consumers to test draft and revised versions of the survey. These were held in two sets – with revisions to the draft survey in between, as shown in Table 1.2. Two of the interviews in Leeds were conducted with small business owners (i.e. business consumers).

Table 1.2: Focus group participant profile (July 2019)

Interview set	Locations	No. of interviews – ET/GT	Date
R1	Tiverton (Devon)	5 – GT	15/07/19
	Northallerton (North Yorkshire)	4 – ET	17/07/19
R2	Leeds (West Yorkshire)	3 – ET	26/07/19
		2 – GT	26/07/19

In the interviews, respondents were asked to complete either the draft version of ET or GT acceptability survey, which was administered via a combination of onscreen and handout material. After completing the survey, respondents were then taken through a separate 20-minute debriefing questionnaire that probed respondent understanding of the survey, the ease/difficulty of completing it, the clarity of explanatory information about the ET and GT transmission networks and proposed business plan investments, and the reasons and motivations for their answers.

Copies of the draft survey and debriefing questions are provided in Annex 2.

The cognitive interviews showed that most people found the survey topics interesting and informative. Overall, the respondents demonstrated good understanding of the purpose of the survey and what they were being asked to do. The various types of response that were provided are summarised in Table 1.2 below.

Table 1.2: Respondent understanding of the purpose of the acceptability testing survey

Response	No. mentions
Justify bill increases	10
Customer views on areas of investment	7
Maintaining and replacing infrastructure	4
Becoming greener	3
NG showing they are a responsible company	2

Source: Cognitive interviews, July 2019 (n = 14).

Some verbatim comments illustrating the above categories of response are shown below:

Maintaining and replacing infrastructure

“To evaluate the effectiveness of the proposed future maintenance... of the national grid” (Interviewee, R1)

“Basically, the business plan going forward, how the National Grid is going to improve and maintain the system” (Interviewee, R1)

“To inform us that changes need to be made in the transmission, that it needs to be maintained and needs to be there for everybody” (Interviewee, R2)

Justify bill increases

“A justification of where the money is going...to justify the current rate and to gain acceptance of the increase so that they can go ahead with the 5-year investment” (Interviewee, R1)

“...impact on bills and areas in which money will be distributed, and how much it would actually cost and impact on my personal bill” (Interviewee, R1)

“It was highlighting future trends for energy bills and the network” (Interviewee, R1)

Customer views on areas of investment

“I think it’s trying to broaden the public’s knowledge of what National Grid is trying to do because it’s an organisation that many people will have heard of but not fully understood what it is investing in” (Interviewee, R1)

“I was asked my opinion on the areas on which the investment should be made, like the cyber-attacks, severe weather, sharing information, impact on the environment” (Interviewee, R1)

“To find out where we would be happy for our money to go in terms of these investment priorities” (Interviewee, R2)

As with the focus groups, the cognitive interview respondents agreed that National Grid should involve consumers in the testing the proposed ET and GT business plans for the 2021-2026 investment period.

“It’s a good thing, definitely. Again, it’s proactive for improving their service” (Interviewee, R1)

“I think they’ll take the responses, process them and use them to improve their marketing or communication with their customers” (Interviewee, R1)

Overall, there was also confidence that the survey response would be used effectively to evidence the investment areas that are priorities for consumers, and participants were very supportive of being consulted as part of the process.

“I don’t think I’ve ever had a survey on an increased bill before, or to explain why it’s going up, so I think it’s been very good and I actually really appreciate it” (Interviewee, R2)

“I think it’s a very good thing, I think more companies should be open about what they’re doing and what they’re planning” (Interviewee, R1)

2. Research findings

2.1 Ease of survey completion

Clarity of language and images

In a 15-20 minutes survey it is important to provide just the right amount of information to be useful for consumers to make an informed decision. The first draft of the survey was based on the description of investment proposals in the July 2019 business plan. Consumers reviewed this information with a view to making it concise and easily digestible within the survey.

The first version of the survey did have some images and jargon that consumers identified as needing to change for the survey.

***“It was fairly easy, bar a few words. You just need to take out some of the jargon”
(Interviewee, R1)***

The survey language and descriptions were revised throughout the process in response to consumer feedback.

More information on the revisions to the descriptions and images throughout the testing process is provided in the next section. However, in summary, the test-re-test process worked well, by the final stages of testing consumers indicated the survey was easy to understand, straightforward to complete and educational.

“It was easy, not difficult at all. The way the questions were set out, it was easy to read and understand. The breakdowns also helped in terms of the subtitles” (Interviewee, R1)

“It was nicely done, sectioned easily so I could apportion all the different parts clearly” (Interviewee, R1)

“Yeah really easy, if I didn’t have you here and I had to do it on my own I’d be happy answering all the questions” (Interviewee, R2)

Survey length

The survey length was tested in the cognitive interviews. All participants found the length of the survey to be ‘fine’ or ‘about right’, with the questionnaires taking about 15-20 minutes to complete. The final tested survey provides the information needed to answer the questions comfortably within 15-20 minutes.

Contextual Information

Energy industry structure

To provide the right context on the energy industry and National Grid, supporting and contextual information is provided in the survey. A short (2 and a half minute) National Grid informational video was tested as well as written descriptions of the role and function of National Grid in running and maintaining the electricity transmission network and gas transmissions system.

The discussions showed that consumers have low levels of understanding of National Grid and its role in the energy industry. There was more familiarity with energy distribution and supply. The National Grid video was very well received, described as interesting, informative and helpful:

“I thought it was very good actually, it made me understand what the National Grid was about” (ABC1, 46+, Exeter)

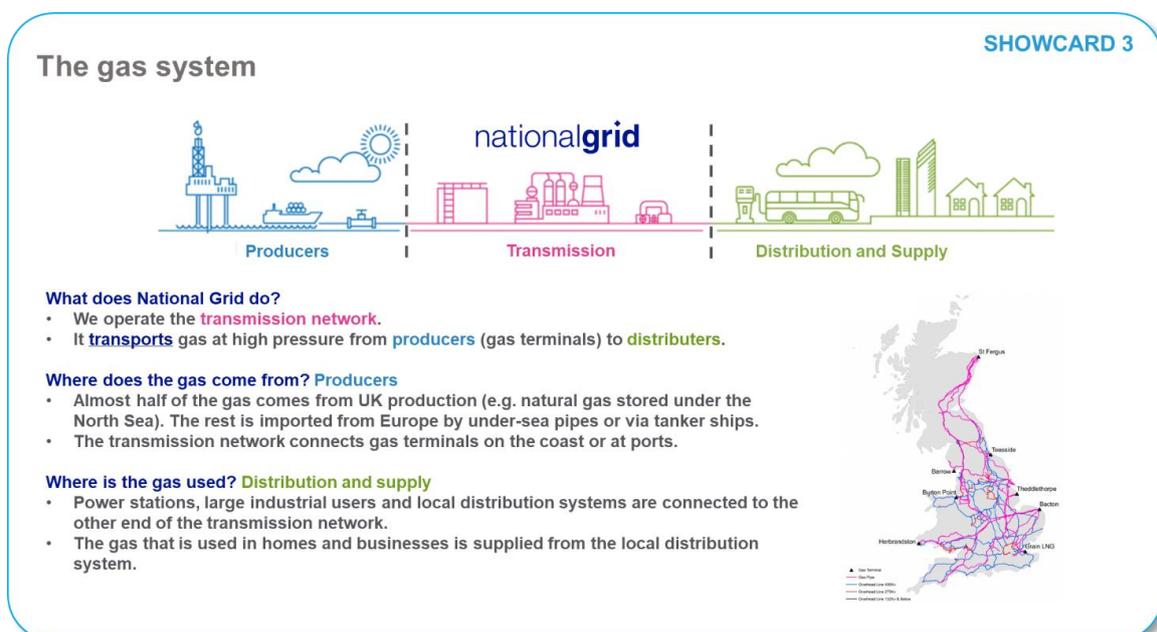
“It was helpful...in simple terms, language that everyone is kind of used too” (C2DE, 18-45, Exeter)

“The length was perfect, I wouldn’t say any longer” (ABC1, 46+, Exeter)

Supporting information was presented in a showcard format in both the groups and cognitive interviews (Figure 2.1). Again, most participants thought this was clear, easy to understand and informative:

“That was very clear. I mean, I had never thought of it like that, you just think National Grid is power cuts and electricity...you don’t think of it as transmission. It was informative” (Interviewee, R2)

Figure 2.1: National Grid Transmission System (Gas)



Source: Cognitive interviews show material (R2).

There was consensus in both focus groups that the showcard repeated, rather than supported, the information provided in the National Grid video – and that embedding the video in the online survey would be much more engaging for customers, compared to using the showcard.

“That [the video] was more engaging, this is just a blur of words” (C2DE, 18-45, Exeter)

“That’s easier to watch and listen to than this is to read” (C2DE, 18-45, Exeter)

“I thought the video was simple and clear, and this just reiterates what it says but with some more detail (ABC1, 46+, Exeter)”

Despite consumers’ lack of knowledge of the industry, people quickly understood that the industry is vertically disaggregated, with National Grid responsible for the transmission of gas and electricity. However, for some it was easy to slip into talking about gas/electricity production or the distribution and supply side in discussions. It was clear that respondents would need to be reminded throughout the survey that it is about the transmission network; for example, making use of the showcard as an ‘optional’ rollover reminder on subsequent screens in the survey to reinforce the focus on the transmission network.

Transmission bills

All respondents had views on the size of their overall energy bill – with many commenting they consider their energy bills to be too high and, in some cases, not very affordable. Most participants were surprised by the small proportion of the energy bill that funds the transmission part of the process.

The showcard presenting the breakdown of the bill was well received, with respondents saying it was good to see how the bill was made up.

“That was more than clear for me, it was very easy to understand. It showed exactly where each thing was going” (Interviewee, R2)

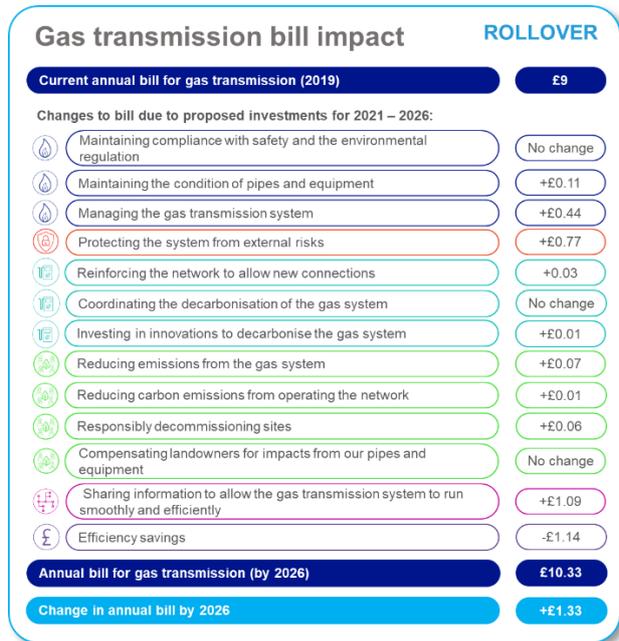
“That was good, you could see the transmission part was £9 and seeing it was 1% of the bill, you felt that was good as well” (Interviewee, R2)

All respondents were shown a summary of the proposed business plan and impact on transmission bills in the format shown in Figure 2.3.

Figure 2.3: Initial version of Business Plan summary showcard

Changes to bill due to proposed investments for 2021 – 2026:		
Ensuring a safe and reliable network	Paying for legal requirements and safe operating	No change
	Maintaining condition of pipes and equipment	+£0.44
	Giving consumers access to gas where and when they want it	+£0.11
Protecting the network from external threats	Safeguarding against cyber-attacks and physical security	+£0.76
	Safeguarding against extreme weather	Less than +£0.01
Planning for the energy system of the future	Reinforcing the network to allow new connections	Less than +£0.01
	Facilitating the decarbonisation of the gas system	No change
	Investing into innovations in the decarbonisation of the gas system	+£0.01
Improving the environment and supporting communities	Reducing emissions from the gas network	+£0.07
	Reducing carbon emissions from operating the network	+£0.01
	Responsibly decommissioning sites	+£0.06
Being a responsible company	Providing information to support a competitive gas market	+£0.01
Additional bill impacts	Historic investment costs	No change
	Quarry and loss	No change
	Efficiency savings	-£0.19
Annual bill for gas transmission (2021 – 2026)		£10.28
Change in annual bill from 2021		+£1.28

Source: Cognitive interviews show material (R1).



Source: Cognitive interviews show material (R2).

In all stages of the testing, presenting the plan by investment proposals was considered clear and easy to understand. The testing identified only minor changes to this format.

A few participants commented that the icons were unnecessary – and could be dropped or simplified.

“That’s incredibly clear, that’s probably the clearest thing out of everything” (Interviewee, R1)

“I’m not great with these icons but overall it was simple and easy to understand” (Interviewee, R1)

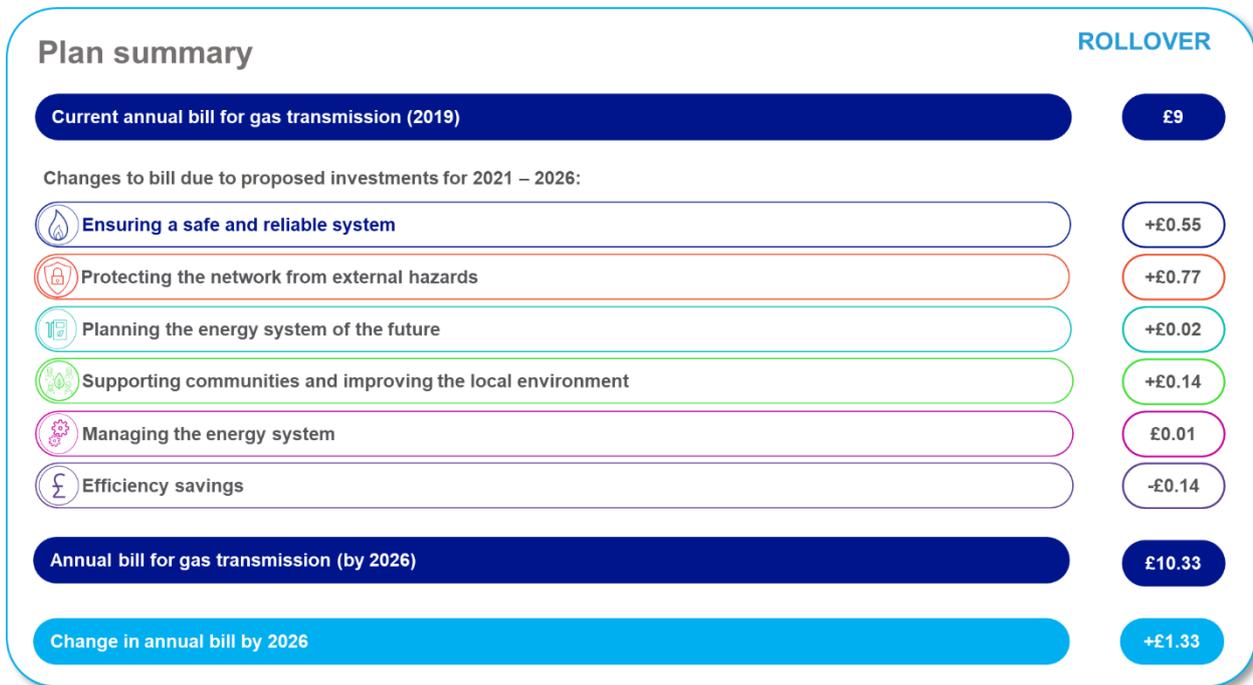
“If there was one icon for ensuring a safe and reliable network that would be good but when you have three different icons it becomes a language and you think, oh I don’t think that works” (Interviewee, R1)

The summary was simplified for the second round of testing (Figure 2.4), with only one icon being used for each investment area. Again, this was generally very clear, with only minor suggestions identified. For example, one respondent felt it could be improved further still by making a clearer distinction between the different bill impacts.

“It was clear, but it would be good if you had these as red [bill increases] and this as green [efficiency savings] for positives and negatives. That would be clearer because you don’t see that little minus sign there” (Interviewee, R2)

However, a red/green colour scheme could lead to potential bias, and also reduce the accessibility of the survey (e.g. respondents who are colour-blind).

Figure 2.4: Revised version of Business Plan summary showcard



Source: Cognitive interviews show material (R2).

Several people in the first set of cognitive interviews were unable to recall without prompting that the proposed investments and bill changes would be taking place over the 2021-2026 investment period. Following improvement to the survey by the second round of interviews, all participants could remember these dates clearly. Having less information on the latest showcards allowed for these dates to stand out more to customers. Further steps to make this obvious in the survey were included in the final survey.

2.2 Proposed investment areas

Five investment areas were agreed with National Grid to use to summarise the business proposals. A key part of Stage 1 was to ensure information on these investment areas, and the proposals within, would be very clear to consumers. This section summarises the approach to testing and updates to materials based on the feedback.

Starting from published information and images in the National Grid July business plan, after each set of focus groups and the first set of cognitive interviews the survey materials were revised based on feedback given.

While the showcard content differed slightly from gas to electricity, much of the feedback identified the same broad issues in both cases.

General points

Generally, everyone felt there was enough information to make informed decisions about the investment areas.

Across the groups and first set of cognitive interviews, participants' feedback allowed the descriptions and images to be revised to give them the information they needed to make informed decisions. It was valuable to allow participants to indicate the information that is essential in the survey, information that is secondary and may be useful for some consumers (to be accessed where needed in the survey), and what was not helpful and could be dropped entirely.

"I would probably lessen the amount of words, it's all a bit wordy" (Interviewee, R1)

***"I read the bullet points because they're snippets, they're always going to be short"
(C2DE, 18-45, FG Exeter)***

The showcards were gradually simplified, which involved reducing the information displayed, using bullet points to present the point, and the use of onscreen rollovers to provide more detailed information where consumers are keen to know more. These changes received a very positive response. The feedback also helped with the layout and structure of the survey and showcards, such as the positioning of text and images.

The feedback helped to understand how to present financial figures. Investment presented in £millions and £billions can be difficult for some to comprehend. Similarly in the early testing some commented that bill amounts of less than £1 expressed in £ rather than pence was a concern, however in the latter stages of testing when respondents were much happier with the way information was presented in general this was not seen as an issue, and to maintain consistency across investment areas and how overall household bill amounts are presented, the £ format has been retained.

Images and icons from the business plan document were not always immediately meaningful to consumers who are not familiar with transmission assets. For example, close up pictures of pylons were not always recognisable. This led to some images being considered 'irrelevant' or 'meaningless'. Many images were replaced with specifically designed images and gifs, which were based on consumer views and therefore received a positive response.

Similarly, feedback on the icons has allowed these to be developed to reflect consumer feedback of what are helpful icons to reflect the information presented.

2.2.1 Ensuring a safe and reliable network

Terminology and graphics

The proposed text descriptions were easy to understand and educational (Figure 2.5), with the feedback being to remove repetition.

***“I think the first part gives you the information and its really easy to understand”
(C2DE, 18-45, FG Exeter)***

***“I think you get quite a good understanding from the first bit, the second bit isn’t needed I don’t think”
(C2DE, 18-45, FG Exeter)***

“That’s just telling you how it’s made safe and you’ve already told me that you’re keeping it safe” (C2DE, 46+, FG Middlesbrough)

Some of the descriptions taken out of context of the overall business plan did concern some participants. For example, in the Middlesbrough focus groups, participants were surprised by some of the electricity text, such as reducing the chance of injury from current levels to zero harm. They questioned to what extent National Grid is meeting its legal duties and some thought the way this was presented was misleading.

Figure 2.5: GT safety and reliability (1st iteration)

Ensuring a safe and reliable network

Around half of the investment we make in the gas transmission network is to make sure it is operating safely, and that pipes (mostly underground) and other equipment are maintained in good condition. This includes meeting legal requirements that are in place to protect the health and safety of people working with or living near this equipment.

Maintaining the reliability of the network – by maintaining or replacing old equipment – and making sure we can move gas to where it’s needed, means that gas is always available for use. As a result, the chance of large-scale disruptions that affect thousands of people due to failures in the transmission network is very low. Disruptions may still occur, but this will most likely have a smaller impact and be due to local distribution problems and not the transmission network that we operate.

Our overall spending in this area is around **£217 million**. This is currently about **£1.45 per year**, based on the average energy bill.

How do you feel about this?








Continue

Source: Cognitive interviews show material (R1).

In the early stages of testing, a few issues were also raised about the information provided on overall spending in this area. For most people, the presentation of total investment figures (e.g. £3.17 billion for ET) is meaningless. Some people wanted to see more context surrounding the figure(s), while others felt this was too large an amount to mean anything.

“I don’t care that they’ve spent £217 million, it’s the overall thing in my bill that I care about rather than the proportion...” (Interviewee, R1)

***“I just think that last bit, overall spending in this area is around £217 million, over what time period? They haven’t said what time period that’s over, so that doesn’t make sense”
(C2DE, 18-45, FG Exeter)***

***“I don’t need to know the £3.17 billion because it’s too big a number to do anything with”
(C2DE, 46+, FG Middlesbrough)***

This information was subsequently removed. This information was not identified as a gap in the latter testing stages.

In response to the feedback for the focus groups and initial cognitive interviews, a reduced amount of information was presented on the main showcard in the second iteration of testing. A fuller description moved to a ‘more information’ rollover that respondents could view if desired (Figure 2.6) The revised format received positive responses, and participants liked that they had the option of the rollover to find out more.

Importance of investment area

Safety and reliability are considered one of the most important areas of investment for customers. Many realise the consequences of not having a safe and reliable network, and support National Grid improving and maintaining their infrastructure for the long term.

***“Obviously maintaining is essential because if you don’t maintain they won’t keep up to date with it”
(Interviewee, R1)***

“As the disruptions are going to be low and it’s going to mean they can supply gas to many people, that’s obviously a positive thing” (Interviewee, R1)

“I want reliability because I want my house to be warm and I want hot water” (Interviewee, R1)

Participants did indicate that they thought it was acceptable to pay the proposed bill impacts for investment in this area, with several commenting that a safe and reliable network is essential, and (at the time of testing) an extra £0.44 (gas) or £1.09 (electricity) was minimal, especially in the context of the overall bill.

Figure 2.6: ET safety and reliability with more information rollover (2nd iteration)

Ensuring a safe and reliable network



Two-thirds of the investment we make is around inspecting, maintaining and replacing existing equipment. This ensures we provide a reliable service and meet all of our legal and regulatory obligations around safety and protecting the environment.



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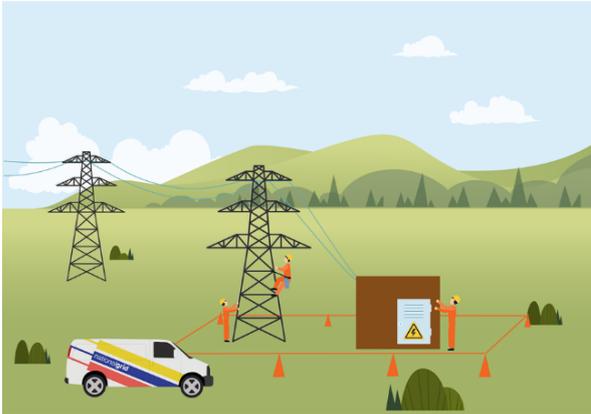
Main showcard

Ensuring a safe and reliable network

SHOWCARD 6A

To make sure the transmission network is operating safely and in line with all regulations, our equipment is maintained in a healthy state and is replaced as it reaches the end of its life.

- We check, repair and replace our equipment, including overhead lines, pylons, underground cables, and substations
- Our investment meets all legal requirements for health and safety, and protecting the environment
- This ultimately protects against power cuts and blackouts that can affect thousands of homes and business. Power cuts may still occur, but this will most likely be due to local distribution problems and not the transmission network that we operate.



Rollover

Source: Cognitive interviews show material (R2).

2.2.2 Protecting the network from external threats

Terminology and graphics

Most people thought the content of this showcard was good (Figure 2.7). While they felt the title matched the words well, the phrase 'external threats' was changed to 'external risks' based on consumer views that the word 'threats' has a narrower scope than the investment area covers – i.e. this suggest terrorism and crime and excludes weather and wider issues.

"I didn't pick up the changing weather patterns" (C2DE, 46+, FG Middlesbrough)

"External threat to me doesn't mean the weather...they've got natural dangers such as flooding so perhaps just add in there 'and extreme weather conditions'" (C2DE, 46+, FG Middlesbrough)

"I immediately jumped to terrorism but there were lots of things, like flood risks so actually there was more to it" (Interviewee, R2)

Respondents felt risk or hazards were better terms – with mixed views around which of these is preferable.

"Threat is wrong because it implies people are involved. Hazards is a slightly stronger version of risk, so that works" (Interviewee, R2)

"Hazard is good because it suggests a whole genre of problems. Risk is a bit more personal whereas hazard is more external, it covers more things" (Interviewee, R2)

Figure 2.7: GT external hazards (1st iteration)

The screenshot shows a presentation slide with the following content:

- Title:** Protecting the network from external threats
- Icon:** A padlock icon with the text "Protecting the gas network" below it.
- Text 1:** "We make investments in the network to reduce the chance that it will be damaged by external threats, such as severe weather (e.g. flooding), theft or damage of equipment, and cyber-attacks. In the worst cases, these threats could cause disruptions in gas supply that could affect large parts of the country and it could take several weeks or months to restore connections to everyone."
- Text 2:** "There are minimum standards set by Government that we must meet for protecting against these threats. We can, though, invest more and take additional actions to provide extra levels of protection. As well as trying to prevent these things from happening, we also plan and put in place arrangements to recover from these events as quickly as possible."
- Text 3:** "Our overall spending in this area is around **£47 million**. This is currently about **£0.39 per year**, based on the average energy bill."
- Text 4:** "How do you feel about this?"
- Images:** Two images on the right side: the top one shows a security camera mounted on a wall; the bottom one shows two people in a control room looking at multiple computer monitors displaying data.
- Footer:** The "nationalgrid" logo and a blue "Continue" button.

Source: Cognitive interviews show material (R1).

Participants indicated the accompanying images needed to include some depiction of extreme weather. They also wanted to see images that reflected crime. Many understood why the computer monitors were pictured – this was seen as a good representation of cybercrime.

“Talking about cyber-attacks I would say the laptop covers it really” (Interviewee, R1)

However, the images showing CCTV were more divided. Some did not make the link between the camera and risks.

“The CCTV I didn’t like, I don’t think that makes you think immediately of external threats” (Interviewee, R1)

“I don’t think the CCTV relates to me or the words” (Interviewee, R1)

But for some this expressed the reality of the threat to consumers.

“That explains what we’re talking about, that’s the threat” (ABC1, 46+, Exeter)

***“The CCTV is perfect because you know more about your business with CCTV”
(C2DE, 18-45, Exeter)***

The above picture was changed for the revised electricity showcards, as seen in Figure 2.8. The new image referenced both the security and weather risks to the transmission network. This was well received in the second round of testing. It was concluded a similar image would be appropriate for the revised gas showcards.

Most people said the icon on this showcard was ‘fine’ or ‘okay’. Everyone knew what it was, and most could understand why it was there. However, some felt it ‘didn’t tell you anything’ while others thought it was too narrow, representing only the cyber/security threats. As a result, the icon has been revised for the pilot survey.

Importance of investment area

Most people were pleased to see this as a priority investment area for National Grid. The protection from cyber-attacks (in particular) seemed reassuring for most respondents, given the perceived reality of this risk.

“I think these cyber-attacks can be serious...obviously they need to invest in that for the future because you just hear about things like that all the time now” (Interviewee, R1)

“I think with the way the world is going and what’s happening..., if they wanted to stop the supplies, they could do it very easily and it’s a frightening thing” (Interviewee, R1)

Figure 2.8: ET external hazards with more information rollover (2nd iteration)

Protecting the network from external risks



We make investments to protect the transmission network against:

- Criminal activity, such as cyber-attacks, terrorism, theft and vandalism
- Extreme weather events, such as localised flooding.



nationalgrid

Continue

Main showcard

Protecting the network from external risks

SHOWCARD 6B

We protect the transmission network and our employees from criminal activity and severe weather.

- We protect our sites from all external risks.
- Vandalism and theft are an ongoing concern for the network.
- Cyber attacks and changing weather patterns are growing threats.
- Some threats can cause power cuts and blackouts that affect large parts of the country and it could take up to a week to restore power to everyone.
- As well as trying to prevent these things from happening, we also plan and put in place arrangements to recover from these events as quickly as possible.



Rollover

Source: Cognitive interviews show material (R2).

However, for some, the risk of such an attack is very low and they did not consider it a top priority for investment.

“I think it’s difficult to relate to because we’ve never been in an experience where we’ve seen it or been through it, so it’s difficult to think of that as a reality” (ABC1, 46+, FG Exeter)

“I think a lot of people just won’t understand the severity of it until we actually have that experience” (ABC1, 46+, FG Exeter)

Overall most people felt this was a priority and were happy to pay the bill increase (at the time of testing) of £0.77 (gas) or £0.43 (electricity) for the proposed investment. Only one participant in the process was not comfortable paying for investment on the basis they consider the risk so low that the investment may not be required.

2.2.3 Facilitating the energy system of the future

Terminology and graphics

In the early stages of testing, respondents identified issues with the terminology and jargon on the showcard (Figure 2.9). For example, the majority felt the use of ‘facilitating’ in the title was too complex for consumers in general to understand. The word ‘planning’ was suggested by respondents and used for later testing.

Some expressed further confusion with sentences such as ‘enabling the market to change to a low carbon energy future’, which were considered vague or unclear.

“If it was for the government or whoever, it would make sense but for the average person on the street...it feels a bit much” (Interviewee, R1)

“This one is a lot more text-y and I think could be more relevant to people” (ABC1, 46+, FG Exeter)

The words were simplified for the main showcards and the more detailed rollovers for the second round of testing. The second set of respondents had no issues with the terminology used, except that “National Grid coordinating with others” was considered too vague, and reminders of the role of energy producers and suppliers should be reiterated to avoid confusion.

Figure 2.9: GT planning for the future (1st iteration)

Facilitating the energy system of the future

Some of the investments that we can make today are to make sure that the gas transmission system can meet changing needs in the future. For example:

- Investing into our network, to allow new customers to connect
- Enabling the market to change to a low carbon energy future by working with other organisations involved in the gas system.
- Facilitating the transition to low carbon emitting fuels, such as investing in innovative projects that use alternatives, e.g. hydrogen or biogas

In some cases, these investments are legally required (e.g. ensuring that new power plants can connect to gas pipes in the system). In other cases, the need for them is agreed with users of the transmission network, including consumers. This can include considering whether to invest now or in the future.

Our overall spending in this area is around **£32 million**. This is currently about **£0.24 per year**, based on the average energy bill.

How do you feel about this?







Enabling the energy transition



Serving new customers



Innovating to reduce costs






Source: Cognitive interviews show material (R1).

Most people in the Exeter focus groups focussed on the bottom picture on the gas showcard (Figure 2.9), stating that it looked futuristic. There was a divided opinion across the groups and cognitive interviews over whether it was meaningful. Some questioned what it might be and stated that it did not mean anything to them. While others did not know what it was, they felt it represented the future well.

“I like the bottom picture particularly, it looks futuristic and that makes sense when you’re talking about the future, it sums it up well” (C2DE, 18-45, FG Exeter)

“I can see why people are unsure about what it is but when you’re talking about the future, you imagine something like this” (C2DE, 18-45, FG Exeter)

People did not seem to feel strongly about the ‘clean’ natural gas picture in during the testing. The icons on the electricity showcard were questioned the most, especially in the Middlesbrough focus groups.

Figure 2.10: ET planning for the future with more information rollover (2nd iteration)

Planning the energy system of the future



We invest to ensure we can meet changing needs in the future:

- Making connections to new energy generation sites – power stations, windfarms and solar farms
- Supporting a shift to greener technologies, such as providing ultra-fast charging points for electric vehicles along the motorway network.





○ ○ ○

Continue

Main showcard



Planning the energy system of the future

SHOWCARD 6C

We invest to make sure that the transmission network can meet changing needs in the future.

- Upgrading the network to allow new developments and new power sources to connect easily
- Upgrades so the system can cope with variable energy production from renewables (e.g. wind energy depends on unpredictable wind levels each day)
- Installing new infrastructure for fast charging of electric vehicles – aiming for 95% of electric vehicle drivers to be within 50 miles of an ultra-rapid charging station (e.g. at motorway service areas)
- Additional investments to manage the supply and demand of electricity to meet the growing demands of the energy system and reduce the costs of operating the system.



Rollover

Source: Cognitive interviews show material (R2).

Also, in both the Middlesbrough focus groups and the second round of cognitive interviews, some felt these slides emphasised electricity generation rather than transmission. This appeared inconsistent with the role of National Grid previously explained.

***“It sounds like it’s to do with energy production, even things like you’ve got nuclear and renewables”
(ABC1, 18-45, FG Middlesbrough)***

“To say you’re not trying to point out the generation side, that graphic is about generation, it’s giving you that impression that generation and transmission are the same, when you’re trying to say they’re separate” (ABC1, 18-45, FG Middlesbrough)

“You’re saying it’s more about connecting than generating, well that looks like generating to me...it looks more like they’re building the infrastructure than connecting to it” (Interviewee, R2)

The updated ET showcard format for the second iteration of testing is shown in Figure 2.10. As with the proceeding investment areas, this was well received.

Importance of investment area

While this was seen as an important area for National Grid to invest in, some participants found this to be the least important area for them to know about, even though they are keen for National Grid to plan for the future.

Possibly the most contentious aspects of planning for the future is investment to support the transition to electric vehicles, with some questioning if this was National Grid’s role. A few thought electric vehicle use should not be subsidised by energy consumers, and installing charging points for their use was not National Grid’s responsibility. However, all participants were happy for this to be included in the survey, in order for National Grid to understand support for this investment in a representative sample of consumers.

“It’s a bit ridiculous isn’t it? Let’s charge the whole consumer network this extra amount of money to fund this new investment area of putting these cars in place” (ABC1, 18-45, FG Middlesbrough)

“If somebody else wants to build charging stations, like the council or petrol stations, that’s down to them, it shouldn’t come out of my money” (C2DE, 46+, FG Middlesbrough)

In summary, most people were keen for the company to invest in planning for the future but tended to be less interested in this aspect of National Grid’s plan compared to other areas.

2.2.4 Improving the environment and supporting communities

Terminology and graphics

This area covers a lot of separate investments. Early testing showed that the test for this area (Figure 2.11) was too wordy and needed simplifying.

“It needs to be punchy...electric vehicles rather than lower emission vehicles. You’re using difficult words to explain something that is relatively easy” (ABC1, 46+, FG Exeter)

“I can tell you now, most people would not read that, there are far too many words...the wording needs simplifying, there are too many big words in that people will just switch off” (Interviewee, R1)

Jargon such as ‘decommissioning’ or ‘environmental action plans’ could be considered meaningless to a typical consumer. Some wanted the information to be more specific.

“The environmental action plan is great, but a timescale would be nice. Like, we’re going to do this, work on this and have it completed by this time, that would be helpful” (ABC1, 18-45, FG Middlesbrough)

“It’s not an action plan, it’s our action plan, make it personal rather than generalised, I want to know what your action plan is” (Interviewee, R1)

Figure 2.11: GT environment and communities (1st iteration)

Improving the environment and supporting communities

Operating the gas transmission system, building new equipment and working on our sites results in impacts on the nearby environment and communities. A number of the investments we make are to reduce these impacts, such as:

- Investing in new compressors that are used to push the gas through our network, which will reduce emissions of carbon and other pollutants from our operations, as well as reducing noise impacts for local communities.
- Reducing carbon impacts from other areas of our operations, for example by changing our vehicle fleet to low/zero emissions.
- Responsibly decommissioning equipment and sites that are no longer needed.
- An overall environmental action plan to improve the land around our sites, by investing in wildflower meadows, introduce animals to graze or manage the local woodland.

We can also support local communities through initiatives that help households with people in vulnerable circumstances (e.g. elderly or disabled or very low income) as well as working with young people to promote gas safety and engineering in general, among other things.

Our overall spending in this area is around **£42 million**. This is currently about **£0.23 per year**, based on the average energy bill.

How do you feel about this?



Reduced environmental impact



Improving customer and stakeholder satisfaction




Continue



Source: Cognitive interviews show material (R1).

In terms of the community, people wondered whether there was anything about apprenticeship, work in schools, supporting charities that provided better examples of work in the community.

“This feels very corporate and as if you don’t have a human element to it...if it was saying we donate this much to charities and we have an apprenticeship scheme where we specifically go to areas of deprivation, that to me speaks more of community” (Interviewee, R1)

The text was simplified and retested. In the final stages of testing, participants were comfortable with ‘decommissioning’, saying it was clear what was meant.

It is interesting to note also that most people across the groups and interviews focussed more on the environment part of this area, and less so on supporting communities. Some indicated the community aspect needed to be expanded on more.

“I would say the first few bullet points are very much like actions and then the last one is almost separate and perhaps they could elaborate. It almost seems like it’s just been added on at the end” (ABC1, 46+, FG Exeter)

“It’s a bit vague. How are the environment going to have employment opportunities? It doesn’t really say” (ABC1, 18-45, FG Middlesbrough)

“In what ways are you supporting the communities? Just by employment? Or is it investment into other things? Or is it charity work?” (Interviewee, R2)

Respondents in Middlesbrough also suggested it might help to explain the specific ways National Grid supports people in local communities by including examples of their projects.

In terms of the graphics, most people felt the pictures did not match the words. Some respondents indicated these need to tell more of a story, speaking of how National Grid are specifically investing in this area.

“If you took [the information away] and asked what the pictures mean, you’d have no clue” (ABC1, 46+, FG Exeter)

Some suggested a picture of animals or a woodland would better represent the environment than daffodils. Others said the picture of the community group needed to be more relevant to the work National Grid do.

“They’ve said local communities and they’ve said about helping households that are vulnerable but actually the pictures they’ve used of the school and the dogs as a community group, I think you need a bit more...pictures that say a bit more about how they help” (C2DE, 18-45, Exeter)

The visual material was changed and retested; and found to be more relevant for customers (Figure 2.12).

“The picture is fine, it shows that you are maintaining the land and keeping the animals around, which is what people want” (Interviewee, R2)

Figure 2.12: ET environment and communities with more information rollover (2nd iteration)

Supporting communities and improving the local environment



We invest to support communities and continue to protect and help improve the local environment:

- Improving land around our sites to support local communities, provide valuable habitats and improve biodiversity.
- Reducing the visual impact of pylons in National Parks and Areas of Outstanding Natural Beauty.
- Reducing our own carbon impact.
- Providing education and support to communities – e.g. supporting local and youth employment in the energy network.








Main showcard



Supporting communities and improving the local environment

SHOWCARD 6D

We invest to support communities and continue to protect and help improve the local environment:

- Improving wildlife in and around our sites - including introducing wildflower meadows, introducing beehives/animals to graze and planting trees to screen our sites
- Putting overhead electricity lines underground in National Parks and Areas of Outstanding Natural Beauty to reduce their visual impact
- Reducing our own carbon impact, for example by changing our vehicle fleet to low/zero emissions; reducing carbon emissions from our activities such as through carbon offsetting
- Providing education - promoting and sponsoring electrical safety and engineering
- Providing employment and training opportunities to vulnerable households and young people.



Rollover

Source: Cognitive interviews show material (R2).

Importance of investment area

Along with ensuring a safe and reliable network, improving the environment was the other top priority investment area for respondents. Many felt passionately about the environment and were very supportive of National Grid working to improve it.

“It’s quite a big thing all of the environment stuff now, so I think if they aim down this sort of route, they’re onto the right track” (ABC1, 46+, FG Exeter)

“It’s very good, I’m a big fan of the environment being looked after” (Interviewee, R1)

“That’s definitely a positive thing, I’m all for things that have a positive impact on the environment... the fact that National Grid are actively and proactively working to improve things environmentally, that’s fantastic” (Interviewee, R1)

“I think a lot of people will be intrigued to see what they’ve got to say about this. I certainly think this side of it is going to be much more interesting to people” (Interviewee, R2)

As a result, the consensus was that everyone was happy to pay for the proposed investment. A few people who felt passionately about the environment stated that they were actually prepared to pay more for improvements in this area; indeed, some participants in the Middlesbrough focus groups actually felt that not enough was being spent on the environment compared to other investment areas.

“For a few pence a year, I can’t see why anyone would be negative about that, I think that’s a super positive thing” (Interviewee, R1)

“I would actually be happy to pay more than that as its proactively bettering the emissions and the impact on the environment” (Interviewee, R1)

Participants were less vocal about the community aspect of the investment, in part as the information needed to be more tangible and personal to the customer.

Both Middlesbrough focus groups generated an interesting discussion around putting overhead electricity lines underground. A few respondents in the Middlesbrough group (C2DE, 46+) felt it was contradictory to suggest that electricity lines over ground would be too unaesthetically pleasing, albeit in Areas of Outstanding Natural Beauty (AoNBs), but that windfarms were fine. Some felt windfarms were just as much of an ‘eye-sore’ as pylons yet this was outside of the scope of electricity transmission. In addition, some participants in the Middlesbrough (ABC1, 18-45) group questioned putting electricity lines underground in AoNBs, being concerned about the disruption this might cause to natural habitats and biodiversity. Participants were clear that any negative impacts of undergrounding pylons need to be explained in the survey.

2.2.5 Being a responsible company

Terminology and graphics

Overall people thought this showcard (Figure 2.13) was clear and easy to understand. Where ‘transparent’ was used instead of ‘responsible’, most people thought this was a good choice of word.

“Transparent I think is good because people get suspicious about how places and firms are run so I think transparent is a good word for keeping people informed” (Interviewee, R1)

“So much of it is about being transparent isn’t it...making sure there are no hidden accounts anywhere” (Interviewee, R1)

However, a few people across the cognitive interviews and Exeter focus groups said the information needed to be more tangible.

“Again, what does it mean in terms of how it’s going to be done? You need more clarity here. I agree with the principle, but I would like to tie it down to some tangible things that you can measure” (Interviewee, R1)

Figure 2.13: GT responsible company (1st iteration)

Being a responsible company

As a public company we need to be transparent in our approach and processes, meet legal requirements and deliver the investments that we commit to providing. This means that consumers, energy suppliers and distribution networks get the level of service that they pay for and understand what went into National Grid’s decision to set the level of investment.

Part of this includes sharing information, to enable competition within the gas sector. To make sure we fulfil these obligations we carry out various activities to improve the level of competition in the gas sector.

We are also committed to delivering an efficient and affordable gas supply to reduce costs for consumers.

Our overall spending in this area is around **£11 million**. This is currently about **£0.08 per year**, based on the average energy bill.

How do you feel about this?

nationalgrid

Delivering value for money

Continue

Source: Cognitive interviews show material (R1).

Many participants, particularly in the Middlesbrough focus groups, felt consumers did not need the detail on this showcard given that transparency and compliance is what is expected of all companies. Most admitted they would skim-read any information provided in this area, especially given this was not due to impact bills in the future. Respondents strongly indicated this showcard should not be included in the business plan, but instead mentioned as context at the start of the survey.

***“Surely that language like, ‘we are transparent’ could be done as a company policy statement? If it’s going to be on a leaflet or whatever, it could be on the first page”
(ABC1, 18-45, Middlesbrough)***

“I would take all of that together and just put it in the small print” (C2DE, 46+, Middlesbrough)

This was enacted for the second round of testing and it worked well (Figure 2.14).

Figure 2.14: GT responsible company (2nd iteration)

Sharing information to allow the gas transmission system to run smoothly and efficiently **SHOWCARD 6E**

We need to be transparent in our approach and processes, meet legal requirements and deliver the investments that we commit to providing. Part of this includes sharing information, to help competition within the gas sector. This is through:

- Open data sharing.
- Collaborating with gas network companies to better manage the gas transmission system.
- Investing in new IT systems .
- Being clearer about our performance.

Source: Cognitive interviews show material (R2).

Importance of investment area

Generally, people accept that this was a priority investment area for National Grid but did not feel this needed to be given much prominence in the survey. Many felt customers could trust them to act responsibly and that being transparent in their approach was part of that.

***“I think you just have to trust what they are doing financially, even though you don’t particularly know”
(Interviewee, R1)***

“I think everyone is a bit apprehensive about including and sharing information...but if they do it responsibly and effectively then sharing information isn’t going to be an issue” (Interviewee, R1)

“It’s the way it should be because they’re not competing, they’re not selling products, they’re operating a service and they should be transparent given what they do” (ABC1, 46+, FG Exeter)

While most were happy to accept the bill impact for the investment in this area, others felt it was unacceptable to make the customer pay for something that is a legal obligation.

“I don’t want my money going towards it, I don’t really care about transparency. Maybe if something

goes wrong but in that case I'd look in the small print for that kind of information" (C2DE, 46+, FG Middlesbrough)

"I don't want to pay 8p for you to do what I feel is the right thing...I don't think that should cost me any money" (Interviewee, R1)

Generally, though, most people did not feel strongly about paying the extra £0.01 for this investment.

Participants were highly supportive of efficiency savings – and this being used to offset much of the proposed investment. Many indicated that this should be highlighted early on in the survey.

"I'd say it's reasonable to ask for that and if you're becoming more efficient then you're passing some of the savings back onto the customer, so I can't see how much people are going to disagree with" (Interviewee, R2)

2.3 Overall Acceptability of the Business Plan

Acceptability

All but one participant in the focus groups and cognitive interviews felt that National Grid's proposed Business Plan for 2021-2026 for both ET and GT were either acceptable or very acceptable. The positive responses were due to being informed on what their money would be spent on (i.e. the investments) and/or the overall bill increase being perceived as minimal.

One participant (in the Middlesbrough focus group) indicated "don't know" on the basis that other parts of the energy bill may also change – and whilst they themselves found the bill change acceptable, they were minded that others may struggle with their energy bill, and overall that made them unsure.

"Yeah it's acceptable. It gives you an insight into where your money actually goes. You just think EDF have put my bill up, you don't think that there's actually a bigger picture out there" (C2DE, 18-45, FG Exeter)

"£1.33 over the year for all these investments?! That's amazing, peanuts really isn't it" (ABC1, 46+, FG Exeter)

"It's that negligible, it doesn't matter does it, 87p is nothing" (C2DE, 46+, FG Middlesbrough)

There were some caveats raised by respondents in the Middlesbrough (C2DE, 46+) group. Some felt that the proposed bill increase was only acceptable so long as services are efficient, profits and dividends are not excessive, and director pay is fair.

"But if you look at that and think about the overall profit they're going to make on it, it's only a little amount but it's still big money that could be going to shareholders" (C2DE, 46+, FG Middlesbrough)

“If they just want to get a pay rise then that’s not acceptable” (C2DE, 46+, FG Middlesbrough)

Overall most participants felt their total energy bill was expensive and want to see bills come down. However, they were pleasantly surprised at the low cost of gas and electricity transmission and would be willing to see this part of their energy bill increase to fund the proposed investments. That said, most participants were clear that similar proportionate increases across the other parts of the energy bill would be unacceptable.

***“I think I pay over the odds for my gas and electricity, but I wouldn’t blame National Grid for that”
(ABC1, 18-45, FG Middlesbrough)***

***“I think what the National Grid charge out of our bill, you look at it and think that’s valued well” (C2DE,
46+, FG Middlesbrough)***

***“I think it will make people challenge their suppliers more because I never would have thought so little
went towards National Grid” (C2DE, 18-45, Exeter)***

When asked, no participant had a ready maximum amount in mind that they would be willing to pay for these investments when answering the survey. However, when probed further, most respondents said anything between £2 to £5 a year, would be their ‘tipping point’. A few people found it hard to say because the maximum amount they would be willing to pay depended on how much they would benefit from the investment. Those in the ABC1 Exeter group agreed on an amount up to £10 a year would be acceptable, but this might be expected given their socio-economic background.

Several respondents across the interviewees made insightful comments about the actual percentage increase being high and appearing unacceptable compared to absolute figures.

***“I was thinking 12-15% would have been upper limit and its £9 up to £10.33 so we’re already in that
ballpark, 12-15%” (Interviewee, R1)***

***“I think it would be relative to its percentage increase, so if we’re currently paying £9 per year average
and I think a £3 increase, so 30% would start to be getting too much” (ABC1, 46+, Exeter)***

***“20% [increase] would be unacceptable but if you said it was a £2 increase I would still say that’s not
much. They’re trying to be nice by giving you the absolute and not mentioning the % which is actually a
lot” (Interviewee, R2)***

***“That’s about a 15% increase, which as a small business would not be sustainable if all my other bills
went up by that much” (Business interviewee, R2)***

In thinking about the future, everyone felt it was essential that investments are made now to ensure a reliable network in years to come. Many referred to the idea that it was much better to be proactive now rather than reactive to problems later on.

“Yeah, we’ve all got a responsibility for that haven’t we” (Interviewee, R1)

***“That sounds like common sense to me, why take a risk when you can have a reliable supply”
(Interviewee, R2)***

***“Yeah that’s necessary, I don’t think we can just sit on our laurels and think let’s do with today”
(Interviewee, R2)***

This sentiment also came out in the attitudinal statements on asset health that featured in follow-up questions in the cognitive interviews. Most felt the statements were clear (i.e. succinct/not too wordy and easy to understand). And, overall participants concurred with the statements as they were currently set out, which largely reflect a need to balance the cost of investment in the present day with maintaining the longer-term health and condition of the network and equipment. The exception semantically was the statement *“As long as a reliable service is maintained, it does not matter if the network infrastructure is getting older and becoming degraded”*. Consistent with the broader view on asset health, respondents tended to disagree with this statement.

Affordability and value for money

Energy bill affordability and value for money was a key consideration for participants across Stage 1. All but one respondent indicated they had no difficulty paying their energy bill, but the general view was that energy bills are high. Whilst several people in the cognitive interviews did indicate they consider their total energy bill to be value for money, overall energy bills tended to be a concern.

The consensus was that the National Grid part of the bill was good value for money. In terms of affordability, there was considerable discussion about whether the proposed bill increase was affordable to not just them, but to all - for example pensioners, households with disabled people, low income families.

The general view was that the amount was so small, households in general would be able to pay it.

***“I’d still say it’s pretty affordable, £1.33 is not loads is it, only 30p a month”
(C2DE, 18-45, FG Exeter)***

“I think gas with electricity is one of the most important things in a household to survive...so I think whatever income you’re on, you cut your cloth according to your yardstick...you have to forgo other things to have it” (ABC1, 46+, FG Exeter)

“It’s affordable yeah, it’s £1.33 on your gas bill, it’s hardly anything” (Interviewee, R2)

However, some commented it was unfair for them to assume others would find it affordable, given that some households are already financially stretched.

***“But some people living on a state pension literally can’t afford to turn the heating on”
(C2DE, 18-45, FG Exeter)***

“People are in hardship already, they’re already giving up so much to just survive, so I think the likes of vulnerable adults, the elderly, yeah they’ll struggle” (ABC1, 46+, FG Exeter)

It was also evident that when initially considering the affordability of the transmission bill, respondents were not consciously thinking about how this compared to other household expenses. When prompted in the cognitive interviews, most people thought the National Grid bill increase was reasonable in comparative terms, particularly in relation to how other bills have risen over the years.

***“No, I wasn’t thinking about this...but my water bill has increased an awful lot more I would say”
(Interviewee R2)***

“It felt more reasonable than all my other bill increases...compared to my council tax increase, it feels like that’s been quite a lot for however many years now” (Interviewee, R2)

Similar to asset health, the cognitive interviews also included attitudinal statements on affordability in follow-up questions. Again, respondents had no issue understanding the statements, but there were more mixed views on the topics being tested, such as support for consumers experiencing financial difficulties.

3. Follow-on research

3.1 Stage 3 focus groups

The final stage of the programme will be carried out once the quantitative survey has been completed and findings analysed. This will consist of extended-focus group sessions (2 hours) with household consumers in September 2019.

The purpose will be to explore in further depth topics and issues concerning the acceptability of the ET and GT plans. The groups are timed so that any findings from the quantitative survey that require examination to aid interpretation can be incorporated into the discussion topics. The overall intention is that the follow-on research will provide added evidence to support the business plan justification cases submitted by National Grid in July 2019, particularly where feedback from stakeholders suggests that the understanding of consumers' views needs to be developed further.

The provisional schedule for the focus groups is set out in Table 3.1.

Table 3.1: Focus group schedule (September 2019)

Location	Topic area	SEG	Age	No. participants	Date
South East	TBC	TBC	TBC	Target 8	03/09/19
South East	TBC	TBC	TBC	Target 8	03/09/19
South Wales	TBC	TBC	TBC	Target 8	05/09/19
South Wales	TBC	TBC	TBC	Target 8	05/09/19
Scotland (GT)	TBC	TBC	TBC	Target 8	10/09/19 or 11/09/19
Scotland (GT)	TBC	TBC	TBC	Target 8	10/09/19 or 11/09/19

3.2 Discussion topics

An initial candidate list of discussion topics and issues to cover is set out below. This is based on the findings from the July focus groups and cognitive interviews. The topic list will be reviewed and updated with National Grid as feedback from stakeholders on the business plan proposals becomes available, along with interim and final results from the quantitative surveys:

- **Acceptability of bill changes.** A 'drill-down' into the findings of Stage 2 for all consumers and consumer segments, to understand what drives acceptability, and what are the limits or conditions of acceptability. This will include grouping the acceptability findings for gas and electricity together – to ask if the combined gas and electricity transmission bill is acceptable.
- **Affordability and value for money.** In the Stage 1 research, a consistent message was that National Grid provides services that seem to be affordable and value for money, and is proposing investment

and bill increases that are acceptable, but the overall energy bill is not seen as affordable, value for money, or acceptable for all. If this finding is borne out in the Stage 2 research, then understanding more about the role National Grid has in ensuring bills are affordable and value for money will be a key consideration in Stage 3. This could cover what can be done to support consumers, and how can National Grid support those efforts.

- **Justification for specific investment options.** National Grid's ET and GT business plans are made up of many separate business cases, summarised into five key investment areas in each version of the survey. The focus groups in September provide an opportunity for consumer views on specific aspects of the plan to be explored. For example, for discretionary investment consumer views can be used to support the selection of the preferred option.
- **Overall thoughts on the energy sector.** To understanding consumers' perceptions of National Grid and the wider industry. For instance, what steps, if any, would consumers wish to see made to ensure the entire energy bill is acceptable and affordable to all.

Appendix 1: Focus Group Material

A1.1 Topic Guide

National Grid – Acceptability Testing Focus Group Topic Guide

Version: 15th July 2019

This note outlines the overall purpose of the Acceptability Testing Research and the approach that is being implemented. Arrangements for the first set of focus groups (July) are provided, followed by the (draft) topic guide for these groups.

Introduction & objectives

National Grid is developing business plans for the electricity transmission and gas transmission networks for RIIO-T2 (2021-26). These plans need to be legally compliant, deliverable, value for money, affordable, and ensure the health of the asset base for future generations.

The purpose of this research is to test the acceptability of the plans and associated bill impact with end-use consumers. The main aim is to quantify the level of consumer support for each of the business plans. The research will provide a range of insight on the reasons why the plans are acceptable/unacceptable to consumers, as well as the changes – within the feasible scope of actions that National Grid can take – that would make them more acceptable. It will also examine the affordability constraint that consumers face and how it influences the acceptability of proposed investments, particularly in distinguishing between compliance investments (e.g. health and safety compliance) and other investment areas with more discretionary drivers.

The research is being implemented through qualitative (focus groups and one-to-one interviews) and quantitative (online and in-person survey) approaches. The dual approach will ensure that the overall nationally representative results from the survey are supported by 'deeper dives' into specific topics and issues in the qualitative research. Overall this will provide a more rounded understanding of the factors that drive the level of acceptability for consumers.

Research programme

The research programme includes:

- Focus groups (July): 4 groups with household consumers, helping to: (a) develop understanding of the importance of different factors in determining the acceptability of the electricity and gas transmission plans; and (b) test the explanatory material for the quantitative research.

- Cognitive interviews (July): 15 one-to-one in-person interviews with a mix of household and non-household consumers with the purpose of developing and testing the survey questionnaire and explanatory material.
- National surveys (July – September): implementation of nationally representative surveys with household (2,000) and business (300) consumers to measure the level of support (acceptability) of the electricity and gas transmission plans
- Focus groups (September): 6 groups with household consumers that will: (a) explore in further depth topics and issues raised in the July groups (for example, affordability); and (b) test the survey findings to provide added assurance as to the reliability of the results. Overall, these groups will provide added evidence to support the business plan justification cases submitted July 2019, particularly where feedback from stakeholders suggests that the understanding of consumers' views needs to be developed further.

Focus groups (July 2019)

The four groups will take place at two locations (Exeter, Middlesbrough). These will all be evening sessions of approximately 90 mins:

- 16 July – Exeter (Buckerell Lodge Hotel, Topsham Rd, Exeter EX2 4SQ); Focus on gas transmission network and Business Plan.
 - 6pm: 18-45 years; C2DE
 - 8pm: 46+ years; ABC1
- 18 July – Middlesbrough (Sporting Lodge Inn, Low Lane, Middlesbrough TS17 9LW); 6pm and 8pm. Focus on electricity transmission network and Business Plan.
 - 6pm: 46+ years; C2DE
 - 8pm: 18-45 years; ABC1

The general topic areas to be covered in the groups are:

- Familiarity with National Grid, its role and the gas and electricity transmission networks
- The business planning process and high-level investment priorities for National Grid
- Proposed investments and their bill impact
- Overall acceptability of the plan and affordability considerations

Topic guide (draft)

Introduction	5 mins
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- Facilitator to introduce themselves and set out objectives of the discussion: set the scene; reason for discussion; and format.
- Explain that the discussions are to help National Grid in developing plans that reflect the needs of end users of electricity and gas (i.e. households) and that they are part of a wider programme of research to understand views of different groups in their plans.
- Explain that the groups will be followed by a survey (online and in-person) that will capture views from a wide range of people; today we are also testing some of the material that will be used in the survey.
- Explain MRS code of conduct and rights to anonymity. Explain discussions are being voice recorded for internal use only. Confirm consent for photographs to be used by National Grid.
- Introduce any observers that are present (if any).
- Respondents to introduce themselves – names and family circumstances.

1. National Grid	10 mins
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The objective of this section is to ensure that the participants have a working level of understanding of National Grid's role in electricity/gas transmission in order to engage in the rest of the focus group.

- Let's start by thinking about the energy – by that I mean the gas and electricity that is supplied to your household. General unprompted responses
 - Where does it come from? How affordable is it? Where does the money go?
- National Grid in general.
 - Have you heard about National Grid before?
 - What do you think they are responsible for?
- National Grid runs and manages the electricity transmission network in England and Wales, and the gas transmission network in England, Scotland and Wales. This short video tells you a little more about what they do. [Show VIDEO 1. Probe understanding following video](#)
 - Have you heard of transmission before?
 - In general – are there any words, terms, phrases that are care unclear? Is anything missing from the explanation?
- [SHOWCARD G1](#) Gas transmission network and map [Probe clarity of showcard and whether it shows clearly that NG only responsible for transmission.](#)
 - What does this card tell you? Is it clear where NG sit in the process? Can you say what happens at other points in the process?

OR

- [SHOWCARD E1](#) Electricity transmission network and map [Probe clarity of showcard and whether it shows clearly that NG only responsible for transmission.](#)
 - What does this card tell you? Is it clear where NG sit in the process? Can you say what happens at other points in the process?

- Do you think it would be helpful to show the video in the survey? Or would the showcard alone explain what National Grid does?

2. Business plan process	15 mins
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This section tests some of the initial explanatory material that is being developed for the survey, which is intended to explain the make-up of energy bills and the types of investment that National Grid make in the electricity/gas transmission network.

- **SHOWCARD G2/E2 This year** National Grid is submitting a business plan to Ofgem, the regulator for the energy sector, that sets investment priorities for the gas/electricity transmission network. Ofgem will reviews the plan and decide the amount that National Grid can charge to its direct customers for the period 2021-26, which is your local distribution network. Ofgem will then also set the amount the distribution networks charge to you. **Probe understanding.**
 - Is the process and role of Ofgem clear?
- To start let's think about the types of investments that National Grid might need to make in the transmission network. **Flipchart, ask participants to suggest different investments – i.e. where does the money get spent? Prompt – try to get most of the investment areas on the flip chart before the following showcards. Probe.**
 - How reliable do you think the current level of service is from transmission network.
 - Have you experienced any [blackout] [service interruptions]?
 - What do you think are the reasons to invest into the network?
- **SHOWCARDS G3-7/E3-E7** Now look at these cards. They describe the different investment areas that are in National Grid's business plan for the gas/electricity transmission network. **Probe.**
 - Any unclear wording? Do the titles match the descriptions? Are there better words that could be used?
 - Do you think you could order the investment areas in terms of priorities – i.e. what would be most important? **Flipchart – record ranking, but note purpose is not to get a priority ranking but get views on balance and trade-offs across investments.**

3. Business plan investments	35 mins
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This aim of this section is to understand consumers views on the proposed investments in the business plan – i.e. do they support them.

- We'd like to now go through some of the investments that National Grid are proposing in more detail, including what the impact would be on your bill. We haven't spoken much about energy bills yet so let's go back and look at this card again. **SHOWCARD G2/E2**

Probe.

- What do you think about the amount of money you pay for the transmission network versus overall energy? **Prompt - link back to the investment areas previously discussed.**

- We'll come back to the overall bill and its affordability later, but for now, let's look at some of the investments that National Grid are proposing.

Reliability, asset health, network capacity

SHOWCARDS G8/E8 [INVESTMENT LINES AND BILL IMPACT]

- Probe understanding of descriptions, are they clear, are there better words that can be used
- What do you think about these investments? **Probe to draw out following:**
 - What do you think would happen if the level of investment was lower or higher? Can you see a balance between the risk of equipment failing, the cost of avoiding that (maintenance and replacement)? What might that balance be?
 - What might the outcomes be – for consumers, health and safety, the environment, legal compliance? Now vs. the future?
 - How do you feel about investments that are made today that deliver benefits in the future – i.e. future reliability of the network? Should consumers pay now, or later? Why?
 - If a reliable network is maintained, does it matter if the equipment is getting older and becoming degraded? Why?
 - Would you prefer it if more investment was made in recovering quickly if the network failed, versus investing to prevent the failures from happening? Why?
- Overall, are the investments acceptable to you? If not, why not?
 - How you feel about more/less investment in these areas? How much more/less would there need to be to change your view?

Check time and running – present further investment areas. If running short on time, select 2 from 3 areas (external threats, future energy system, environment and local communities). For gas, show environment and local communities in both groups. Otherwise, rotate order and make sure each investment area is shown at least once across groups.

Environment and local communities

SHOWCARDS G9/E9 [INVESTMENT LINES AND BILL IMPACT]

- Probe understanding of descriptions, are they clear, are there better words that can be used
- For gas transmission, esp. check understanding of compressors investment and description.
- What do you think about these investments? **Probe.**
 - What do you think would happen if the level of investment was lower or higher?
 - What might the outcomes be?
- Overall, are the investments acceptable to you? If not, why not?
 - How you feel about more/less investment in these areas? How much more/less would there need to be to change your view?

External threats

SHOWCARDS G10/E10 [INVESTMENT LINES AND BILL IMPACT]

- Probe understanding of descriptions, are they clear, are there better words that can be used?
- What do you think about these investments? **Probe.**
 - What do you think would happen if the level of investment was lower or higher?
 - What might the outcomes be?
- Overall, are the investments acceptable to you? If not, why not?
 - How do you feel about more/less investment in these areas? How much more/less would there need to be to change your view?

Future energy system

SHOWCARDS G11/E11 [INVESTMENT LINES AND BILL IMPACT]

- Probe understanding of descriptions, are they clear, are there better words that can be used
- What do you think about these investments? **Probe.**
 - What do you think would happen if the level of investment was lower or higher?
 - What might the outcomes be?
- Overall, are the investments acceptable to you? If not, why not?
 - How do you feel about more/less investment in these areas? How much more/less would there need to be to change your view?

4. Acceptability and affordability	20 mins
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The main part of the discussion in this section focuses on the acceptability of the overall plan and its bill impact. Time permitting, the discussion will also cover views on affordability (note it is expected that the September groups will feature fuller discussions of affordability).

- Let's wrap-up by looking at all of the investments and the overall impact on your bill.
 - Explain that if an investment area was missed out because of time running out, other groups will be looking at these investments too.

SHOWCARDS G12 [PLAN SUMMARY AND OVERALL BILL IMPACT]

- Probe understanding of format and calculation of bill impact.
- Overall, is the plan and bill impact acceptable to you? Why? **Probe.**
ASK PARTICIPANTS TO RECORD ACCEPTABILITY ANSWERS ON HANDOUT, THEN MOVE TO GROUP DISCUSSION
 - Do you find your overall energy bill (i.e. total for electricity and gas) to be value for money?

- Do you find the portion of the energy bill for [gas] [electricity] transmission to be value for money?
 - What is more important, the bill change or the investments that are proposed?
 - If acceptable – at what cost would the plan be unacceptable; if unacceptable, at what cost (if any) would it be acceptable?
 - Would removing/adding investments change the level of acceptability? Which ones?
 - What about the acceptability of your overall energy bill?
- Finally, would you say the plan is affordable? **Probe.**
 - To whom? To others? Now vs. the future?
 - How do you feel about the bill change compared to your overall energy bill and other utility bills?
 - Do you think some people might struggle – why do you say that?

ASK PARTICIPANTS IF THEY WOULD CHANGE THEIR RESPONSE ON THE HANDOUT.

Feedback and close	5 mins
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ASK PARTICIPANTS TO FILL IN THE FEEDBACK FORM

- How do you feel about being asked to provide views on the plan? Is it important to have sessions like these with consumers?
- Has there been anything that has surprised or concerned you?
- Is there anything that we have missed from the discussion that we need to consider?
- Are there any other comments?
- Thank and close.

A1.2 Explanatory material

Table below includes the explanatory material given to focus group participants.

	GT focus groups	ET focus groups
Showcards	  NG Acceptability Testing_GT Focus Gr NG Acceptability_GT Focus Group_G12 Bi	  NG Acceptability Testing_ET Focus Gr NG Acceptability_ET Focus Group_E12 Bi
Handout	 NG Acceptability_GT Focus Group_Handc	 NG Acceptability_ET Focus Group_Handc

Appendix 2: Cognitive interviews material

The following subsections provide all of the material used for the cognitive interviews:

- A2.1 – Word survey for Gas Transmission version;
- A2.2 – Word survey for Electricity Transmission version; and
- A2.3 – Debriefing questions.

In addition, the interviewer had was a letter of authorisation (under the National Grid letterhead) and additional explanatory material (as seen in the main report).

A2.1 Gas transmission - Survey

National Grid Acceptability Testing – Gas Transmission

Draft Survey – Cognitive Interviews

Version date: 24th July 2019

BEFORE SURVEY START: RANDOMLY ALLOCATE RESPONDENT TO GAS OR ELECTRICITY VERSION OF SURVEY

RECORD:

VERSION [GAS OR ELECTRICITY]

RESPONDENT ID

DATE OF INTERVIEW

START TIME

FINISH TIME

DURATION

INTRODUCTION

In this survey we would like to understand what matters to you. Your responses will help determine National Grid's priorities in the coming years.

National Grid is one of the companies involved in supplying energy to your home. Our role is to operate the transmission networks that takes gas and electricity from the supply companies to your local distribution networks, which then supply the energy to your home. We will explain our role in more detail as you work through the survey.

The survey will last about **15 minutes**. All answers that you give will be treated in confidence in accordance with the Code of Conduct of the Market Research Society. The information we collect will be used for research purposes only and the data will analysed at an aggregate level. It will not be possible to identify any particular individual or address in the results.

[Add link to NG privacy policy]

SECTION A: SCREENING & QUOTAS

NEW SCREEN - RESPONDENT SCREENING QUESTIONS

Q1. Is your home connected to mains electricity and gas?

Most homes in the UK are connected to the mains electricity network. Some properties may not be connected to the natural gas network. If you have gas heating or a gas cooker you are most likely to be connected to the gas network.

SINGLE CODE

- | | | |
|---|---|---------------|
| 1 | Yes – connected to both mains electricity and gas | CONTINUE |
| 2 | Connected to mains [gas] but not [electricity] | CONTINUE |
| 3 | Not connected to mains gas | THANK & CLOSE |
| 4 | Don't know | THANK & CLOSE |

Q2. Are you solely or jointly responsible for paying your energy bills in your household?

SINGLE CODE

- | | | |
|---|---------------------|---------------|
| 1 | Solely responsible | CONTINUE |
| 2 | Jointly responsible | CONTINUE |
| 3 | Not responsible | THANK & CLOSE |
| 4 | Don't know | THANK & CLOSE |

Q3. Where do you live?

[SHOWCARD 1] DISPLAY NUTS 1 MAP OF GB WITH SELECTABLE REGIONS FOR RESPONDENTS

SINGLE CODE

- | | |
|----|----------------------------|
| 1 | North East |
| 2 | North West |
| 3 | Yorkshire and the Humber |
| 4 | East Midlands |
| 5 | West Midlands |
| 6 | East of England |
| 7 | Greater London |
| 8 | South East |
| 9 | South West East of England |
| 10 | Scotland |
| 11 | Wales |

NEW SCREEN - RESPONDENT QUOTA QUESTIONS

Q4. Please can you indicate your age

SINGLE CODE

- 1 18-24
- 2 25-34
- 3 35-44
- 4 45-54
- 5 55-64
- 6 65+

Q5. Please indicate your gender

SINGLE CODE

- 1 Male
- 2 Female
- 3 I prefer to identify another way
- 4 Prefer not to say

Q6. Are you the main income earner in your household?

SINGLE CODE

- 1 No ASK Q7
- 2 Yes ASK Q7
- 3 No income earners AUTOCODE Q7 = 6 AND SKIP TO Q8

Q7. SHOW IF CODE 1 OR 2 AT Q6 Main income earner's occupation (if main income earner is retired, select occupation before retirement). [FOR COGS: SHOWCARD 2]

SINGLE CODE

- 1 Higher managerial, administrative or professional A
- 2 Intermediate managerial, administrative or professional B
- 3 Supervisory or clerical and junior managerial, administrative or professional C1
- 4 Skilled manual worker C2
- 5 Semi or unskilled manual worker D
- 6 Casual worker, dependent on state pension only, or dependent on state welfare E

NEW SCREEN – CURRENT ENERGY BILL

Q8. IF Q1 CODE 1 How much is your current energy bill? This is the total amount you pay for electricity and gas.

OR

IF Q1 CODE 2 How much is your current gas bill?

ENTER AMOUNT AS WHOLE £ EITHER PER YEAR OR PER MONTH

1 PER YEAR

2 PER MONTH

OR

3 DON'T KNOW

IF DON'T KNOW – ESTIMATE ANNUAL BILL

TO BE DEVELOPED – ANNUAL BILL ESTIMATION QUESTIONS

INCLUDE QUESTION TO CHECK IF RESPONDENT PAYS BILL DIRECTLY TO ENERGY COMPANY OR AS PART OF RENT; ALSO CHECK FOR SOCIAL TARIFF

Low user	Medium user	High user
1-2 occupants	3-4 occupants	5 or more occupants
Flat	House	House
House occupied evening and weekends	House occupied some of the day and evenings	House occupied all day and evenings
Only switch on the heating system when it's really cold . No gas stove/only use the stove once a week.	Switch the heating on when it is cold. Use the gas stove 3-4x a week	Have the heating on all the time whenever it is cold. Use the gas stove every day
£800 per year	£1,200 per year	£1,700 per year

NEW SCREEN

Q9. IF Q1 CODE 1 How would you rate the value for money of your overall energy bill – i.e. the total amount you pay for electricity and gas?

OR

IF Q1 CODE 2 How would you rate the value for money of your current gas bill?

SINGLE CODE

- 1 Very good value for money
 - 2 Good value for money
 - 3 Neither good nor poor value for money
 - 4 Poor value for money
 - 5 Very poor value for money
 - 6 Don't know
-

Q10. How easy or difficult do you find it to pay your household utility bills, including for energy?

SINGLE CODE

- | | | |
|---|---|-------------|
| 1 | I do not have any problems in paying my household utility bills | SKIP TO Q12 |
| 2 | I rarely find it difficult to pay my household utility bills | SKIP TO Q12 |
| 3 | I sometimes find it difficult to pay my household utility bills | ASK Q11 |
| 4 | I always find it difficult paying my household utility bills | ASK Q11 |
| 5 | Prefer not to say | SKIP TO Q12 |
-

Q11. IF CODE 3 OR 4 AT Q10 Are you regularly in arrears with your household energy bill – i.e. behind with your payments?

SINGLE CODE

- 1 Yes
 - 2 No
 - 3 Prefer not to say
-

NEW SCREEN – GAS TRANSMISSION

SECTION B: NATIONAL GRID AND THE SERVICES IT OFFERS - GAS

National Grid runs and manages the electricity transmission system in England and Wales, and the gas transmission system in England, Scotland and Wales. This short video tells you a little more about what we do.

[VIDEO]

NEW SCREEN – SURVEY FOCUS

In this survey we would like you to consider our plans for the **gas transmission system**. Please note that gas production and the local distribution and supply of gas to your home are dealt with by other companies.

SHOWCARD 3: GAS TRANSMISSION SYSTEM

Q12. I understand that this survey is only about National Grid's plans for the **gas transmission system**.

RADIAL CONFIRMATION - SINGLE CODE

1 Yes

NOTE: DEBRIEF QUESTIONS TO PROBE WHETHER RESPONDENT UNDERSTAND THAT ONLY TRANSMISSION

NEW SCREEN – BILL EXPLANATION

The costs of running, maintaining and improving the gas transmission system are included in the overall bill that you pay to your energy supplier(s). The cost is less than 1% of the average household energy bill, or about £9 per year from an overall bill of around £1,120.

SHOWCARD 4: ENERGY BILL BREAKDOWN SHOWING GAS TRANSMISSION COST

NEW SCREEN – BUSINESS PLAN INTRODUCTION

Periodically, we agree with Ofgem (the energy regulator) how much we can charge our customers and the performance targets that we need to meet. This in turn is one of the things that impacts how much you pay your energy supplier.

Our charges are based on the business plan we submit to Ofgem, which sets out the investment priorities for the gas transmission system. We are currently preparing our business plan for the period 2021 to 2026, which needs to:

- Meet our legal and regulatory obligations around safety, reliability and protecting the environment
- Find ways to run the system more efficiently - to improve our operations and keep costs down now and in the future
- Reduce the impact of our operations on the environment, such as reducing carbon emissions from our operations
- Make investments that will support efforts to make the wider economy greener

We would like to understand your views on our plan, the proposed investments, and the cost to you and other household consumers of gas.

The next part of the survey will tell you about the different parts of our plan. You will be asked to give your views on both the plan overall and the proposed investments.

SECTION C: GAS TRANSMISSION BUSINESS PLAN

NEW SCREEN – PLAN SUMMARY

The investments we are proposing to make in the gas transmission system are shown below. The overall cost of the investment plan for 2021 - 2026 is £3.0 billion. This cost is shared across all households in the country.

SHOWCARD 5: PLAN SUMMARY

The summary shows the cost to your household. A large part of the cost has already been determined due to previous investment in our equipment. We want to talk to you about parts of your bill that will change due to investments into the transmission system between 2021 - 2026.

The next few screens explain these investments.

NEW SCREEN – RELIABILITY OVERVIEW [1A]

Ensuring a safe and reliable network

About half of the investment we make is around inspecting, maintaining and replacing existing equipment. This ensures we provide a reliable service and meet all of our legal and regulatory obligations for safety and protecting the environment.

Some of our assets are ageing, meaning that they need additional maintenance to continue to provide the same levels of safety and performance in the future.

<<GIF>>

NEW SCREEN – RELIABILITY LINE-BY-LINE [1B]

Q13. Please indicate whether you agree that the proposed investment is needed and whether the bill impact is acceptable or not.

*Rollover [here](#) for a reminder on this investment theme. **SHOWCARD 6A: RELIABILITY REMINDER**
Rollover the investment line for more information.*

Maintaining compliance with safety standards and environmental regulation	+£X.XX
Maintaining the condition of pipes and equipment	+£X.XX
Managing the gas transmission system	+£X.XX

SLIDER RESPONSE FORMAT

RESPONSE OPTIONS

- A Agree with proposed investment AND impact on bills is acceptable
- B Agree with proposed investment BUT impact on bill is NOT acceptable
- C Do not agree that proposed investment is needed
- D Don't know

INVESTMENT LINES

- 1 Maintaining compliance with safety standards and environmental regulation
 - 2 Maintaining the condition of pipes and equipment
 - 3 Managing the gas transmission system
-

ROTATE OVERVIEW SCREENS [2A] TO [4A] ACROSS RESPONDENTS

NEW SCREEN – EXTERNAL THREATS OVERVIEW [2A]

Protecting the network from external hazards

We make investments to protect our pipelines and sites against:

- Criminal activity, such as cyber-attacks, terrorism, theft and vandalism
- Extreme weather events, such as localised flooding.

<<GIF>>

NEW SCREEN – EXTERNAL THREATS LINE-BY-LINE [2B]

Q14. Please indicate whether you agree that the proposed investment is needed and whether the bill impact is acceptable or not.

Rollover [here](#) for a reminder on this investment theme. SHOWCARD 6B: EXTERNAL THREATS REMINDER
Rollover the investment line for more information.

Protecting the system from external hazards

+EX.XX

SLIDER RESPONSE FORMAT

RESPONSE OPTIONS

- A Agree with proposed investment AND impact on bills is acceptable
- B Agree with proposed investment BUT impact on bill is NOT acceptable
- C Do not agree that proposed investment is needed
- D Don't know

INVESTMENT LINES

- 1 Protecting the system from external hazards

NEW SCREEN – THE FUTURE OVERVIEW [3A]

Planning the energy system of the future

We invest to ensure we can meet changing needs in the future:

- Building new gas pipelines, plant and equipment to connect new gas sources and new customers to our system.
- Supporting the move to a lower carbon energy system by trialling innovative greener gas alternatives, such as hydrogen or biogas.

<<GIF>>

NEW SCREEN – THE FUTURE LINE-BY-LINE [3B]

Q15. Please indicate whether you agree that the proposed investment is needed and whether the bill impact is acceptable or not.

Rollover [here](#) for a reminder on this investment theme. SHOWCARD 6C: THE FUTURE REMINDER
Rollover the investment line for more information.

Reinforcing the network to allow new connections	+£X.XX
Coordinating the decarbonisation of the gas system	+£X.XX
Investing into innovations in the decarbonisation of the gas system	+£X.XX

SLIDER RESPONSE FORMAT

RESPONSE OPTIONS

- A Agree with proposed investment AND impact on bills is acceptable
- B Agree with proposed investment BUT impact on bill is NOT acceptable
- C Do not agree that proposed investment is needed
- D Don't know

INVESTMENT LINES

- 1 Reinforcing the network to allow new connections
- 2 Coordinating the decarbonisation of the gas system
- 3 Investing into innovations in the decarbonisation of the gas system

NEW SCREEN – ENVIRONMENT AND COMMUNITIES OVERVIEW [4A]

Supporting communities and improving the local environment

We invest to support communities and continue to protect and help improve the environment:

- Improving land around our sites to provide valuable habitats and improve biodiversity
- Reducing our own carbon impact by replacing and upgrading equipment
- Reducing noise and disruption to local communities and farmers from our operations
- Providing education and support to communities – e.g. supporting local and youth employment in the energy network.

<<GIF>>

NEW SCREEN – ENVIRONMENT AND COMMUNITIES OVERVIEW [4B]

Q16. Please indicate whether you agree that the proposed investment is needed and whether the bill impact is acceptable or not.

Rollover [here](#) for a reminder on this investment theme. SHOWCARD 6D: ENVIRONMENT AND COMMUNITIES REMINDER

Rollover the investment line for more information.

Reducing emissions from the gas network	+£X.XX
Reducing carbon emissions from operating the network	+£X.XX
Responsibly decommissioning sites	+£X.XX
Compensating landowners for impacts from our pipes and equipment	+£X.XX

SLIDER RESPONSE FORMAT

RESPONSE OPTIONS

- A Agree with proposed investment AND impact on bills is acceptable
- B Agree with proposed investment BUT impact on bill is NOT acceptable
- C Do not agree that proposed investment is needed
- D Don't know

INVESTMENT LINES

- 1 Reducing emissions from the gas network
- 2 Reducing carbon emissions from operating the network
- 3 Responsibly decommissioning sites
- 4 Compensating landowners for impacts from our pipes and equipment

NEW SCREEN – ADDITIONAL CHANGES

Additional bill changes

Q17. Please indicate whether you agree that the proposed investment is needed and whether the bill impact is acceptable or not.

Rollover the investment line for more information on each area.

SHOWCARD 6E: INFORMATION

SHOWCARD 6F: EFFICIENCY

Sharing information to allow the gas transmission system to run smoothly and efficiently	+£X.XX
Efficiency savings	-£X.XX

SLIDER RESPONSE FORMAT

RESPONSE OPTIONS

- A Agree with proposed investment AND impact on bills is acceptable
- B Agree with proposed investment BUT impact on bill is NOT acceptable
- C Do not agree that proposed investment is needed
- D Don't know

INVESTMENT LINES

- 1 Sharing information to allow the gas transmission system to run smoothly and efficiently
- 2 Efficiency savings

NEW SCREEN – OVERALL ACCEPTABILITY

IF CURRENT ENERGY BILL STATED AT Q8 Previously you said that your current overall energy bill is [DISPLAY AMOUNT]. The amount you currently pay for gas transmission will be about [DISPLAY CURRENT TRANSMISSION AMOUNT].

OR

IF CURRENT ENERGY BILL IS ESTIMATED AT Q8 Your current overall energy bill is estimated to be around [DISPLAY AMOUNT]. The amount you currently pay for gas transmission will be about [DISPLAY CURRENT TRANSMISSION AMOUNT].

For the period 2021 – 2026, the amount that you will pay for gas transmission will be [DISPLAY TOTAL AMOUNT]. This is an [increase/decrease] of [DISPLAY CHANGE IN BILL].

Q18. Overall, how acceptable is our proposed plan?

When answering this question please consider the following [rollover].

SHOWCARD 7 – THUMBNAIL THAT EXPANDS TO FULL SIZE WHEN ROLLED OVER

Rollover here for a reminder of our plan, the investments, and the cost of each to your household.

SHOWCARD 7 /ROLLOVER: PLAN RECAP

RESPONSE OPTIONS

- 1 Very acceptable
 - 2 Acceptable
 - 3 Unacceptable
 - 4 Completely unacceptable
 - 5 Don't know / can't say
-

SECTION D: FOLLOW-UP QUESTIONS

Q19. Based on what you pay for your [electricity] [gas] transmission [DISPLAY CURRENT TRANSMISSION AMOUNT BASED ON Q8 RESPONSE]. How would you rate the value for money of the [increase/decrease] of [DISPLAY CHANGE IN BILL] for [electricity] [gas] transmission to you and your household?

SINGLE CODE

- 1 Very good value for money
- 2 Good value for money
- 3 Neither good nor poor value for money
- 4 Poor value for money
- 5 Very poor value for money
- 6 Don't know

Q20. ASK IF CODE 1 OR 2 AT Q23 What are the reasons you said that our [electricity] [gas] transmission plan was acceptable?

OPEN-ENDED FOR INITIAL SURVEY TESTING

Q21. ASK IF CODE 3 OR 4 AT Q23 What are the reasons you said that our [electricity] [gas] transmission plan was not acceptable?

OPEN-ENDED FOR INITIAL SURVEY TESTING

Q22. ASK IF CODE 5 AT Q23 Why were you not able to say whether our [electricity] [gas] transmission plan was acceptable or not?

OPEN-ENDED FOR INITIAL SURVEY TESTING

NEW SCREEN

Q23. Are there any changes you would like to see made to the investment priorities in our plan?

ONSCREEN DISPLAY:

DISPLAY INVESTMENT LINES FROM ELECTRICITY / GAS PLAN BREAKDOWN

ICON FOR EACH INVESTMENT LINE

ROLLOVER/POP-UP PROVIDING MORE TEXT INFORMATION ABOUT EACH INVESTMENT (INCL. GIF)

INDIVIDUAL BILL IMPACT SHOWN FOR EACH INVESTMENT LINE

SLIDER FOR RESPONSE OPTIONS

RESPONSE OPTIONS

- A KEEP PROPOSED LEVEL OF INVESTMENT
- B MORE INVESTMENT IN THIS AREA
- C LESS INVESTMENT IN THIS AREA
- D REMOVE INVESTMENT FROM THE PLAN

SINGLE CODE FOR EACH INVESTMENT LINE

- 1 [INSERT ET / GT AREA 1]
- 2 [INSERT ET / GT AREA 2]
- ...
- X [INSERT ET / GT AREA X]

NOTE: DEBRIEF QUESTIONS TO PROBE HOW ACCEPTABILITY CHANGES IF BILL IMPACT CHANGES

NEW SCREEN – ASSET HEALTH / NETWORK CAPACITY QUESTION(S)

In managing the [electricity] [gas] transmission network, we have to balance a number of factors, including how much we invest today to maintain our assets so that they continue to provide a reliable service in the future.

Q24. To what extent do you agree with the following statements concerning the [electricity] [gas] transmission network?

RESPONSE OPTIONS

- A STRONGLY AGREE
- B TEND TO AGREE
- C TEND TO DISAGREE
- D STRONGLY DISAGREE
- E DON'T KNOW

ROTATE

SINGLE CODE FOR STATEMENT – STATEMENTS ARE PLACEHOLDERS/TO BE REVIEWED

- 1 The network should be maintained to ensure there is a reliable service in the future
 - 2 Bills will be higher in the future if the network is not properly maintained and invested in today
 - 3 As long as a reliable service is maintained, it does not matter if the network infrastructure is getting older and becoming degraded
 - 4 It is important to make sure the network is kept in good health for future generations
 - 5 I would be happy to pay more today to reduce the chances of having a less reliable service in the future
 - 6 It is preferable to invest to prevent service failures from happening (even if the risk is very low) rather than having a plan to effectively deal with these failures if they do occur (i.e. reducing the impacts when they happen)
-

NEW SCREEN – AFFORDABILITY QUESTION(S)

Q25. If the cost that you pay for [electricity] [gas] transmission for the period 2021 – 2026 was to [change] [increase] by [DISPLAY CHANGE IN BILL] compared to what you currently pay, how easy or difficult would it be for you to pay your overall energy bill?

SINGLE CODE

- 1 I would not have any problems paying my future energy bill
- 2 I would rarely find it difficult to pay my future energy bill
- 3 I would sometimes find it difficult to pay my future energy bill
- 4 I would always find it difficult paying my future energy bill
- 5 Don't know
- 6 Prefer not to say

We also need to ensure that the investments we propose in our plan are affordable to all consumers who pay for them.

Q26. To what extent do you agree with the following statements concerning the affordability of investments in the [electricity] [gas] transmission network?

RESPONSE OPTIONS

- A STRONGLY AGREE
- B TEND TO AGREE
- C TEND TO DISAGREE
- D STRONGLY DISAGREE
- E DON'T KNOW

ROTATE

SINGLE CODE FOR EACH STATEMENT – STATEMENTS ARE PLACEHOLDERS/TO BE REVIEWED

- 1 Lower levels of investment in the network are acceptable if it ensures that bills are affordable to all consumers
- 2 The affordability of bills to current consumers is more important than the cost of future investment to maintain service
- 3 I would be willing to pay more on my current bill so that consumers who are less able to pay have lower and more affordable bills

Q27. Views on measures to help consumers who are struggling to pay?

NEW SCREEN – EXPERIENCE OF SERVICE DISRUPTIONS

Q28. When did you last experience a [power cut] [gas interruption] at your property?

SINGLE CODE

- 1 More than once within the last year
 - 2 Only once within the last year
 - 3 Within the last 1-2 years
 - 4 More than 2 years ago
 - 5 Never
 - 6 Can't remember
-

Q29. Do you use electricity or gas in your home for the following?

SINGLE CODE

A. Heating your home

- 1 Gas
- 2 Electric
- 3 Both
- 4 Neither
- 5 Don't know

SINGLE CODE

B. Cooking

- 1 Gas
 - 2 Electric
 - 3 Both
 - 4 Neither
 - 5 Don't know
-

SECTION E: RESPONDENT PROFILE

Please could you now answer some final questions about you and your household. This information will help check that we have surveyed a range of consumers.

Q30. Please can you provide the first part of your home postcode?

This information will be treated as confidential and will only be used for research purposes. It will not be used to identify you or your household.

RECORD FIRST PART OF POSTCODE – ONLY ALLOW 3/4 CHARACTERS TO BE CAPTURED

- 1 PART POSTCODE
- 2 Prefer not to say

Q31. Please can you confirm whether you live in an urban area or a rural area?

- 1 Urban area
- 2 Rural area
- 3 Prefer not to say

Q32. Which of the following categories best describes who lives in your household?

SINGLE CODE

- 1 Single working age adult
- 2 Single retired age adult
- 3 Two adults of working age
- 4 Two adults of retired age
- 5 More than two adults, no children (below 18 years old)
- 6 Single parent family with fewer than 3 children (below 18 years old)
- 7 Two parent family with fewer than 3 children (below 18 years old)
- 8 Family with 3 or more children (below 18 years old)
- 9 Other – PLEASE STATE
- 10 Prefer not to say

NEW SCREEN

Q33. Do you or a household member suffer from a long-term illness or disability?

MULTICODE (CAN ANSWER YES TO CODE 2 AND 3)

- | | | |
|---|------------------------|-----------|
| 1 | No | GO TO Q42 |
| 2 | Yes – me | ASK Q40 |
| 3 | Yes – household member | ASK Q41 |
| 4 | Prefer not to say | GO TO Q42 |

Q34. SHOW IF CODE 2 AT Q39 Does this illness/disability limit your daily activity?

SINGLE CODE

- | | |
|---|-----|
| 1 | No |
| 2 | Yes |

Q35. SHOW IF CODE 3 AT Q39 Does this illness/disability limit their daily activity?

SINGLE CODE

- | | |
|---|-----|
| 1 | No |
| 2 | Yes |

Q36. Is your household registered with your current energy supplier(s) the Priority Services Register?

The Priority Services Register (PSR) is a free service provided by energy suppliers, transmission, and distribution network operators for customers who either of pensionable age, disabled or chronically sick, have a long-term medical condition, have a hearing or visual impairment or additional communication needs, or are in a vulnerable situation.

SINGLE CODE

- | | |
|---|------------|
| 1 | Yes |
| 2 | No |
| 3 | Don't know |

[Add link to Priority Services Sign-up Register]

Q37. Which of the following best describes your current employment status?

SINGLE CODE

- 1 Self-employed
 - 2 Employed full-time (30 hours per week or more)
 - 3 Employed part-time (8 – 29 hours per week)
 - 4 Employed working less than 8 hours a week
 - 5 Student
 - 6 Unemployed – seeking work
 - 7 Unemployed – not seeking work/other
 - 8 Looking after the home/children full-time
 - 9 Retired
 - 10 Unable to work due to temporary sickness
 - 11 Unable to work due to long-term sickness or disability
 - 12 Other - RECORD
 - 13 Prefer not to say
-

Q38. At what level did you complete your education? If you are still studying, which level best describes the highest level of education you have obtained until now?

SINGLE CODE

- 1 O levels / CSEs / GCSEs (any grades)
 - 2 A levels / AS level / higher school certificate
 - 3 NVQ (Level 1 and 2). Foundation / Intermediate / Advanced GNVQ / HNC / HND
 - 4 Other qualifications (e.g. City and Guilds, RSA/OCR, BTEC/Edexcel)
 - 5 First degree (e.g. BA, BSc)
 - 6 Higher degree (e.g. MA, PhD, PGCE, post graduate certificates and diplomas)
 - 7 Professional qualifications (teacher, doctor, dentist, architect, engineer, lawyer, etc.)
 - 8 No qualifications
 - 9 Prefer not to say
-

Q39. Please can you indicate your total household income before tax and other deductions?

Please note this information will be used to check that we have surveyed a range of consumers. It will be not be possible to identify any particular individual or address in the results.

SINGLE CODE

	Per month	Per year
1	Up to £499	Up to £5,999
2	£500 - £1,083	£6,000 - £12,999
3	£1,084 - £1,583	£13,000 - £18,999
4	£1,584 - £2,166	£19,000 - £25,999
5	£2,167 - £2,666	£26,000 - £31,999
6	£2,667 - £3,999	£32,000 - £47,999
7	£4,000 - £5,333	£48,000 - £63,999
8	£5,334 - £7,999	£64,000 - £95,999
9	£8,000 and over	£96,000 and over
10	Don't know	
11	Prefer not to say	

Q40. Which the following best describes your ethnic group?

SINGLE CODE

- 1 White British
- 2 White Irish
- 3 Any other White background (please specify)
- 4 Mixed - White and Black Caribbean
- 5 Mixed - White and Black African
- 6 Mixed - White and Asian
- 7 Any other Mixed background (please specify)
- 8 Indian
- 9 Pakistani
- 10 Bangladeshi
- 11 Any other Asian background (please specify)
- 12 Black Caribbean
- 13 Black African
- 14 Any other Black background (please specify)
- 15 Chinese
- 16 Other (please specify)
- 17 Prefer not say

Q41. Finally, did you think this survey was (select all that apply):

MULTICODE

- 1 Interesting
 - 2 Easy
 - 3 Too long
 - 4 Difficult to understand
 - 5 Educational
 - 6 Unrealistic / not credible
 - 7 Other - RECORD
 - 8 None of these
-

SECTION E: SURVEY CLOSE

That's the end of the survey. Thank you for your time and help, it is very much appreciated.

TO ADD

LINK TO PRIORITY SERVICES SIGN-UP REGISTER

<https://www.ofgem.gov.uk/consumers/household-gas-and-electricity-guide/extra-help-energy-services/priority-services-register-people-need>

LINK TO FURTHER SUPPORT SOURCES

A2.2 Electricity transmission - Survey

National Grid Acceptability Testing – Electricity Transmission

Draft Survey – Cognitive Interviews

Version date: 25th July 2019

BEFORE SURVEY START: RANDOMLY ALLOCATE RESPONDENT TO GAS OR ELECTRICITY VERSION OF SURVEY

RECORD:

VERSION [GAS OR ELECTRICITY]

RESPONDENT ID

DATE OF INTERVIEW

START TIME

FINISH TIME

DURATION

INTRODUCTION

In this survey we would like to understand what matters to you. Your responses will help determine National Grid's priorities in the coming years.

National Grid is one of the companies involved in supplying energy to your home. Our role is to operate the transmission networks that take electricity and gas from the supply companies to your local distribution networks, which then supply the energy to your home. We will explain our role in more detail as you work through the survey.

The survey will last about **15 minutes**. All answers that you give will be treated in confidence in accordance with the Code of Conduct of the Market Research Society. The information we collect will be used for research purposes only and the data will be analysed at an aggregate level. It will not be possible to identify any particular individual or address in the results.

[\[Add link to NG privacy policy\]](#)

SECTION A: SCREENING & QUOTAS

NEW SCREEN - RESPONDENT SCREENING QUESTIONS

Q42. Is your home connected to mains electricity and gas?

Most homes in the UK are connected to the mains electricity network. Some properties may not be connected to the gas network. If you have gas heating or a gas cooker you are most likely to be connected to the gas network.

SINGLE CODE

- | | | |
|---|---|---------------|
| 1 | Yes – connected to both mains electricity and gas | CONTINUE |
| 2 | Connected to mains [electricity] but not [gas] | CONTINUE |
| 3 | Not connected to mains electricity | THANK & CLOSE |
| 4 | Don't know | THANK & CLOSE |

Q43. Are you solely or jointly responsible for paying your energy bills in your household?

SINGLE CODE

- | | | |
|---|---------------------|---------------|
| 1 | Solely responsible | CONTINUE |
| 2 | Jointly responsible | CONTINUE |
| 3 | Not responsible | THANK & CLOSE |
| 4 | Don't know | THANK & CLOSE |

Q44. Where do you live?

[SHOWCARD 1] DISPLAY NUTS 1 MAP OF GB WITH SELECTABLE REGIONS FOR RESPONDENTS

SINGLE CODE

- | | |
|----|----------------------------|
| 1 | North East |
| 2 | North West |
| 3 | Yorkshire and the Humber |
| 4 | East Midlands |
| 5 | West Midlands |
| 6 | East of England |
| 7 | Greater London |
| 8 | South East |
| 9 | South West East of England |
| 10 | Scotland |
| 11 | Wales |

NEW SCREEN - RESPONDENT QUOTA QUESTIONS

Q45. Please can you indicate your age

SINGLE CODE

- 1 18-24
- 2 25-34
- 3 35-44
- 4 45-54
- 5 55-64
- 6 65+

Q46. Please indicate your gender

SINGLE CODE

- 1 Male
- 2 Female
- 3 I prefer to identify another way
- 4 Prefer not to say

Q47. Are you the main income earner in your household?

SINGLE CODE

- 1 No **ASK Q7**
- 2 Yes **ASK Q7**
- 3 No income earners **AUTOCODE Q7 = 6 AND SKIP TO Q8**

Q48. SHOW IF CODE 1 OR 2 AT Q6 Main income earner's occupation (if main income earner is retired, select occupation before retirement). [FOR COGS: SHOWCARD 2]

SINGLE CODE

- 2 Higher managerial, administrative or professional A
- 2 Intermediate managerial, administrative or professional B
- 3 Supervisory or clerical and junior managerial, administrative or professional C1
- 4 Skilled manual worker C2
- 5 Semi or unskilled manual worker D
- 6 Casual worker, dependent on state pension only, or dependent on state welfare E

NEW SCREEN – CURRENT ENERGY BILL

Q49. IF Q1 CODE 1 How much is your current energy bill? This is the total amount you pay for electricity and gas.

OR

IF Q1 CODE 2 How much is your current electricity bill?

ENTER AMOUNT AS WHOLE £ EITHER PER YEAR OR PER MONTH

1 PER YEAR

2 PER MONTH

OR

3 DON'T KNOW

IF DON'T KNOW – ESTIMATE ANNUAL BILL

TO BE DEVELOPED – ANNUAL BILL ESTIMATION QUESTIONS

INCLUDE QUESTION TO CHECK IF RESPONDENT PAYS BILL DIRECTLY TO ENERGY COMPANY OR AS PART OF RENT; ALSO CHECK FOR SOCIAL TARIFF

Low user	Medium user	High user
1-2 occupants	3-4 occupants	5 or more occupants
Flat	House	House
House occupied evening and weekends	House occupied some of the day and evenings	House occupied all day and evenings
Use high energy appliances (e.g. dishwasher) once a week on average	Use high energy appliances 3x a week on average	Use high energy appliances daily
£800 per year	£1,200 per year	£1,700 per year

NEW SCREEN

Q50. IF Q1 CODE 1 How would you rate the value for money of your overall energy bill – i.e. the total amount you pay for electricity and gas?

OR

IF Q1 CODE 2 How would you rate the value for money of your current electricity bill?

SINGLE CODE

- 6 Very good value for money
 - 7 Good value for money
 - 8 Neither good nor poor value for money
 - 9 Poor value for money
 - 10 Very poor value for money
 - 6 Don't know
-

Q51. How easy or difficult do you find it to pay your household utility bills, including for energy?

SINGLE CODE

- | | | |
|---|---|-----------------------------|
| 5 | I do not have any problems in paying my household utility bills | SKIP TO Q12 |
| 6 | I rarely find it difficult to pay my household utility bills | SKIP TO Q12 |
| 7 | I sometimes find it difficult to pay my household utility bills | ASK Q11 |
| 8 | I always find it difficult paying my household utility bills | ASK Q11 |
| 5 | Prefer not to say | SKIP TO Q12 |
-

Q52. IF CODE 3 OR 4 AT Q10 Are you regularly in arrears with your household energy bills – i.e. behind with your payments?

SINGLE CODE

- 4 Yes
 - 5 No
 - 6 Prefer not to say
-

NEW SCREEN – ELECTRICITY TRANSMISSION

SECTION B: NATIONAL GRID AND THE SERVICES IT OFFERS - ELECTRICITY

National Grid runs and manages the electricity transmission network in England and Wales, and the gas transmission system in England, Scotland and Wales. This short video tells you a little more about what we do.

[VIDEO]

NEW SCREEN – SURVEY FOCUS

In this survey we would like you to consider our plans for the electricity transmission network. Please note that electricity generation and the local distribution and supply of electricity to your home are dealt with by other companies.

SHOWCARD 3: ELECTRICITY TRANSMISSION SYSTEM

Q53. I understand that this survey is only about National Grid's plans for the electricity transmission network.

RADIAL CONFIRMATION - SINGLE CODE

2 Yes

NOTE: DEBRIEF QUESTIONS TO PROBE WHETHER RESPONDENT UNDERSTAND THAT ONLY TRANSMISSION

NEW SCREEN – BILL EXPLANATION

The costs of running, maintaining and improving the electricity transmission network are included in the overall bill that you pay to your energy supplier(s). The cost is about 2% of the average household energy bill, which is about £25 per year for an overall bill of around £1,120 per year.

SHOWCARD 4: ENERGY BILL BREAKDOWN SHOWING ELECTRICITY TRANSMISSION COST

NEW SCREEN – BUSINESS PLAN INTRODUCTION

Every 5 years, we agree with Ofgem (the energy regulator) how much we can charge our customers and the performance targets that we need to meet. This in turn is one of the things that impacts how much you pay your energy supplier.

Our charges are based on the business plan we submit to Ofgem, which sets out the investment priorities for the electricity transmission network. We are currently preparing our business plan for the period 2021 to 2026, which needs to:

- Meet our legal and regulatory obligations around safety, reliability and protecting the environment
- Find ways to run the system more efficiently - to improve our operations and keep costs down now and in the future
- Make investments that support efforts to make the wider economy greener

We would like to understand your views on our plan, the proposed investments, and the cost to you and other household consumers of electricity.

The next part of the survey will tell you about the different parts of our plan. You will be asked to give your views on both the plan overall and the proposed investments.

SECTION C: ELECTRICITY TRANSMISSION BUSINESS PLAN

NEW SCREEN – PLAN SUMMARY

The investments we are proposing to make in the electricity transmission network are shown below. The overall cost of the investment plan for 2021 - 2026 is £7.4 billion. This cost is shared across all households in the country.

SHOWCARD 5: PLAN SUMMARY

The summary shows the cost to your household. A large part of the cost has already been determined due to previous investment in our network. We want to talk to you about parts of your bill that will change due to investments into the transmission network between 2021 - 2026.

The next few screens explain these investments.

NEW SCREEN – RELIABILITY OVERVIEW [1A]

Ensuring a safe and reliable network

Two-thirds of the investment we make is around inspecting, maintaining and replacing existing equipment. This ensures we provide a reliable service and meet all of our legal and regulatory obligations around safety and protecting the environment.

<<GIF>>

NEW SCREEN – RELIABILITY LINE-BY-LINE [1B]

Q54. Please indicate whether you agree that the proposed investment is needed and whether the bill impact is acceptable or not.

Rollover [here](#) for a reminder on this investment theme. SHOWCARD 6A: RELIABILITY REMINDER
Rollover the investment line for more information on each area.

Ensuring a safe and reliable system	+EX.XX
--	---------------

SLIDER RESPONSE FORMAT

RESPONSE OPTIONS

- A Agree with proposed investment AND impact on bills is acceptable
- B Agree with proposed investment BUT impact on bill is NOT acceptable
- C Do not agree that proposed investment is needed
- D Don't know

INVESTMENT LINES

- 1 Ensuring a safe and reliable system
-

ROTATE OVERVIEW SCREENS [2A] TO [4A] ACROSS RESPONDENTS

NEW SCREEN – EXTERNAL THREATS OVERVIEW [2A]

Protecting the network from external risks

We make investments to protect the transmission network against:

- Criminal activity, such as cyber-attacks, terrorism, theft and vandalism
- Extreme weather events, such as localised flooding.

<<GIF>>

NEW SCREEN – EXTERNAL THREATS LINE-BY-LINE [2B]

Q55. Please indicate whether you agree that the proposed investment is needed and whether the bill impact is acceptable or not.

Rollover [here](#) for a reminder on this investment theme. **SHOWCARD 6B: EXTERNAL THREATS REMINDER**
Rollover the investment line for more information on each area.

Protecting the network from external risks	+EX.XX
---	---------------

SLIDER RESPONSE FORMAT

RESPONSE OPTIONS

- A Agree with proposed investment AND impact on bills is acceptable
- B Agree with proposed investment BUT impact on bill is NOT acceptable
- C Do not agree that proposed investment is needed
- D Don't know

INVESTMENT LINES

- 1 Protecting the system from external risks
-

NEW SCREEN – THE FUTURE OVERVIEW [3A]

Planning the energy system of the future

We invest to ensure we can meet changing needs in the future:

- Making connections to new energy generation sites – power stations, windfarms and solar farms
- Supporting a shift to greener technologies, such as providing ultra-fast charging points for electric vehicles along the motorway network.

<<GIF>>

NEW SCREEN – THE FUTURE LINE-BY-LINE [3B]

Q56. Please indicate whether you agree that the proposed investment is needed and whether the bill impact is acceptable or not.

**Rollover here for a reminder on this investment theme. [SHOWCARD 6C: THE FUTURE REMINDER](#)
Rollover the investment line for more information on each area.**

Connecting new power generators	+£X.XX
Installing new infrastructure for fast charging of electric vehicles	+£X.XX
Additional required investments into the transmission network	+£X.XX

SLIDER RESPONSE FORMAT

RESPONSE OPTIONS

- A Agree with proposed investment AND impact on bills is acceptable
- B Agree with proposed investment BUT impact on bill is NOT acceptable
- C Do not agree that proposed investment is needed
- D Don't know

INVESTMENT LINES

- 1 Connecting new power generators
- 2 Installing new infrastructure for fast charging of electric vehicles
- 3 Additional required investments into the transmission network

NEW SCREEN – ENVIRONMENT AND COMMUNITIES OVERVIEW [4A]

Supporting communities and improving the local environment

We invest to support communities and continue to protect and help improve the local environment:

- Improving land around our sites to support local communities, provide valuable habitats and improve biodiversity.
- Reducing the visual impact of pylons in National Parks and Areas of Outstanding Natural Beauty.
- Reducing our own carbon impact.
- Providing education and support to communities – e.g. supporting local and youth employment in the energy network.

<<GIF>>

NEW SCREEN – ENVIRONMENT AND COMMUNITIES OVERVIEW [4B]

Q57. Please indicate whether you agree that the proposed investment is needed and whether the bill impact is acceptable or not.

Rollover [here](#) for a reminder on this investment theme. [SHOWCARD 6D: ENVIRONMENT AND COMMUNITIES REMINDER](#)

Rollover the investment line for more information on each area.

Reducing the carbon emissions from our activities	+£X.XX
Visual impact of existing equipment in designated areas	+£X.XX
Supporting local communities	+£X.XX

SLIDER RESPONSE FORMAT

RESPONSE OPTIONS

- A Agree with proposed investment AND impact on bills is acceptable
- B Agree with proposed investment BUT impact on bill is NOT acceptable
- C Do not agree that proposed investment is needed
- D Don't know

INVESTMENT LINES

- 1 Reducing the carbon emissions from our activities
- 2 Visual impact of existing equipment in designated areas
- 3 Supporting local communities

NEW SCREEN – ADDITIONAL CHANGES

Additional bill changes

Q58. Please indicate whether you agree that the proposed investment is needed and whether the bill impact is acceptable or not.

Rollover the investment line for more information on each area. **SHOWCARD 6E: INNOVATION; SHOWCARD 6F: EFFICIENCY**

Investing into innovation projects	-£X.XX
Efficiency savings	-£X.XX

SLIDER RESPONSE FORMAT

RESPONSE OPTIONS

- A Agree with proposed investment AND impact on bills is acceptable
- B Agree with proposed investment BUT impact on bill is NOT acceptable
- C Do not agree that proposed investment is needed
- D Don't know

INVESTMENT LINES

- 1 Innovation projects
- 1 Efficiency savings

NEW SCREEN – OVERALL ACCEPTABILITY

IF CURRENT ENERGY BILL STATED AT Q8 **Previously you said that your current overall energy bill is [DISPLAY AMOUNT]. The amount you currently pay for electricity transmission will be about [DISPLAY CURRENT TRANSMISSION AMOUNT].**

OR

IF CURRENT ENERGY BILL IS ESTIMATED AT Q8 **Your current overall energy bill is estimated to be around [DISPLAY AMOUNT]. The amount you currently pay for electricity transmission will be about [DISPLAY CURRENT TRANSMISSION AMOUNT].**

For the period 2021 – 2026, the amount that you will pay for electricity transmission will be [DISPLAY TOTAL AMOUNT]. This is an [increase/decrease] of [DISPLAY CHANGE IN BILL].

Q59. Overall, how acceptable is our proposed plan?

When answering this question please consider the following [rollover].

SHOWCARD 7 – THUMBNAIL THAT EXPANDS TO FULL SIZE WHEN ROLLED OVER

Rollover [here](#) for a reminder of our plan, the investments, and the cost of each to your household.

SHOWCARD 7 /ROLLOVER: PLAN RECAP

RESPONSE OPTIONS

- 1 Very acceptable
 - 2 Acceptable
 - 3 Unacceptable
 - 4 Completely unacceptable
 - 5 Don't know / can't say
-

SECTION D: FOLLOW-UP QUESTIONS

Q60. Based on what you pay for your [electricity] [gas] transmission [DISPLAY CURRENT TRANSMISSION AMOUNT BASED ON Q8 RESPONSE]. How would you rate the value for money of the [increase/decrease] of [DISPLAY CHANGE IN BILL] for [electricity] [gas] transmission to you and your household?

SINGLE CODE

- 1 Very good value for money
- 2 Good value for money
- 3 Neither good nor poor value for money
- 4 Poor value for money
- 5 Very poor value for money
- 6 Don't know

Q61. ASK IF CODE 1 OR 2 AT Q23 What are the reasons you said that our [electricity] [gas] transmission plan was acceptable?

OPEN-ENDED FOR INITIAL SURVEY TESTING

Q62. ASK IF CODE 3 OR 4 AT Q23 What are the reasons you said that our [electricity] [gas] transmission plan was not acceptable?

OPEN-ENDED FOR INITIAL SURVEY TESTING

Q63. ASK IF CODE 5 AT Q23 Why were you not able to say whether our [electricity] [gas] transmission plan was acceptable or not?

OPEN-ENDED FOR INITIAL SURVEY TESTING

NEW SCREEN

Q64. Are there any changes you would like to see made to the investment priorities in our plan?

ONSCREEN DISPLAY:

DISPLAY INVESTMENT LINES FROM ELECTRICITY / GAS PLAN BREAKDOWN

ICON FOR EACH INVESTMENT LINE

ROLLOVER/POP-UP PROVIDING MORE TEXT INFORMATION ABOUT EACH INVESTMENT (INCL. GIF)

INDIVIDUAL BILL IMPACT SHOWN FOR EACH INVESTMENT LINE

SLIDER FOR RESPONSE OPTIONS

RESPONSE OPTIONS

- A KEEP PROPOSED LEVEL OF INVESTMENT
- B MORE INVESTMENT IN THIS AREA
- C LESS INVESTMENT IN THIS AREA
- D REMOVE INVESTMENT FROM THE PLAN

SINGLE CODE FOR EACH INVESTMENT LINE

- 1 [INSERT ET / GT AREA 1]
- 2 [INSERT ET / GT AREA 2]
- ...
- X [INSERT ET / GT AREA X]

NOTE: DEBRIEF QUESTIONS TO PROBE HOW ACCEPTABILITY CHANGES IF BILL IMPACT CHANGES

NEW SCREEN – ASSET HEALTH / NETWORK CAPACITY QUESTION(S)

In managing the [electricity] [gas] transmission network, we have to balance a number of factors, including how much we invest today to maintain our assets so that they continue to provide a reliable service in the future.

Q65. To what extent do you agree with the following statements concerning the [electricity] [gas] transmission network?

RESPONSE OPTIONS

- A STRONGLY AGREE
- B TEND TO AGREE
- C TEND TO DISAGREE
- D STRONGLY DISAGREE
- E DON'T KNOW

ROTATE

SINGLE CODE FOR STATEMENT – STATEMENTS ARE PLACEHOLDERS/TO BE REVIEWED

- 1 The network should be maintained to ensure there is reliable service in the future
 - 2 Bills will be higher in the future if the network is not properly maintained and invested in today
 - 3 As long as a reliable service is maintained, it does not matter if the network infrastructure is getting older and becoming degraded
 - 4 It is important to make sure the network is kept in good health for future generations
 - 5 I would be happy to pay more today to reduce the chances of having a less reliable service in the future
 - 6 It is preferable to invest to prevent service failures from happening (even if the risk is very low) rather than having a plan to effectively deal with these failures if they do occur (i.e. reducing the impacts when they happen)
-

NEW SCREEN – AFFORDABILITY QUESTION(S)

Q66. If the cost that you pay for [electricity] [gas] transmission for the period 2021 – 2026 was to [change] [increase] by [DISPLAY CHANGE IN BILL] compared to what you currently pay, how easy or difficult would it be for you to pay your overall energy bill?

SINGLE CODE

- 1 I would not have any problems paying my future energy bill
- 2 I would rarely find it difficult to pay my future energy bill
- 3 I would sometimes find it difficult to pay my future energy bill
- 4 I would always find it difficult paying my future energy bill
- 5 Don't know
- 6 Prefer not to say

We also need to ensure that the investments we propose in our plan are affordable to all consumers who pay for them.

Q67. To what extent do you agree with the following statements concerning the affordability of investments in the [electricity] [gas] transmission network?

RESPONSE OPTIONS

- A STRONGLY AGREE
- B TEND TO AGREE
- C TEND TO DISAGREE
- D STRONGLY DISAGREE
- E DON'T KNOW

ROTATE

SINGLE CODE FOR EACH STATEMENT – STATEMENTS ARE PLACEHOLDERS/TO BE REVIEWED

- 1 Lower levels of investment in the network are acceptable if it ensures that bills are affordable to all consumers
- 2 The affordability of bills to current consumers is more important than the cost of future investment to maintain service
- 3 I would be willing to pay more on my current bill so that consumers who are less able to pay have lower and more affordable bills

Q68. Views on measures to help consumers who are struggling to pay?

NEW SCREEN – EXPERIENCE OF SERVICE DISRUPTIONS

Q69. When did you last experience a power cut at your property?

SINGLE CODE

- 1 More than once within the last year
 - 2 Only once within the last year
 - 3 Within the last 1-2 years
 - 4 More than 2 years ago
 - 5 Never
 - 6 Can't remember
-

Q70. Do you use electricity or gas in your home for the following?

SINGLE CODE

C. Heating your home

- 1 Gas
- 2 Electric
- 3 Both
- 4 Neither
- 5 Don't know

SINGLE CODE

D. Cooking

- 1 Gas
 - 2 Electric
 - 3 Both
 - 4 Neither
 - 5 Don't know
-

SECTION E: RESPONDENT PROFILE

Please could you now answer some final questions about you and your household. This information will help check that we have surveyed a range of consumers.

Q71. Please can you provide the first part of your home postcode?

This information will be treated as confidential and will only be used for research purposes. It will not be used to identify you or your household.

RECORD FIRST PART OF POSTCODE – ONLY ALLOW 3/4 CHARACTERS TO BE CAPTURED

- 1 PART POSTCODE
- 2 Prefer not to say

Q72. Please can you confirm whether you live in an urban area or a rural area?

- 1 Urban area (such as a town or city)
- 2 Rural area (such as a village, hamlet or smaller group of properties)
- 3 Prefer not to say

Q73. Which of the following categories best describes who lives in your household?

SINGLE CODE

- 1 Single working age adult
- 2 Single retired age adult
- 3 Two adults of working age
- 4 Two adults of retired age
- 5 More than two adults, no children (below 18 years old)
- 6 Single parent family with fewer than 3 children (below 18 years old)
- 7 Two parent family with fewer than 3 children (below 18 years old)
- 8 Family with 3 or more children (below 18 years old)
- 9 Other – PLEASE STATE
- 10 Prefer not to say

NEW SCREEN

Q74. Do you or a household member suffer from a long-term illness or disability?

MULTICODE (CAN ANSWER YES TO CODE 2 AND 3)

- | | | |
|---|------------------------|-----------|
| 1 | No | GO TO Q42 |
| 2 | Yes – me | ASK Q40 |
| 5 | Yes – household member | ASK Q41 |
| 6 | Prefer not to say | GO TO Q42 |

Q75. SHOW IF CODE 2 AT Q39 Does this illness/disability limit your daily activity?

SINGLE CODE

- | | |
|---|-----|
| 1 | No |
| 2 | Yes |

Q76. SHOW IF CODE 3 AT Q39 Does this illness/disability limit their daily activity?

SINGLE CODE

- | | |
|---|-----|
| 1 | No |
| 2 | Yes |

Q77. Is your household registered with your current energy supplier(s) the Priority Services Register?

The Priority Services Register (PSR) is a free service provided by energy suppliers, transmission, and distribution network operators for customers who either of pensionable age, disabled or chronically sick, have a long-term medical condition, have a hearing or visual impairment or additional communication needs, or are in a vulnerable situation.

SINGLE CODE

- | | |
|---|------------|
| 1 | Yes |
| 2 | No |
| 3 | Don't know |

[Add link to Priority Services Sign-up Register]

Q78. Which of the following best describes your current employment status?

SINGLE CODE

- 1 Self-employed
 - 2 Employed full-time (30 hours per week or more)
 - 3 Employed part-time (8 – 29 hours per week)
 - 4 Employed working less than 8 hours a week
 - 5 Student
 - 6 Unemployed – seeking work
 - 7 Unemployed – not seeking work/other
 - 8 Looking after the home/children full-time
 - 9 Retired
 - 10 Unable to work due to temporary sickness
 - 11 Unable to work due to long-term sickness or disability
 - 12 Other - [RECORD](#)
 - 13 Prefer not to say
-

Q79. At what level did you complete your education? If you are still studying, which level best describes the highest level of education you have obtained until now?

SINGLE CODE

- 1 O levels / CSEs / GCSEs (any grades)
 - 2 A levels / AS level / higher school certificate
 - 3 NVQ (Level 1 and 2). Foundation / Intermediate / Advanced GNVQ / HNC / HND
 - 4 Other qualifications (e.g. City and Guilds, RSA/OCR, BTEC/Edexcel)
 - 5 First degree (e.g. BA, BSc)
 - 6 Higher degree (e.g. MA, PhD, PGCE, post graduate certificates and diplomas)
 - 7 Professional qualifications (teacher, doctor, dentist, architect, engineer, lawyer, etc.)
 - 8 No qualifications
 - 9 Prefer not to say
-

Q80. Please can you indicate your total household income before tax and other deductions?

Please note this information will be used to check that we have surveyed a range of consumers. It will be not be possible to identify any particular individual or address in the results.

SINGLE CODE

	Per month	Per year
1	Up to £499	Up to £5,999
2	£500 - £1,083	£6,000 - £12,999
3	£1,084 - £1,583	£13,000 - £18,999
4	£1,584 - £2,166	£19,000 - £25,999
5	£2,167 - £2,666	£26,000 - £31,999
6	£2,667 - £3,999	£32,000 - £47,999
7	£4,000 - £5,333	£48,000 - £63,999
8	£5,334 - £7,999	£64,000 - £95,999
9	£8,000 and over	£96,000 and over
10	Don't know	
11	Prefer not to say	

Q81. Which the following best describes your ethnic group?

SINGLE CODE

- 1 White British
- 2 White Irish
- 3 Any other White background (please specify)
- 4 Mixed - White and Black Caribbean
- 5 Mixed - White and Black African
- 6 Mixed - White and Asian
- 7 Any other Mixed background (please specify)
- 8 Indian
- 9 Pakistani
- 10 Bangladeshi
- 11 Any other Asian background (please specify)
- 12 Black Caribbean
- 13 Black African
- 14 Any other Black background (please specify)
- 15 Chinese
- 16 Other (please specify)
- 17 Prefer not say

Q82. Finally, did you think this survey was (select all that apply):

MULTICODE

- 1 Interesting
 - 2 Easy
 - 3 Too long
 - 4 Difficult to understand
 - 5 Educational
 - 6 Unrealistic / not credible
 - 7 Other - RECORD
 - 8 None of these
-

SECTION E: SURVEY CLOSE

That's the end of the survey. Thank you for your time and help, it is very much appreciated.

TO ADD

LINK TO PRIORITY SERVICES SIGN-UP REGISTER

<https://www.ofgem.gov.uk/consumers/household-gas-and-electricity-guide/extra-help-energy-services/priority-services-register-people-need>

LINK TO FURTHER SUPPORT SOURCES

A2.3 Debriefing questions

National Grid Acceptability Testing

Debriefing Questions – Cognitive Interviews

Version: Gas Transmission

Version date: 25th July 2019



Notes for interviewer:

- Text to be read out is in bold
- Please ensure that all probes are discussed with respondents

INTRODUCTION

Thank you for completing the survey. I now want to ask you about the questions you have just answered and what you thought of them. There are no right or wrong answers. Your responses will be used to help us improve the survey.

A. GENERAL FEEDBACK

DQ1. First, please could you tell me what you were asked to do in the survey?

None/no answer

Don't know

DQ2. DO NOT ASK IF Q1 RESPONSE FULLY ADDRESSES THIS What part of the [gas] [electricity] system did the survey relate to?

PROBE:

- a. Generation/production, transmission, local distribution, and/or supply?
- b. IF ANSWER OVER THAN TRANSMISSION Mostly transmission or not? Why do you say that?
- c. Is this because you were considering what you pay overall for energy?

None/no answer

Don't know

DQ3. Overall, how easy or difficult did you find the survey? Why?

PROBE:

- a. If difficult, was it all of the survey, or just parts of it? Which parts?
- b. If easy, what made it easy to do?

None/no answer

Don't know

DQ4. ENERGY BILL [Q8-Q11] How easy or difficult was it to answer questions about your energy bill and the amount you current pay?

None/no answer

Don't know

B. [GAS] [ELECTRICITY] SYSTEM

DQ5. [SECTION B INTRO VIDEO & [GAS] [ELECTRICITY] SYSTEM SHOWCARD] How clear / unclear was the information in the video and showcard about the [gas] [electricity] system

PROBE:

- a. Were both video and showcard needed? Or just one? Which did you prefer?

None/no answer

Don't know

DQ6. [BILL OVERVIEW SHOWCARD] How would you explain to someone how the bill for the [gas] [electricity] transmission is set?

PROMPT: WE WANT TO MAKE THE SURVEY AS CLEAR AS POSSIBLE FOR PEOPLE, SO WE'D LIKE TO KNOW IF WE EXPLAINED THIS WELL ENOUGH

PROBE:

- a. Was there anything that was unclear / confusing?
- b. How could the explanation be improved?

None/no answer

Don't know

C.

DQ11. Which investment areas did you pay most attention to?

PROBE:

- a. Why? Because of the cost, the investment/outcome or something else?

None/no answer

Don't know

DQ12. Which investment areas did you pay least attention to?

PROBE:

- a. Why? Because of the cost, the investment/outcome or something else?

None/no answer

Don't know

F. OVERALL ACCEPTABILITY

DQ14. Thinking about all the information provided in the survey, do you think you were given enough information to answer the question about whether the business plan was acceptable or not?

PROBE:

- a. Was there too much to take in? Was it all relevant?
- b. What could be taken away / what needs to be added?

None/no answer

Don't know

DQ15. How did you decide on your answer? Please give a short description of your thought process.

PROBE:

- a. What was the main factor or set of factors that you considered? Why?
- b. Did you think only about the amount you pay for the transmission system, or did you think about your overall energy bill?
- c. Does thinking about the overall bill change your view?

DQ17. Did you compare the bill change to other household expenses when considering if the plan was acceptable?

PROBE:

- a. How do they compare to what you currently pay for your water bill?
- b. How do they compare to other expenses and which ones?
- c. Would it help if the bill amount per month was given?

None/no answer

Don't know

DQ18. When answering whether the plan was acceptable, did you have a (maximum) amount of money in mind that you would be willing to pay (for it still to be acceptable to you)?

PROBE:

- a. What was it?
- b. Does that take account of how your overall energy bill may change?
- c. Would that amount change depending on which investments were included in the plan? By how much?
- d. If it would change according to the investments, which investments?

None/no answer

Don't know

DQ19. Is there anything you would take out of the plan, or would want to see more investment going into?

DQ20. How do you feel about paying for investments now that are intended to make sure that the network is reliable in the future?

PROBE:

- a. How much should we pay for now? How much should we leave to pay in the future?

None/no answer

Don't know

DQ21. Would you say that the bill change was affordable?

PROBE:

- a. What do you think of when considering whether the bill change is affordable?
- b. What other factors do you consider when thinking about the affordability of household bills in general?

None/no answer

Don't know

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Acceptability Testing – National Grid Gas & Electricity Transmission

Final Report - Stage 2 Quantitative Research Report

National Grid

November 2019

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Executive summary

Introduction

As part of developing its plans for RIIO-T2, National Grid has undertaken a programme of consumer research to test the acceptability of the electricity transmission (ET) and gas transmission (GT) business plans. At the heart of this research is a quantitative survey that measured the acceptability of the business plans; supported by qualitative research to ensure National Grid has a rich and detailed understanding of its consumers' views on its proposals.

The research consists of three key stages:

- Stage 1** Qualitative research to understand general consumer views on the energy industry, energy bills and National Grid; and to support the design and development of the quantitative survey of Stage 2;
- Stage 2** Quantitative research to understand acceptability across a representative sample of consumers, including a pilot and main study; and
- Stage 3** Qualitative research to drill down into the acceptability findings of Stage 2, and to explore in depth the key issues around acceptability and affordability.

The report summarises the quantitative research with household consumers and business end-users.

Research scope

Overall, the three stages of the research have considered:

- How familiar household consumers are with National Grid and the structure of the energy sector, particularly the transmission component; and how well they see the energy industry working;
- What factors and motivations are taken into account by consumers when considering the acceptability of National Grid's plans, including the overall bill impact for transmission, the proposed investments and their individual bill impact, as well as wider considerations – such as the total amount paid for energy, and other household expenses; and
- How consumers view the affordability of proposals and whether they represent value for money, and what role National Grid should play (if any) in addressing affordability challenges.

Approach

The survey was developed and iteratively tested as part of the Stage 1 qualitative research, which featured a combination of four focus groups (90-minute sessions) with 31 respondents and one-to-one interviews with household and business consumers (45-minute sessions) with 14 respondents. The resulting survey material was pilot tested through a ‘soft’ launch (200 respondents total; 100 each ET and GT). The Stage 2 survey results have subsequently been tested and ‘validated’ in the Stage 3 qualitative research through six focus groups (120-minute sessions) with household consumers, with 48 household consumers covering both the ET and GT plans .

The survey questionnaire and material were developed as a single survey with household and business consumer variants featuring: (i) a common introductory section (including respondent screening); (ii) alternative main content in terms of the acceptability of the ET or GT business plan; and (iii) common follow-up and closing sections. Respondents were randomly allocated to and routed through either the ET or GT sections.

The main survey was implemented through a sampling approach aligned to National Grid’s operational areas for electricity transmission (England and Wales¹) and gas transmission (England, Scotland and Wales). Sampling quotas were specified based on ONS Census data for household consumers and ONS business activity data for business consumers. A total of 2,528 household consumers and 324 business consumers participated in the survey, via online (for household and business consumers) and in-person (for household only) interviews. The main survey implementation featured six sub-samples of consumers, based on splits between household consumers and business end-users; the electricity transmission Business Plan vs. the gas transmission Business Plan; and the online vs. in-person survey modes for household consumers².

In parallel - as part of National Grid’s engagement direct customers – a sample of ET and GT direct customers were also invited to take part in the survey.

¹ The sampling for the ET survey was focused on England and Wales. Although the ET bill is ‘socialised’ across England, Scotland and Wales, a number of direct investments featured in National Grid’s proposals are for England and Wales only, which determined the scope of the survey sampling. The ET proposals were though included in the qualitative testing which took part in Scotland, detailing the specific aspects of the Business Plan that would benefit Scottish consumers (e.g. reliability, resilience, future demand/supply). Views from Scottish consumers were consistent with those observed in England and Wales. Further details are provided in the Stage 3 Qualitative Research report.

² The six sub-samples included: (i) ET household (online); (ii) ET household (in-person); (iii) ET business (online); (iv) GT household (online); (v) GT household (in-person); and (vi) GT business (online).

Headline findings – electricity transmission

Overall Business Plan Acceptability

There is a high level of acceptability for the ET Business Plan:

- 87% of consumers (household and business combined) stated that the overall plan and bill impact was “acceptable”.
- For household consumers, the acceptability of the Business Plan was largely driven by the perceived affordability of the transmission bill. For business consumers, the main reason for the acceptability of the Business Plan was that it would upgrade the network to ensure it met the needs of the future energy system, followed by maintaining safety and reliability, and the affordability of the bill impact (17%).

The high levels of acceptability are subject to limited changes in overall energy bills:

- The ‘limit’ within which the Business Plan proposals were acceptable was around a 2.5% change in overall energy bill for household consumers. For a dual fuel consumer with an average bill (approximately £1,100 per year), this is approximately +£28 on the annual current bill.
- The ‘switching-point’ from “acceptable” to “unacceptable” for the electricity transmission component of the bill for household consumers was about +£11 on top of the current amount paid. For business consumers the equivalent threshold was +7 percentage points on top of the transmission bill amount.

The Business Plan proposal with a 4% increase in the transmission bill amount - corresponding to +£0.98 by 2026 on the current transmission bill amount for household consumers (approximately £25 per year) - is therefore within the constraints for both household and business consumers.

Overall, there was also limited variation in the levels of acceptability between different consumer segments, in terms of socio-economic and demographic characteristics:

- The greatest difference for household consumers was observed for the lowest income group (less than £6k per year), where there was a higher proportion of respondents who stated that National Grid’s proposals were not acceptable (15% vs. 9% for the overall sample).
- Lower levels of acceptability were also observed for households that reported difficulty paying utility bills or were behind with payments. Therefore, whilst most viewed National Grid’s proposals as affordable, a small number of consumers were concerned about overall pressures on household budgets – particularly if other components of the overall energy bill were also to increase.

Similarly, there is limited variation in the levels of acceptability between different business end-user segments, in terms of profile characteristics (company size, sector etc.) and consumption. The greatest difference was observed for the business respondents that were 'not reliant' on electricity, who tended to have a lower level of acceptability compared to the overall result. This finding, however, is based on a small number of responses for these businesses.

Acceptability of proposed investments

For the most part, consumers viewed the individual investments in the ET Business Plan as representing value for money:

- Typically, high levels of support (60% consumers) were stated for both the proposed investment and the associated bill impact. Moreover, very few outright rejected the investment proposals (typically less than 5%).
- A proportion of respondents (around 30%) did, though, challenge the bill impacts for the individual investments. For the most part, these respondents either had concerns over the affordability of bills (around 10%), or the value for money of the proposed investments (around 20%).
- Investments in safety and reliability were viewed as the top priority by both household and business consumers. This was followed by investments that are intended to meet the changing future needs for the electricity transmission network, although within this, there tended to be lower levels of outright support for investments to develop the (re)charging infrastructure for electric vehicles.
- Resilience investments tended to be mid-ranked, with lower priority in the survey responses placed on the specific environment and local community investments, and investment in innovation projects.

Given the overall levels of support for each investment, however, the priority ranking across the range of investment areas is of secondary relevance.

Headline findings – gas transmission

Overall Business Plan acceptability

There is a high level of acceptability for the GT Business Plan:

- Over 80% of business consumers and almost 90% of household consumers stated that the overall plan and bill impact was either “acceptable” or “very acceptable”.
- For household consumers, the acceptability of the Business Plan was largely driven by perceived affordability of the transmission bill. For business consumers the need to maintain current high levels of reliability was also an important factor alongside the affordability of National Grid’s proposals.

The high levels of acceptability are subject to limited changes in overall energy bills:

- The ‘limit’ within which the Business Plan proposals were acceptable was around a 2.1% change in overall energy bill for household consumers. For a dual fuel consumer with an average bill (approximately £1,100 per year), this is approximately +£25 on the annual current bill.
- The ‘switching-point’ from “acceptable” to “unacceptable” for the gas transmission component of the bill for household consumers was about +£11 on top of the current amount paid. For business consumers the equivalent threshold was +7 percentage points on top of the transmission bill amount.

The Business Plan proposal with a 6% increase in the transmission bill amount - corresponding to +£0.54 by 2026 on the current transmission bill amount for household consumers (approximately £9 per year) - is therefore within the constraints for both household and business consumers.

Overall, there was limited variation in the levels of acceptability between different consumer segments, in terms of socio-economic and demographic characteristics:

- The greatest difference for household consumers was observed for the lowest income group (less than £6k per year), although these respondents tended not to outright reject National Grid’s proposals, but rather were unsure if the plan was acceptable or not.
- Lower levels of acceptability were also observed for households that were potentially in vulnerable circumstances – based on indicators such as disability in the household, or self-reported measures such as difficulty paying utility bills. However, the differences from the overall sample results are not particularly great, and the overall level of acceptability was still above 80% of consumers.

Similarly, there was limited variation in the levels of acceptability between different business end-

user segments, in terms of profile characteristics (company size, sector etc.) and consumption. The greatest difference was observed for businesses that used an estimated 10,000kWh–15,000kWh of gas per year, which tended to have a lower level of acceptability compared to the overall result. This finding, however, is based on a small number of responses for these businesses.

Acceptability of proposed investments

For the most part, consumers viewed the individual investments in the GT Business Plan as representing value for money:

- Typically, high levels of support (around 60 - 70% consumers) were stated for both the proposed investment and the associated bill impact. Moreover, very few outright rejected the investment proposals (typically less than 5%).
- A proportion of respondents (around 20%) did, though, challenge the bill impacts for the individual investments. For the most part, these respondents either had concerns over the affordability of bills (around 7%), or the value for money of the proposed investments (around 13%).
- Investments in safety and reliability were viewed as the top priority by both household and business consumers. After this, investments into future energy system are seen as the next priority area (along with returning efficiency savings).
- Resilience investments tended to be mid-ranked, with lower priority in the survey responses placed on the specific environment and local community investments, and investment in National Grid role as a System's Operator.

Given the overall levels of support for each investment, however, the priority ranking across the range of investment areas is of secondary relevance.

Conclusions

All in all, the main findings from the research show that there is a high level of support for National Grid's proposals for the ET and GT Business Plans. In both cases, more than 8 in 10 household and business consumers expressed their support for the proposals. The high levels of acceptability are subject to some limits, particularly in terms of the scale of changes in overall energy bills. However, National Grid's current proposals are within these limits and also within the 'switching point' between an "acceptable" vs. "unacceptable" bill impact for the transmission component.

The research process is judged to be robust and the results appropriate for use in National Grid's continuing planning for RIIO-T2. The initial stage of the research featured an iterative test and re-test approach for the development of the explanatory material and investment descriptions that were presented to both survey respondents and participants in the qualitative research. The purpose was

to ensure that consumers were able to provide informed views on the acceptability of National Grid's proposals.

Feedback from consumers was very positive. Most found the survey easy to complete, and sizeable proportions of respondents also stated that the survey topic areas were interesting and educational. Overall, the feedback across each stage of the research indicated that there was a good level of engagement from consumers and that they gave valid and considered responses. Moreover, the survey samples were nationally representative in terms of key consumer characteristics (e.g. age, socio-economic group; or business size and sector) and geographic spread across England and Wales.

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1. Introduction

National Grid is undertaking a programme of consumer research to test the acceptability of the Electricity Transmission (ET) and Gas Transmission (GT) Business Plans for RIIO-T2. This report sets out the survey-based quantitative research approach and findings for the ET and GT Business Plans. It covers the iterative test-re-test development process of the survey questionnaires, the fieldwork processes and results. The report is one of five prepared for National Grid. The Stage 1 and 3 Research Reports outline equivalent findings for the qualitative research stages of the project. The ET and GT Summary Reports provide an overall summary of the main findings from all components of the acceptability testing for the respective Business Plans.

1.1 Project overview

National Grid owns, manages and maintains the electricity transmission network in England and Wales and the high-pressure gas transmission system in England, Wales and Scotland. These operations are regulated by Ofgem, which sets price controls under the RIIO (Revenue = Incentives + Innovation + Outputs) framework. National Grid is currently preparing its business plans for approval in RIIO-T2 – the next round of network price control – for the period 2021 to 2026. The plans will set investment priorities for the electricity transmission network and gas transmission system, as well as the performance targets National Grid needs to meet.

Draft business plans for ET and GT were submitted on 1st July 2019 followed by updated plans on 1st October 2019. The final business plans will be submitted on 1st December 2019. The process of developing the business plans has involved engagement with household consumers and business end-users through a range of consumer research. Engagement has also been undertaken separately with National Grid's direct customers, which includes electricity generators, gas producers and distribution networks.

The main aim of the acceptability testing was to establish the level of support for National Grid's electricity transmission and gas transmission Business Plans from household consumers and business end-users. The specific objectives of the research were to understand³:

- Whether the ET and GT Business Plan plans are acceptable at the proposed cost;
- If yes, at what cost would acceptability begin to diminish;
- If no, what would be an acceptable cost; and
- Whether consumers agree with the set of investments that make up the ET and GT Plans.

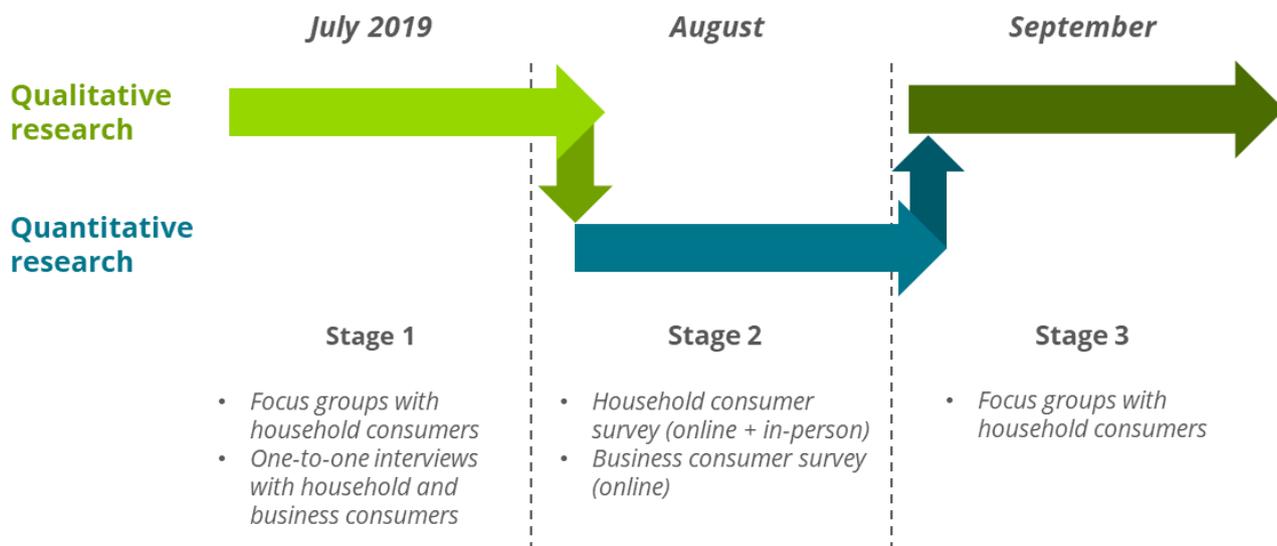
The basis for the acceptability testing was the initial draft Business Plans for ET and GT, submitted to Ofgem and National Grid's stakeholders in July 2019. The research was, though, updated during the period July – September 2019 to reflect the latest analysis by National Grid of the end-user bill impacts of the plans. As a result, the research results reflect the current best view of the acceptability of the proposed costs of the ET and GT plans.

³ See: National Grid acceptability testing scope document – National Grid Gas and Electricity Transmission (May 2019).

1.2 Research approach

The acceptability testing research was carried out between July and September 2019 in three principal stages (Figure 1.1). The findings from each stage of the research helped inform the design of the next stage, and the combination of qualitative and quantitative research ensures that National Grid has a well-rounded view of the level of consumer support for its proposals.

Figure 1.1: Outline of acceptability testing research process



The purpose of the quantitative research in Stage 2 was to test the acceptability of the ET and GT business plans through a nationally representative survey of household consumers and business end-users. Survey content was developed for the ET and GT business plans, with separate versions for household and business consumers. This was iteratively tested and updated as part of the Stage 1 qualitative research, which featured a combination of four focus groups (90-minute sessions) with 31 respondents and one-to-one interviews with household and business consumers (45-minute sessions) with 14 respondents⁴. The Stage 1 research explored consumers’ understanding of the research aims, clarity of language, the length of survey, motivations for responses and the survey presentation. The purpose of the testing was to ensure that the survey provided respondents with sufficient information on National Grid’s proposal in order for them to provide considered views on the acceptability of the entire plan and the individual investments. It also considered broader insight on household consumers’ views on the energy industry, energy bills and National Grid and helped identify the initial topics for the Stage 3 research. The main findings are summarised in the Stage 1 Qualitative Research Report.

Following the Stage 1 testing, the survey was piloted through a ‘soft’ launch with 200 respondents before its full implementation in Stage 2. A total of 2,528 household consumers and 324 business consumers participated in the survey, via a combination of online (for household and business consumers) and in-person (for household only) interviews. In parallel, a sample of ET and GT direct customers were also invited to take part in the survey. The purpose of this was to engage with direct customers on the contents of the respective Business Plan proposals, rather than provide representative results for the acceptability of the

⁴ Stage 1 household consumers were from a mix of socio-economic and demographic backgrounds; business consumer participants were representatives from micro and small-sized enterprises.

business plan proposals.

Results from the Stage 2 research – as summarised in this report - were subsequently tested and ‘validated’ in the Stage 3 qualitative research. This was implemented through six focus groups with household consumers (in 120-minute sessions), with 48 household consumers covering both the ET and GT plans⁵. The aim of the final stage of research was to explore in more depth the factors and motivations taken into account by consumers when considering the acceptability of National Grid’s plans, including the overall bill impact and wider considerations such as the total amount paid for energy, and other household expenses. It also considered consumers’ views on the affordability of National Grid’s proposals, whether they represent value for money, and what role National Grid should play (if any) in addressing affordability challenges. The main findings are summarised in the Stage 3 Qualitative Research Report.

1.3 Report structure

The remainder of this report is structured as follows:

- Section 2: Approach – sets out the design and development of the acceptability testing survey, including the presentation of the ET and GT Business Plans to household and business respondents, along with questionnaire structure and content.
- Section 3: Electricity transmission Business Plan acceptability testing results - including the sample profile, ‘headline’ acceptability testing results, and level of consumer support for the range of proposed investments.
- Section 4: Gas transmission Business plan acceptability testing results – presenting equivalent results for the gas transmission plan.
- Section 5: Conclusions – summarising the key findings from the quantitative research.

The main report content is accompanied by the following supporting annexes:

- Annex 1: household consumer survey questionnaire (ET and GT).
- Annex 2: business consumer survey questionnaire (ET and GT).
- Annex 3: onscreen appearance and layout of the household and business consumer surveys.
- Annex 4: summary statistics for the household consumer versions of the survey (2,528 respondents; online, in-person, ET and GT sub-samples).
- Annex 5: provides summary statistics for the business respondents versions of the survey (324 respondents; ET and GT sub-samples).
- Annex 6: presents technical details from the supporting analysis of the household consumer data.
- Annex 7: summarises the supporting analysis of household consumer support for individual investment proposals.

⁵ Stage 3 participants were from a mix of socio-economic and demographic backgrounds and included a number on pre-payment meters.

2. Approach

This section summarises the survey design and testing process, the structure of the survey and the key content, along with the sampling approach for the main survey implementation.

2.1 Survey design and testing

The initial content and material for the acceptability testing survey was developed through the Stage 1 qualitative research (6 focus groups and 14 1-to-1 cognitive interviews). This included the background information on the energy sector, the role of National Grid and the RIIO-T2 business planning process, as well as summaries of the ET and GT Business Plans and the proposed investments. Material was updated iteratively following each testing session. Table 2.1 summarises the key learnings from the qualitative testing stage.

Table 2.1: Summary of findings from qualitative testing process

Aspect of survey	Findings, results, outcomes for survey content and material
Understanding of research aims	Overall, respondents demonstrated good understanding of the purpose of the survey and what they were being asked to do. Most found the survey topics interesting and informative.
Clarity of language	Respondents were asked to provide feedback on the language and terminology used in the survey, to make sure it was informative, concise and easily digestible. This included removing jargon and asking respondents to provide better language.
Length of survey	Respondents considered a 15-20 minute survey the right length for the quantitative research, describing the length as 'fine' or 'about right'. Overall, the feedback was that the survey provided the right level of information needed to answer the questions comfortably within the time.
Motivations for responses	Feedback from respondents indicated that they were basing their responses on the information provided on the ET/GT plans, including the proposed investments and the bill impacts. Wider considerations were also being taken into account, such as the cost-efficiency of National Grid, plus returns to shareholders and directors. Overall, respondents indicated that the bill impact was acceptable as they were being informed on what their money would be spent and/or the overall bill impact was minimal. However, respondents indicated that there were several caveats to their acceptability – such as the level of services, the level of the transmission bill and the level of the overall energy bill.
Survey structure	Respondents were asked to provide feedback on the structure and level of detail in each part of the survey, to make sure that they had been given enough information to answer questions. Changes made included adding in an upfront summary of the Business Plan and optional information on the investments (in the form of showcards and rollovers).
Survey presentation	Constructive feedback was received on the survey appearance, layout and visual material. This was used to improve the survey content.

The survey structure and material were also reviewed by National Grid during the design and testing process. This included feedback on the descriptions of the proposed investments and investment areas in the ET and GT plans presented to respondents, as well as the supporting visual material (images and icons). The resulting survey material was pilot tested through a 'soft' launch (200 respondents total; 100 each ET and GT). A number of small updates were made based on the pilot responses, including: (i) adding further

respondent instructions for follow-up questions concerning the maximum acceptable bill change; (ii) minor amendments to the corresponding routing for these questions (to ensure more respondents would answer them); and (iii) the addition of a question asking whether the respondent was affected by the large-scale power outage that occurred across England and Wales on Friday 9th August, and - if so - how they were affected.

2.2 Survey structure and content

The structure of the acceptability testing survey is set out in Table 2.2. The questionnaire material was developed as a single survey with household and business consumer variants featuring: (i) a common introductory section (including respondent screening); (ii) alternative main content in terms of the acceptability of the ET or GT business plan; and (iii) common follow-up and closing sections. Respondents were randomly allocated to and routed through either the ET or GT sections⁶. Annexes 1 and 2 present the household and business consumer versions of the survey, respectively. The visual appearance of the survey (screenshots) are provided in Annex 3.

The key content in each section of the survey is further described below.

Section A: Screening and quotas

Screening/quotas

The purpose of the screening and quota questions were to: (a) ensure a nationally representative sample of respondents was captured; and (b) collect respondent profile information on characteristics that could be used to analyse the acceptability responses – including current overall energy bill, energy use, and views on overall energy bills (e.g. value for money and difficulties paying bills).

Screening for the household consumers included:

- Respondents had to be connected to electricity supply for the ET version and gas supply for the GT version; and
- Respondents had to be either solely or jointly responsible for paying their household energy bill.

For business consumers, the respondents needed to be responsible or jointly responsible for their organisations decision-making with respect to electricity and/or gas services.

⁶ The sample of ET and GT direct customers that were invited to participate in the survey were asked to complete the business version (Annex 2). As this was developed for business end-users, the version of the survey for direct customers was shortened by omitting the majority of the follow-up and respondent profile questions (Section F and G – Table 2.2).

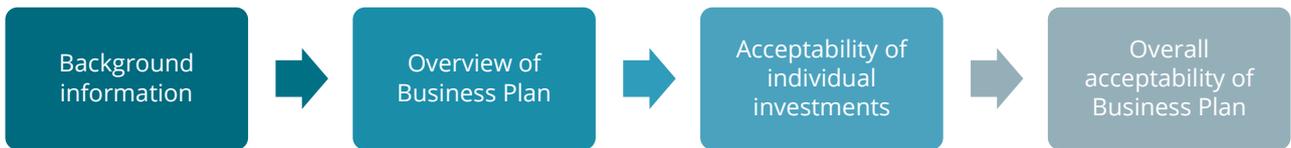
Table 2.2: Survey structure – household and business versions

Section	Version (ET / GT)	Survey content	
		Household consumers	Business consumers
Section A: Screening and quotas	Both	<ul style="list-style-type: none"> Respondent screening and quotas questions Gender, age, socio-economic group, region, use of energy and energy bill Financial support for energy bills, affordability and value for money of energy bills 	<ul style="list-style-type: none"> Sector, company size, use of fuel and energy bill Affordability and value for money of energy bills
Section B: National Grid and the services it offers – Electricity transmission	ET only	<ul style="list-style-type: none"> Explanation of National Grid's transmission role (particular focus on electricity transmission), composition of energy bills, and introduction to the business planning process for ET 	
Section C: Electricity transmission Business Plan	ET only	<ul style="list-style-type: none"> ET summary Business Plan, which presents changes from the current bill amount Investment areas and individual investments within the Business Plan, presented as the change in the bill Acceptability of each individual investment Acceptability of overall ET Business Plan 	
Section D: National Grid and the services it offers – Gas transmission	GT only	<ul style="list-style-type: none"> Explanation of National Grid's transmission role (particular focus on gas transmission), composition of energy bills, and introduction to the business planning process for GT 	
Section E: Gas transmission Business Plan	GT only	<ul style="list-style-type: none"> GT summary Business Plan, which presents changes from the current bill amount Investment areas and individual investments within Business Plan, presented as the change in the bill Acceptability of each individual investment Acceptability of overall GT Business Plan 	
Section F: Follow-up questions	Both	<ul style="list-style-type: none"> Reasons for acceptability 'Switching point' on transmission bill, limit for overall energy bill and priorities of investments Asset health/network capacity and wider affordability statements Experience of service disruptions Use of electricity and gas 	<ul style="list-style-type: none"> Reasons for acceptability 'Switching point' on transmission bill and priorities of investments Asset health/network capacity and wider affordability statements Experience of service disruptions Reliance on electricity and gas
Section G: Respondent profile	Both	<ul style="list-style-type: none"> Location, household size, employment, education, income Disability, Priority Services Register (PSR) Feedback on survey 	<ul style="list-style-type: none"> Location, number of sites, business activities, turnover Confidence in economic prospects Feedback on survey
Section H: Survey close	Both	<ul style="list-style-type: none"> Link to additional information on PSR Thank and close survey 	<ul style="list-style-type: none"> Thank and close survey

Section B-C (ET) / Section D-E (GT): National Grid and the services it offers

National Grid’s ET or GT Business Plan was presented to respondents via a sequence of showscreens, survey content, and accompanying acceptability questions as depicted in Figure 2.1.

Figure 2.1: Question flow/sequence for Business Plan acceptability questions



Background information

The qualitative testing indicated that consumers had limited knowledge on the role of National Grid within the energy industry. The purpose of this part of the survey was to: (a) inform respondents about the role of National Grid (Figure 2.2); and (b) explain the breakdown of energy bills and the current amount paid for the electricity transmission network/gas transmission system (Figure 2.3).

Figure 2.2: Contextual information on the energy industry

About National Grid (video screenshots)



Electricity transmission network showscreen

The electricity network

nationalgrid

What does National Grid do?

- We operate the **transmission network**.
- It **transports** electricity at high voltage from **generators** (power plants) to **distributors**.

Where does the electricity come from? Generation

- Most of the UK’s electricity (96%) is produced by power generators within the country, the rest is imported.
- The electricity is produced by generators from a mix of fossil fuels (such as natural gas and coal), nuclear and renewable energy (from wind, solar and bioenergy).

Where is the electricity used? Distribution and supply

- Large industrial users and local distribution systems are connected to the other end of the transmission network.
- The electricity that is used in homes and businesses is supplied from the local distribution system.

Electricity transmission in:

- Scotland
- England and Wales

Gas transmission network showscreen

The gas system

nationalgrid

What does National Grid do?

- We operate the **transmission network**.
- It **transports** gas at high pressure from **producers** (gas terminals) to **distributors**.

Where does the gas come from? Producers

- Almost half of the gas comes from UK production (e.g. natural gas stored under the North Sea). The rest is imported from Europe by under-sea pipes or via tanker ships.
- The transmission network connects gas terminals on the coast or at ports.

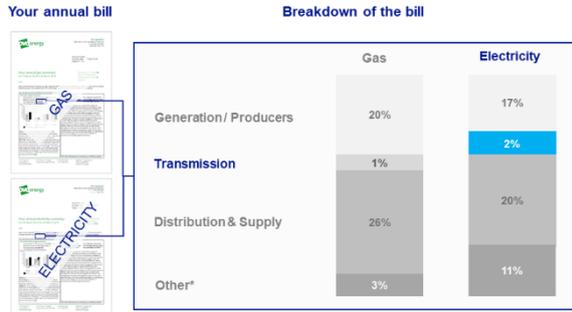
Where is the gas used? Distribution and supply

- Power stations, large industrial users and local distribution systems are connected to the other end of the transmission network.
- The gas that is used in homes and businesses is supplied from the local distribution system.

Figure 2.3: Explanation of energy bill

Energy bill breakdown - electricity transmission

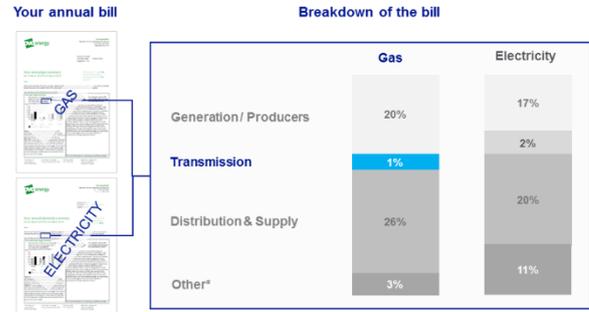
Most households have a dual fuel energy supply and pay their bill to an energy supply company. The average dual fuel bill for a household is about £1,120 per year - £540 for gas and £580 for electricity.



* 'Other' includes tax and costs of government programmes to save energy, reduce emissions and encourage take up of renewable energy. Bill information source: Ofgem (2019) bills and prices: <https://www.ofgem.gov.uk/publications-and-updates/infographic-bills-prices-and-profits>

Energy bill breakdown - gas transmission

Most households have a dual fuel energy supply and pay their bill to an energy supply company. The average dual fuel bill for a household is about £1,120 per year - £540 for gas and £580 for electricity.



* 'Other' includes tax and costs of government programmes to save energy, reduce emissions and encourage take up of renewable energy. Bill information source: Ofgem (2019) bills and prices: <https://www.ofgem.gov.uk/publications-and-updates/infographic-bills-prices-and-profits>

Summary of Business Plan

In both the ET and GT sections, respondents were presented with information on National Grid’s proposals in terms of investments in five areas:

- Maintaining safety and reliability;
- Ensuring resilience in the transmission network/system from external hazards (e.g. extreme weather, cyber security);
- Meeting future needs and demand, including reducing the carbon-intensity of UK energy use;
- Reducing environmental impacts and supporting local communities; and
- Additional bill impacts with ET and GT specific investments along with efficiency savings.

Table 2.3 presents how these investment areas and their individual investments were described to respondents in the ET section. The equivalent information for the GT plan is provided in Table 2.4. Alongside the details of the proposed investments, the overall bill impact and corresponding breakdown by investment area were presented as the change on top of the current amount paid for electricity/gas transmission by 2026. For household consumers, the bill impact was presented as a £ amount change in their annual electricity/gas transmission bill. For business consumers, the change was presented as a percentage (%) amount in their overall electricity/gas bill. The rationale for specify the change relative to the overall electricity/gas bill for business respondents was: (a) to accommodate the much greater variation in the bill amounts paid by businesses; and (b) it was easier for business respondents to evaluate changes to their overall electricity/gas bill, rather than to the transmission component, which is a relatively small amount in percentage terms (i.e. to avoid asking respondents to consider – for example - an approx. 25% change to 2% of their overall bill).

When initially presented, respondents were given an overall summary of the ET/GT plan, broken down by the five investment areas and the corresponding bill impact (Figure 2.4).

Table 2.2: Electricity transmission Business Plan – investment proposals

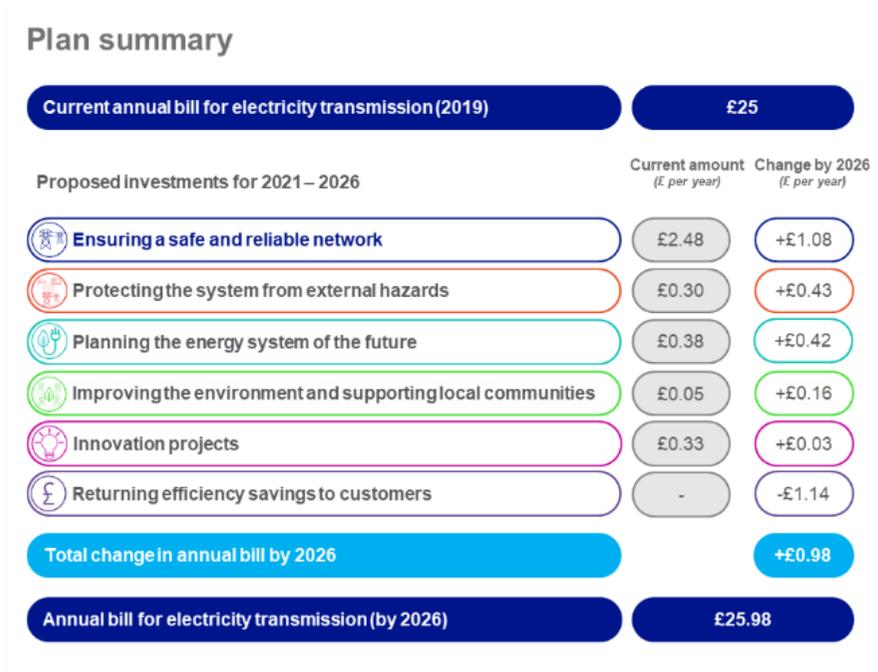
Investment area	Description	Individual investment(s)
Ensuring a safe and reliable network	Two-thirds of the investment we make is for inspecting, maintaining and replacing existing equipment. This ensures we provide a reliable service and meet all of our legal and regulatory obligations around safety and protecting the environment.	<ul style="list-style-type: none"> Maintaining condition of overhead lines, pylons, underground cables, and substations
Protecting the system from external hazards	<p>We make investments to protect the electricity transmission network against:</p> <ul style="list-style-type: none"> Criminal activity, such as cyber-attacks, terrorism, theft and vandalism Extreme weather events, such as localised flooding 	<ul style="list-style-type: none"> Protecting the network from external hazards
Planning the energy system of the future	<p>We invest to ensure we can meet the changing needs for the electricity transmission network in the future:</p> <ul style="list-style-type: none"> Making connections to new energy generation sites – power stations, windfarms and solar farms Helping the shift to greener technologies, such as supporting installation of ultra-fast charging points for electric vehicles along the motorway network 	<ul style="list-style-type: none"> Connecting new power generators Installing new infrastructure for fast charging of electric vehicles Investments needed to support future increases in supply/demand for electricity
Supporting communities and improving the local environment	<p>We invest to support communities and continue to protect and help improve the local environment:</p> <ul style="list-style-type: none"> Improve land around our sites to support local communities and provide habitats for plants and wildlife Reduce the visual impact of pylons in National Parks and Areas of Outstanding Natural Beauty Reduce carbon emissions from our operations and activities Provide education and support to communities – e.g. supporting local and youth employment in the energy network 	<ul style="list-style-type: none"> Reducing carbon emissions from our activities Reducing visual impact of existing equipment in protected areas Supporting local communities
Additional bill changes	-	<ul style="list-style-type: none"> Innovation projects Returning efficiency savings to customers

Table 2.3: Gas transmission Business Plan – investment proposals

Investment area	Description	Individual investment(s)
Ensuring a safe and reliable network	About half of the investment we make is for inspecting, maintaining and replacing existing equipment. This ensures we provide a reliable service and meet all of our legal and regulatory obligations around safety and protecting the environment.	<ul style="list-style-type: none"> • Maintaining compliance with safety standards and environmental regulation • Maintaining the condition of pipes and equipment • Managing the gas transmission system
Protecting the system from external hazards	We make investments to protect our pipelines and sites against: <ul style="list-style-type: none"> • Criminal activity, such as cyber-attacks, terrorism, theft and vandalism • Extreme weather events, such as localised flooding 	<ul style="list-style-type: none"> • Protecting the network from external hazards
Planning the energy system of the future	We invest to ensure we can meet the changing needs for the gas transmission system in the future: <ul style="list-style-type: none"> • Building new gas pipelines and equipment to connect new sources of gas production and new suppliers to our system • Helping the shift to a lower carbon energy system by trialling greener alternatives to natural gas, such as hydrogen or biogas 	<ul style="list-style-type: none"> • New pipelines and equipment for new connections to the transmission system • Working with other organisations to make the overall gas system greener • Innovation projects to trial greener alternatives to natural gas
Supporting communities and improving the local environment	We invest to support communities and continue to protect and help improve the environment: <ul style="list-style-type: none"> • Improve land around our sites to support local communities and provide valuable habitats for plants and wildlife • Reducing disruption to local communities and farmers from our pipelines • Reduce carbon emissions from gas transmission equipment • Providing education and support to communities – e.g. supporting local and youth employment in the energy network. 	<ul style="list-style-type: none"> • Improving local air quality around our sites • Reducing carbon emissions from our operations • Decommissioning sites and restoring land • Compensating landowners for impacts from our pipelines
Additional bill changes	-	<ul style="list-style-type: none"> • Providing information to allow the gas transmission system to run efficiently • Returning efficiency savings to customers

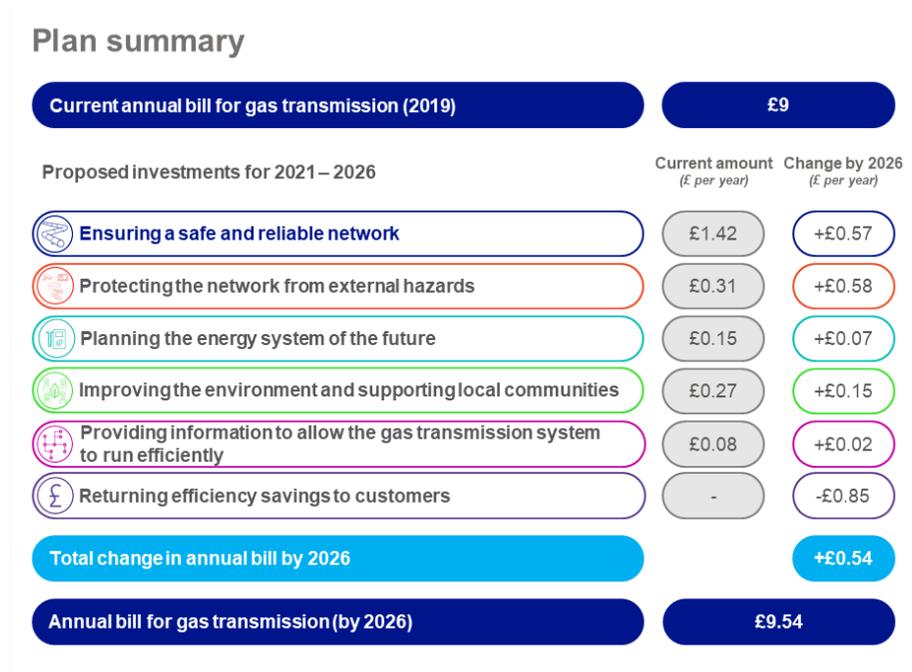
Figure 2.4: Business Plan summary

ET household



Initial high-level summary of the ET Business Plan – by main investment areas and corresponding bill impacts

GT household



Initial high-level summary of the GT Business Plan – by main investment areas and corresponding bill impacts

Acceptability of individual investments

The next sequence of screens took respondents through each investment area in the Business Plan. 'Maintaining safety and reliability' was always the first investment area shown to respondents – because of its overall prominence in the ET and GT Business Plan. The order of the other investment areas was rotated across respondents to mitigate possible ordering bias or fatigue effects.

The first screen shown for each investment area provided the overall description (as per Tables 2.2 and 2.3, respectively), including an animated gif that emphasised the main aspects of National Grid's proposals. The second screen then highlighted the individual investment proposals within the investment area, detailing the purpose and the associated bill impact (Figure 2.5). This screen also included a 'reminder' showcard on the investment area for respondents to refer to if they needed to recap any of the explanation (Figure 2.5). The final component of the explanatory material provided to respondents was a rollover with information on the individual investment – including a short description of the investment as well as the bill impact (including total bill impact in 2026).

Respondents were asked to state whether each individual investment proposal was acceptable. The response options were: (a) agree with the proposed investment and its specific bill impact; (b) agree with the proposed investment but not the bill impact; (c) do not agree with the proposed investment; or (d) don't know. The purpose of this approach was to obtain a more varied pattern of responses by giving respondents the opportunity to state their support for the investment itself but challenge the cost-efficiency in delivering it. Respondents that stated that they 'do not agree' with the investment were given the opportunity to explain why via an open-ended free text response box.

Figure 2.5: Example of onscreen explanatory material on investments

Investment area introduction (Screen 1 – each investment area)

20%

Ensuring a safe and reliable network

Two-thirds of the investment we make is for inspecting, maintaining and replacing existing equipment. This ensures we provide a reliable service and meet all of our legal and regulatory obligations around safety and protecting the environment.



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Individual investment (Screen 2 – each investment area)

22%

Please indicate whether you agree that the proposed investment is needed and whether the bill impact is acceptable or not.

[Click here for a reminder about this investment area](#)

[Click the text for each investment below for more information about what's included](#)

	Current amount (£ per year)	Change by 2026 (£ per year)
Maintaining condition of overhead lines, pylons, underground cables, and substations	£2.48	+£1.08

Agree with proposed investment AND impact on bills is acceptable | Agree with proposed investment BUT impact on bill is NOT acceptable | Do not agree that proposed investment is needed | Don't know

nationalgrid

Showcard on the individual investment

Ensuring a safe and reliable network

To make sure the transmission system is operating safely and in line with all regulations, our equipment is maintained in a healthy state and is replaced as it reaches the end of its life.

- Overall we manage the system to make sure the gas gets from where it arrives in the country to where it's eventually used.
- We check, repair and replace our gas pipelines and equipment. Our investments meet all legal requirements for health and safety, and the environment.
- Ultimately this protects against significant health and safety risks, and interruptions to gas supplies that can affect thousands of homes and business. Gas interruptions may still occur, but this will most likely be due to local distribution problems and not the transmission network that we operate.



Rollovers on individual investments

Maintaining compliance with safety standards and environmental regulation

- Investments that are required to maintain zero harm on our sites and make sure we meet all environmental and climate change regulations.

Current amount (2019)	£0.13
Change by 2026	No change
Total amount (2026)	£0.13

Maintaining the condition of pipes and equipment

- Investment to replace and refurbish the ageing equipment on the network.
- This means we will continue to keep the network safe and maintain the current level of reliability, meaning that the chance of a gas interruption affecting lots of people is very low.

Current amount (2019)	1.06
Change by 2026	+£0.47
Total amount (2026)	£1.53

Managing the gas transmission system

- Investments that will make sure we can get gas on to the network, move it across the whole network, and make it available when it's needed.
- This is needed due to the changes in the use of natural gas across the country in the coming years.

Current amount (2019)	£0.23
Change by 2026	+£0.10
Total amount (2026)	£0.33

Overall acceptability of the Business Plan

Once respondents had viewed all of the investment areas and individual investments, they were then asked to state whether the plan overall was acceptable to them. The response options were: (a) very acceptable; (b) acceptable; (c) unacceptable; (d) completely unacceptable; or (e) don't know/can't say.

The overall acceptability question was supported by the following explanatory material:

- Short reminder text about the overall bill impact – in terms of bill impact on the relevant transmission bill - referring back to the respondent's previous response on their energy bill (Figure 2.6);
- A showcard that asked respondents to take into account their overall household budget and informed them that bill amounts were presented in current price terms ('today's prices') (Figure 2.7)⁷; and
- A recap showcard for the investment proposals in the ET/GT Business Plan (Figure 2.8). In contrast with the initial summary (Figure 2.4), this included all of the individual investments that were shown to respondents in the preceding screens.

Section F: Follow-up questions

After providing their view on the acceptability of National Grid's ET/GT Business Plan proposals, respondents were asked a series of follow-up questions about the reasons for their answers. First, respondents were asked whether they considered the Business Plan proposals and bill impact value for money. Depending on their response to the overall acceptability question, they were then asked why they indicated that the bill was acceptable ("very acceptable" or "acceptable"), unacceptable ("unacceptable" or "completely unacceptable") or "don't know/can't say". Respondents were asked to give the main reason and any secondary ('other') reasons. Response options were pre-coded based on lists developed through the Stage 1 testing, along with an open-ended free text option for respondents to provide any other reasons that were not listed.

⁷ This was illustrated in the showcard using a worked example of the effect of inflation on the relevant energy transmission bill.

Figure 2.6: Example of onscreen layout of acceptability question

47%

Your current overall energy bill is estimated to be around £1,200 per year. The amount you currently pay for electricity transmission will be about £25 per year.

For the period 2021 – 2026, the amount that you will pay for electricity transmission will be £25.98 per year. This is an increase of £0.98 per year.

Overall, how acceptable is our proposed plan for electricity transmission?

[Click here](#) for a reminder of our plan, the investments, and the cost of each to your household.

When answering this question please consider the following (click to expand):

- Very acceptable
- Acceptable
- Unacceptable
- Completely unacceptable
- Don't know / can't say

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Figure 2.7: Example of showcard bill reminder

IMPORTANT NOTE

The bill amount and bill change we are showing is for the cost you pay for the **electricity transmission system only**. It does not include any other part of your overall energy bill.

When answering this question, please keep in mind that:

- The overall amount you pay for energy may also change due to changes in generation, local distribution and supply costs.
- Other household bills may go up or down affecting the amount of money you have to spend in general.
- The bill change is shown in “today’s prices”. This means it **does not** include the effect of inflation, which is the general rise in prices over time. For example, if inflation continues at the current rate of around 2%, a bill of about **£26** per year (in 2019 prices) for **electricity transmission** will be about **£30** per year in 2026 prices.
- Inflation will also affect your household income (e.g. wages, benefits, state pension) and all other items of household expenditure (e.g. shopping bills, other utility bills, fuel and travel costs, etc.).

Figure 2.8: Overall Business Plan

ET household

Electricity transmission bill impact

Current annual bill for electricity transmission (2019)		£25	
Proposed investments for 2021 – 2026			
	Current amount (£ per year)	Change by 2026 (£ per year)	
Maintaining condition of overhead lines, pylons, underground cables, and substations	£2.48	+£1.08	
Protecting the network from external hazards	£0.30	+£0.43	
Connecting new power generators	£0.24	+£0.04	
Installing new infrastructure for fast charging of electric vehicles	-	+£0.33	
Investments needed to support future increases in supply/demand for electricity	£0.14	+£0.05	
Reducing carbon emissions from our activities	£0.01	+£0.07	
Reducing visual impact of existing equipment in protected areas	£0.04	+£0.03	
Supporting local communities	-	+£0.06	
Innovation projects	£0.33	+£0.03	
Returning efficiency savings to customers	-	-£1.14	
Total change in annual bill by 2026		+£0.98	
Annual bill for electricity transmission (by 2026)		£25.98	

Overall ET Business Plan – by investment lines and corresponding bill impacts

GT household

Gas transmission bill impact

Current annual bill for gas transmission (2019)		£9	
Proposed investments for 2021 – 2026			
	Current amount (£ per year)	Change by 2026 (£ per year)	
Maintaining compliance with safety standards and environmental regulation	£0.13	No change	
Maintaining the condition of pipes and equipment	£1.06	+£0.47	
Managing the gas transmission system	£0.23	+£0.10	
Protecting the network from external hazards	£0.31	+£0.58	
New pipelines and equipment for new connections to the transmission system	£0.02	No change	
Working with other organisations to make the overall gas system greener	£0.08	+£0.06	
Innovation projects to trial greener alternatives to natural gas	£0.05	+£0.01	
Improving local air quality around our sites	£0.20	+£0.07	
Reducing carbon emissions from our operations	£0.01	+£0.01	
Decommissioning sites and restoring land	£0.01	+£0.07	
Compensating landowners for impacts from our pipelines	£0.05	No change	
Providing information to allow the gas transmission system to run efficiently	£0.08	+£0.02	
Returning efficiency savings to customers	-	-£0.85	
Total change in annual bill by 2026		+£0.54	
Annual bill for gas transmission (by 2026)		£9.54	

Overall GT Business Plan – by investment lines and corresponding bill impacts

The next set of questions explored the conditions under which the Business Plans and bill impact were acceptable to respondents. This followed from the Stage 1 qualitative research findings that the acceptability of the ET and GT plans was subject to certain 'caveats' (see Table 2.1):

- 'Switching point' for acceptable/unacceptable bill impact: respondents were asked to state the maximum change in the ET/GT transmission bill that would be acceptable to them (for the Business Plan as currently proposed); and
- Change in overall energy bill within which National Grid's proposals are acceptable: respondents who stated that the overall business plan was acceptable were asked to state the limit within which the bill impact was acceptable, if other parts of the overall energy bill were also to change⁸.

Further questions in the follow-up section capture a range of responses to help understand respondents' preferences, including priority ranking the investments areas in the ET/GT plan and any changes they would like to see made to the ET/GT plan. Respondents were also a series of attitudinal questions concerning asset health/network capacity and affordability.

Section G: Respondent profile

The concluding set of questions collected respondent profile information (e.g. socio-economic characteristics for household respondents) in order provide additional criteria to analyse and segment the survey results e.g. for validity testing). For household respondents, this included whether any members of their household had a long-term illness or disability, or if they were on the Priority Service Register (PSR).

2.3 Sampling approach

The objective of the Stage 2 quantitative research was to provide nationally representative results for the acceptability of the ET and GT plans. The sampling populations were aligned to National Grid's operational areas for electricity transmission (England and Wales) and gas transmission (England, Scotland and Wales)⁹. Sampling quotas were specified based on ONS Census data for household consumers and ONS business activity data for business consumers.

A further factor taken into account in the sampling approach was the use of alternative survey modes for household consumers. To control for potential biases (e.g. survey mode) a combination of in-person and online interviews, allowing for comparisons of results by mode in order to test for differences in responses.

Sub-samples

Overall the acceptability testing survey features six sub-samples of consumers, based on splits between household consumers and business end-users; the electricity transmission Business Plan vs. the gas transmission Business Plan; and the online vs. in-person survey modes for household consumers. Table 2.5 summarises the breakdown by specific sub-samples along with the targeted (minimum) number of

⁸ Note this question was only asked to household respondents. In the survey business consumers were only asked to provide their current electricity/gas bill, not their overall energy bill.

⁹ The survey sampling was focused on England and Wales. Although the electricity transmission bill is 'socialised' across England, Scotland and Wales, a number of direct investments featured in National Grid's proposals are for England and Wales only, which determined the scope of the survey sampling. The ET proposals were though included in the qualitative testing which took part in Scotland, detailing the specific aspects of the Business Plan that would benefit Scottish consumers (e.g. reliability, resilience, future demand/supply). Views from Scottish consumers were consistent with those observed in England and Wales. Further details are provided in the Stage 3 Qualitative Research report.

respondents by survey mode (online and in-person). In line with the profile of electricity and gas end-users, the majority of the sampling was allocated to the household samples.

Table 2.5: Target sample sizes by survey mode (no. respondents)

Survey mode	Electricity Transmission (ET)	Gas Transmission (GT)	Total
Household (online)	1,000	1,000	2,000
Household (in-person)	200	200	400
Business (online)	150	150	300
Total	1,350	1,350	2,700

As detailed in Section 1.1, a sample of ET and GT direct customers were also invited to complete the respective business versions of the survey. The purpose of this was to engage with National Grid's (direct) ET and GT customers, rather than provide representative results for this segment. Therefore, the following sections reference the direct customer results – as relevant - but these are not pooled with the business end-user results.

Household survey sampling

Sampling quotas for household respondents were specified based on a set of criteria that were discussed with National Grid: (i) socio-economic group (SEG); (ii) gender; and (iii) age. The quota targets (Table 2.6) were specified based on ONS Census data for England and Wales for ET and England, Wales and Scotland for GT. To achieve the targeted quotas, the in-home interviews intentionally oversampled for consumer groups that can be difficult to target through the online survey (SEG DE, 65+ and 18-24). This was to also increase sampling of other categorisations of 'hard-to-reach' consumers, such as disability in the household, lower income, and difficulty paying bills.

Table 2.6: Sampling quotas for household consumers

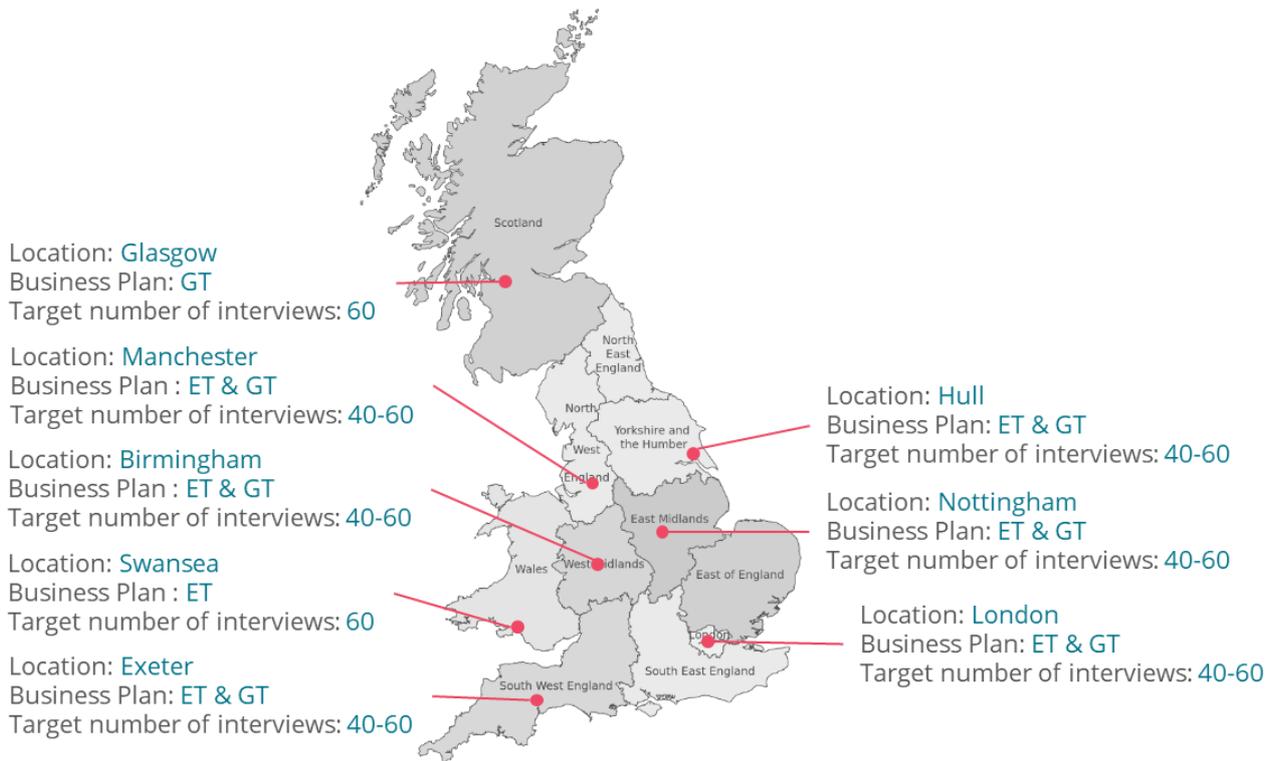
Socio-economic group	ET		GT	
	Online [*]	In-person	Online ^{**}	In-person
SEG AB	22%	20%	22%	20%
SEG C1C2	52%	45%	52%	45%
SEG DE	26%	35%	26%	35%
Total	100%	100%	100%	100%
Gender	Online [†]	In-person	Online ^{††}	In-person
Female	51%	51%	51%	51%
Male	49%	49%	49%	49%
Total	100%	100%	100%	100%
Age	Online [†]	In-person	Online ^{††}	In-person
18-24	11%	15%	11%	15%
25-34	17%	14%	17%	14%
35-44	16%	13%	16%	13%
45-54	18%	15%	18%	15%
55-64	15%	13%	15%	13%
65+	23%	30%	23%	30%
Total	100%	100%	100%	100%

Source: ^{*} England and Wales - 2011 Census data; ^{**} Great Britain - 2011 Census data; [†] England and Wales - mid-2018 data; ^{††} Great Britain - mid-2018 data.

The household survey modes were implemented as follows:

- Online: respondents were recruited from an online panel provider. The survey was completed by the respondent immediately following recruitment, with all questions and show materials presented onscreen.
- In-person: the survey was completed in-home using a tablet with an interviewer present. Respondents were recruited in pre-specified locations as set out in Figure 2.9.

Figure 2.9: Household respondents - in-person survey locations



Business survey sampling

For business end-user samples, the quota criteria were: (i) organisation size; and (ii) sector (primary, secondary, tertiary). The quota targets (Table 2.7) were specified based on ONS Business Activity data for England and Wales for ET and England, Wales and Scotland for GT – with rounding to the nearest percentage point. There were no differences in the quota targets for the ET and GT sub-samples. Respondents were recruited from an online panel provider. The survey was completed by the respondent immediately following recruitment, with all questions and show materials presented on screen.

Table 2.7: Sampling quotas for business consumers

Sector	Online
Primary industry, such as agriculture and mining	5%
Secondary industry, such as manufacturing and construction	18%
Tertiary industry, such as retail and services	77%
Total	100%
Organisation size	Online
0-9	90%
10-49	8%
50-249	1%
250+	1%
Total	100%

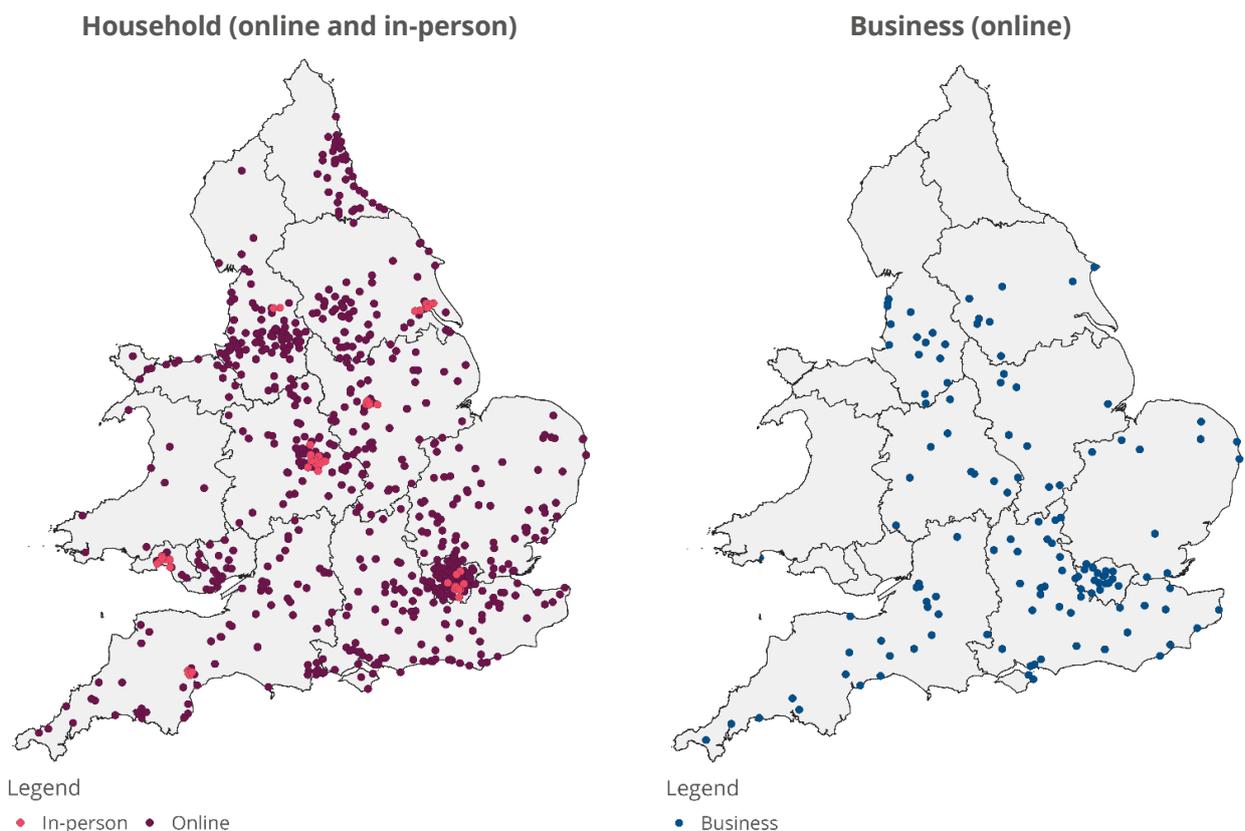
3. Electricity transmission results

This section presents the results of the household and business samples for ET Business Plan. It includes the sample profile and representativeness, acceptability of the overall business plan, and acceptability of individual investment. Full summary statistics are provided in Annex 3.1 (household) and Annex 4.1 (business).

3.1 Sample profile

A total of 1,419 consumers participated in the research for the ET Business Plan, with 1,258 in the household (pooled) sample and 161 in the business sample. The household versions of the survey were administered to nationally representative samples of consumers through a combination of online (1,056 responses) and in-person interviews (202 responses). The business consumer version was administered via the online format only. Average survey completion times were 18 minutes for the household survey and 15 minutes for business survey. Figure 3.1 shows the geographic distribution of respondents by survey mode and sub-sample.

Figure 3.1: Distribution of survey respondents – ET Business Plan



Note: The map shows locations for respondents that provided postcode information (outcode only).

In addition, five ET direct customers completed the ET version of the survey. These responses are excluded from the main set of results reported for business end-users, but the acceptability responses are noted in Section 3.2.

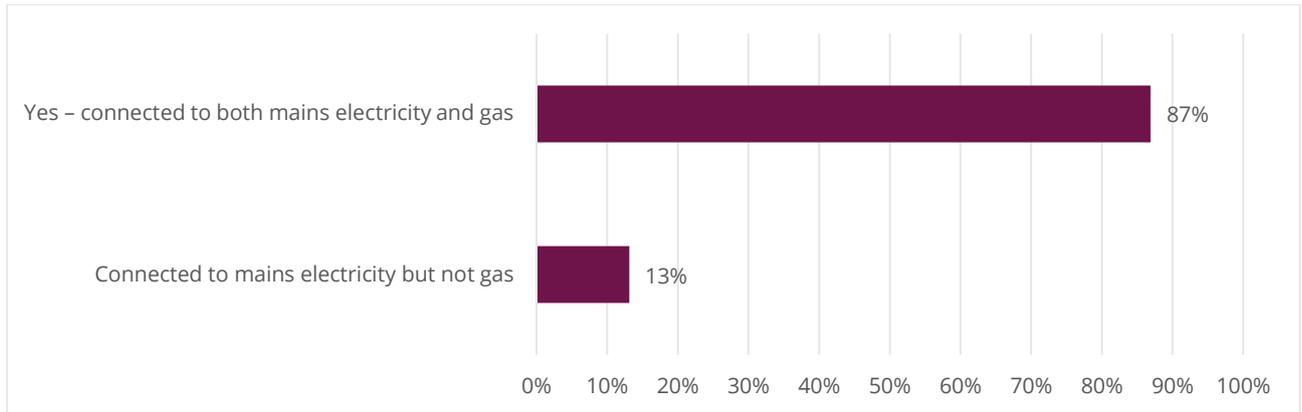
3.1.1 Household consumers

The household survey collected information on the socio-economic and demographic characteristics of household respondents.

Respondent screening and location

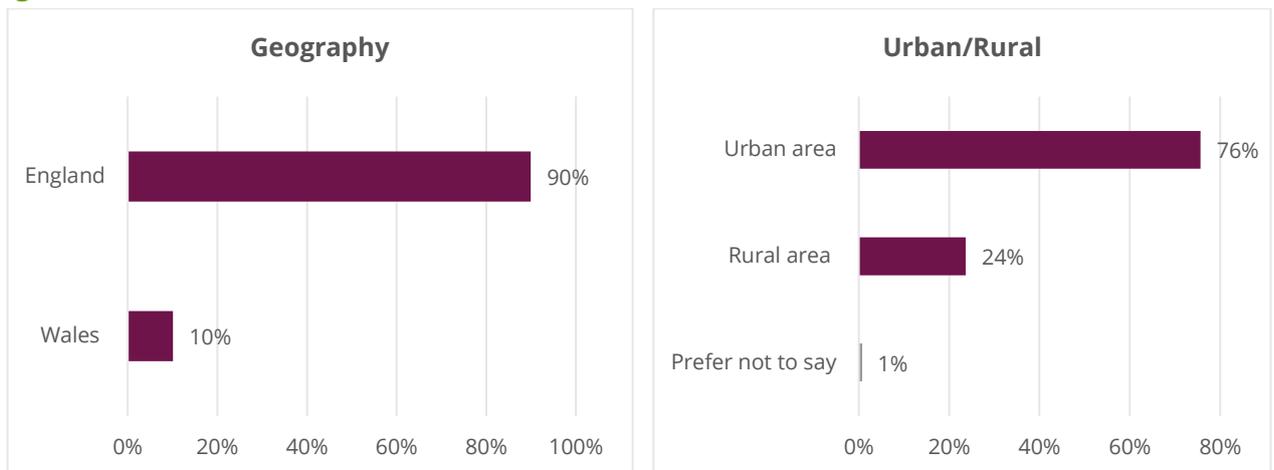
Figure 3.2 shows that the majority (87%) of respondents were connected to both mains electricity and gas, while the remainder were connected to mains electricity only.

Figure 3.2: Connection to mains electricity and gas (n=1,258)



The breakdown of the sample in terms of location is provided in Figure 3.3. The majority of respondents were from England (90%) with the remaining 10% from Wales. The majority of respondents stated that they lived in an urban area (76%) and the rest a rural area (24%). Both sets of result are broadly in line with the household profile for England and Wales.

Figure 3.3: Location (n=1,258)



Sample representativeness

The representativeness of the household (pooled) sample was assessed in relation to the sampling criteria specified in Section 2.3. The breakdown of the sample by age is shown in Table 3.1. Overall, the survey sample compares well with the national statistics and most age cohorts are within +/- 2 percentage points difference of the national profile – except 18-24, which is within 4 percentage points of the target quota.

Table 3.1: Age (n=1,258)

		n	%
18 - 24		85	7%
	Quota		11%
25 - 34		238	19%
	Quota		17%
35 - 44		216	17%
	Quota		16%
45 - 54		247	20%
	Quota		18%
55 - 64		206	16%
	Quota		15%
65+		266	21%
	Quota		23%
Total		1258	

The proportion of male/female respondents is also consistent with the target quotas, with representation of the segment within +/- 1 percentage point of difference (Table 3.2).

Table 3.2: Gender (n=1,255)

		n	%
Female		650	52%
	Quota		51%
Male		605	48%
	Quota		49%
Total		1255	

Note: Two respondents indicated “I prefer to identify another way” and one respondent said “Prefer not to say”.

Turning to respondent socio-economic group (SEG), segment DE is within 2 percentage points of target quotas. The sample shows oversampling of the segment AB, and correspondingly, segment C1C2 is under-sampled¹⁰.

¹⁰ Note that sampling weight were tested in the analysis but these did not alter the Business Plan acceptability results, hence the imbalance in the sample with regards to SEG does not have a material impact.

Table 3.3: SEG (n=1,258)

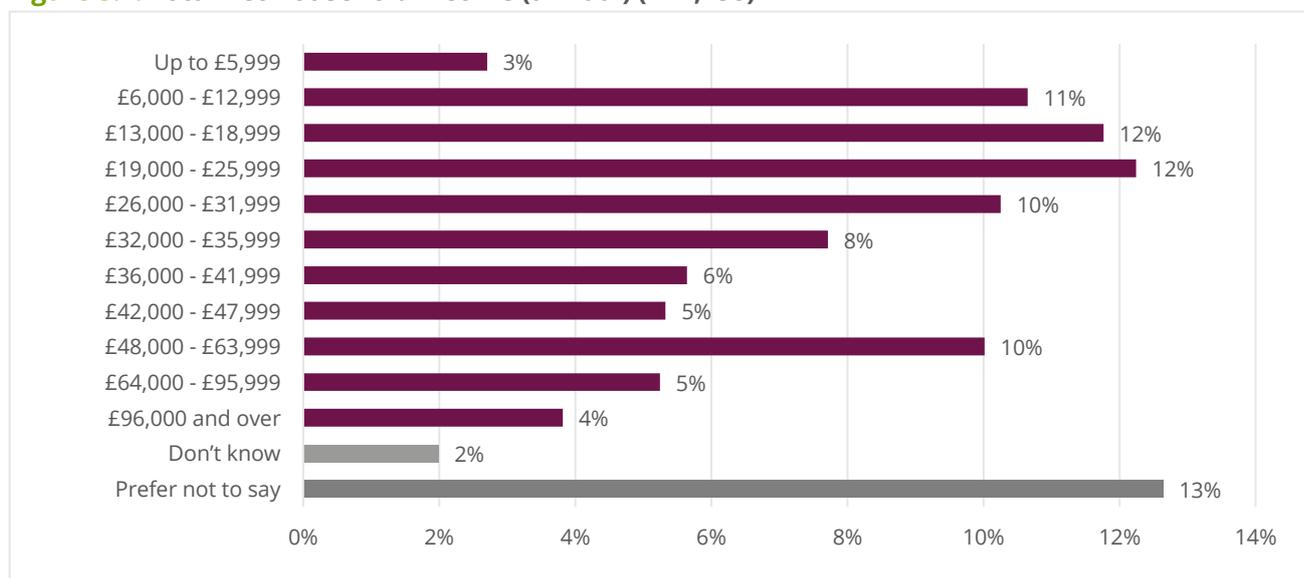
	n	%
AB	366	29%
Quota		22%
C1C2	590	47%
Quota		52%
DE	302	24%
Quota		26%
Total	1258	

Note: Market Research Society definitions are: A = professionals, very senior managers, etc.; B = middle management in large organisations, top management or owners of small businesses, educational and service establishments; C1 = junior management, owners of small establishments, and all others in non-manual positions; C2= skilled manual labourers; D = semi-skilled and unskilled manual workers; E = state pensioners, casual and lowest grade workers, unemployed with state benefits only (NRS, 2008 <http://www.nrs.co.uk/lifestyle-data/>).

Demographic and socio-economic profile

Figure 3.4 shows the classification of respondents in terms of household income. Average self-reported net total household income was approximately £32,000 per year, with a median within the range £26,000 - £31,999 per year and a mode within the range £19,000 - £25,999 per year. Overall, these results are largely consistent with average figures in the UK, where the ONS estimates median household disposable income was £28,400 in 2018¹¹.

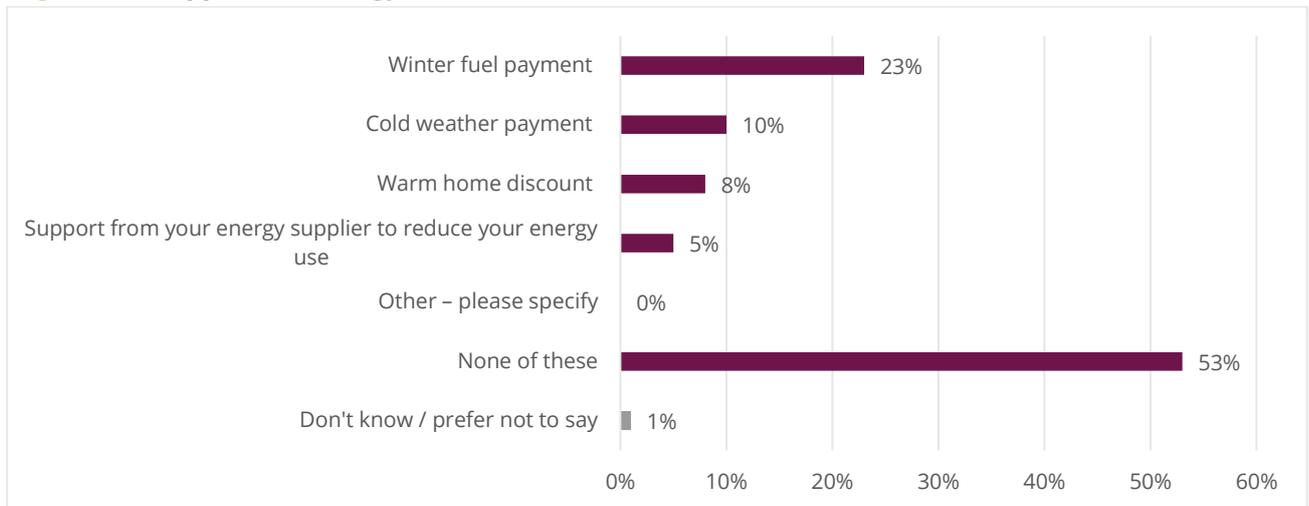
Figure 3.4: Total net household income (annual) (n=1,258)



Consumers potentially in vulnerable circumstances

A number of the survey questions provide indicators for households that are potentially in vulnerable circumstances. Overall, approximately 30% of the household sample met one or more of these criteria. Around 4 in 10 respondents received some form of financial support for their energy bills, through the winter fuel payment, cold weather payment or warm home discount (Figure 3.5). Among these, those who receive cold weather payment and warm home discount (i.e. 18%) are most likely to be in vulnerable circumstances as the payments/discount are targeted at households with elderly member on pension credit and/or disabled and households at risk of fuel poverty (respectively).

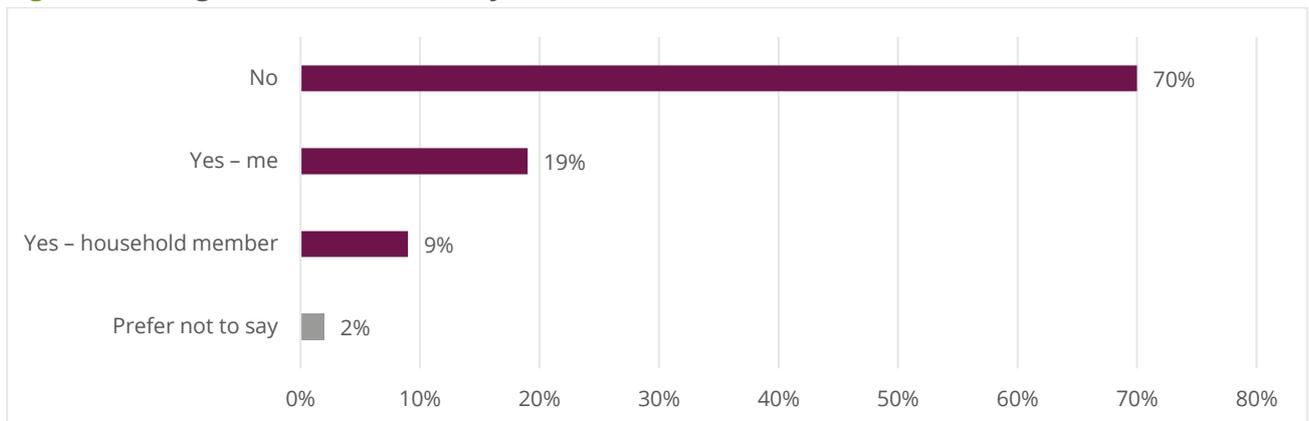
Figure 3.5: Support for energy bills (n=1,258)



Notes: Respondents could state more than one form of support (therefore responses do not sum to 100%).

Just over a quarter of respondents (28%) indicated that someone in their household had a long-term illness or disability (either 'Yes - me' or 'Yes - household member') (Figure 3.6).

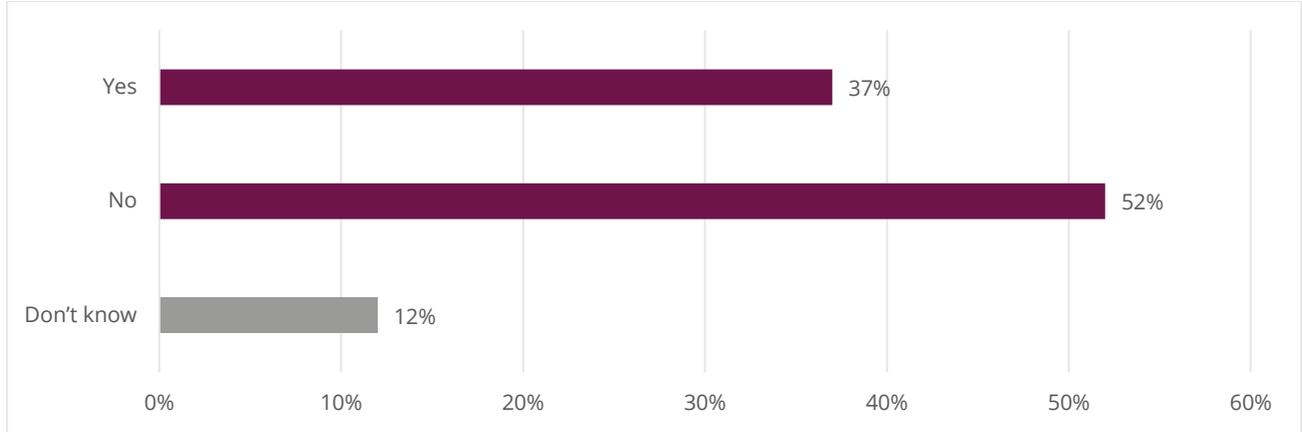
Figure 3.6: Long-term illness/disability in the household (n=1,258)



Notes: Respondent could select both 'Yes - me' and 'Yes - household' (i.e. options were multi-coded), so responses do not add up to 100%.

Under one-third of respondents stated that they knew of the Priority Service Register (PSR). Among these respondents, 37% (i.e. 11% of the overall sample) were registered with the PSR (Figure 3.7).

Figure 3.7: Registered with Priority Service registered (n=389)



Finally, almost a quarter of respondents (24%) indicated that they encounter some difficulty paying household bills (either 'sometimes' or 'always') (Figure 3.8), whilst around 1 in 7 (15%) stated that they were regularly in arrears (Figure 3.9).

Figure 3.8: Difficulty paying bills (n=1,258)

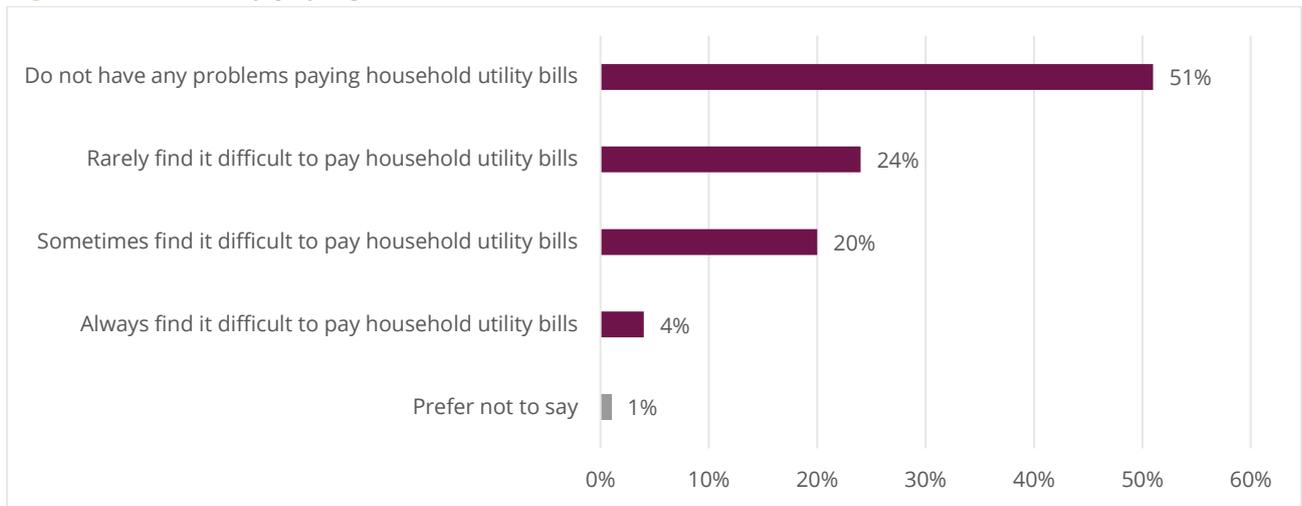
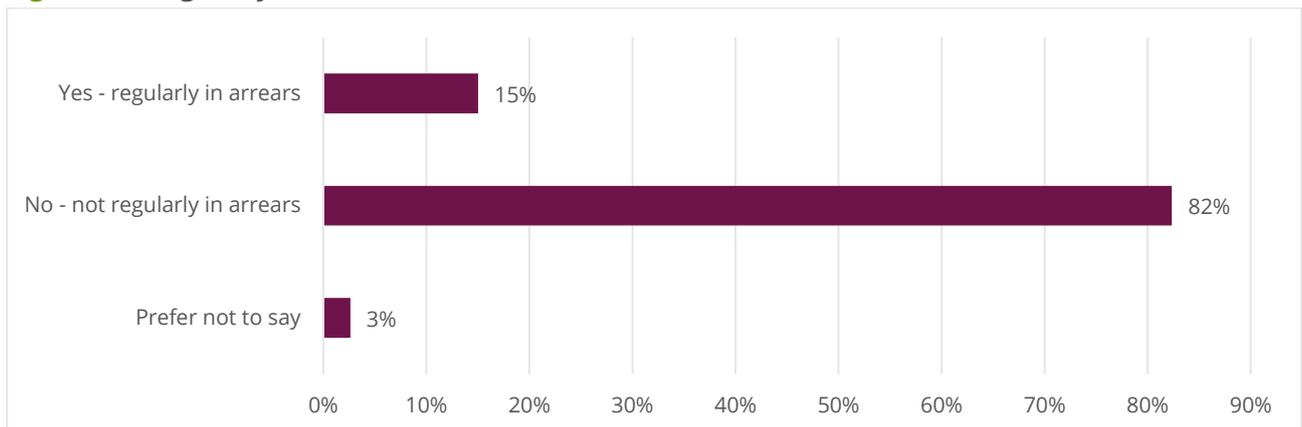


Figure 3.9: Regularly in arrears (n=1,258)

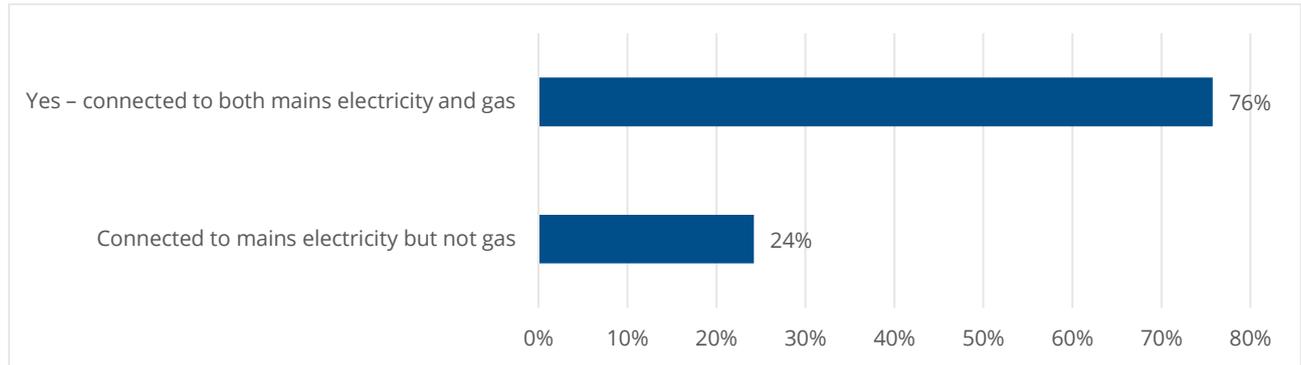


3.1.2 Business end-users

Respondent screening and location

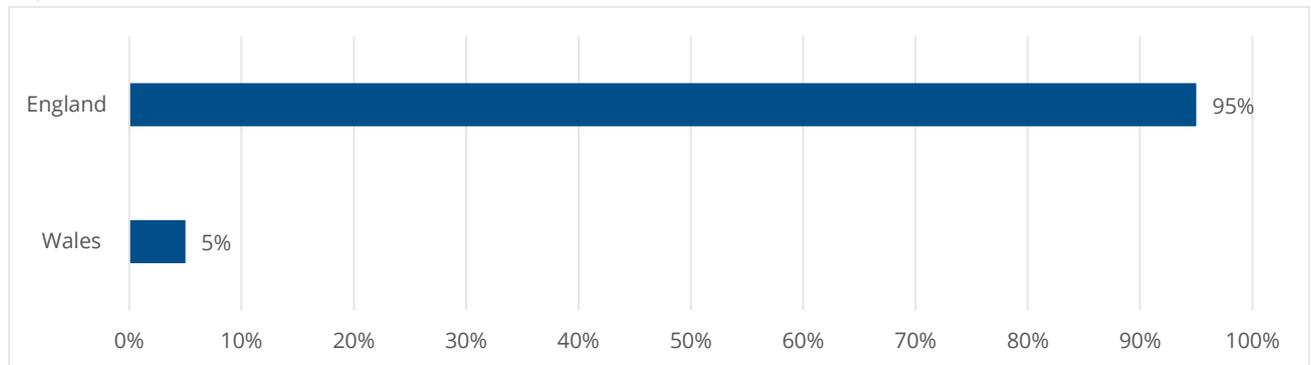
Figure 3.10 shows that the majority (76%) of business respondents were connected to both mains electricity and gas, while the remainder were connected to mains electricity only.

Figure 3.10: Connection to mains electricity and gas (n=161)



The breakdown of the business sample in terms of location is provided in Figure 3.11. Similar to the household sample, the majority of respondents are from England (95%).

Figure 3.11: Location (n=161)



Sample representativeness

The representativeness of the business sample was assessed in relation to the sampling criteria specified in Section 2.3. The breakdown in terms of sector¹² is presented in Table 3.4. This shows that the sample is well-aligned (within +/- 1 percentage points) to the national profile.

Table 3.4: Main activity (n=161)

	n	%
Primary industry	10	6%
<i>Quota</i>		5%
Secondary industry	28	17%
<i>Quota</i>		18%
Tertiary industry	123	76%
<i>Quota</i>		77%
Total	161	

Representation in terms of the number of employees was more varied but the overall pattern is representative of the national profile. Organisations with 10-49 employees are over-represented by 5 percentage points whilst smaller companies (of 0-9 employees) are under-represented by 8 percentage points (a total of 18 respondent organisations). The remaining categories are within 2 percentage points difference of the national profile.

Table 3.5: Number of employees (n=161)

	n	%
0 - 9	132	82%
<i>Quota</i>		90%
10 - 49	21	13%
<i>Quota</i>		8%
50 -249	5	3%
<i>Quota</i>		1%
250+	3	2%
<i>Quota</i>		1%
Total	161	

¹² Primary industries involve extracting (e.g. mining) or growing (e.g. agriculture) raw materials from the natural environment. Secondary industries involve manufacturing and assembly process of converting raw materials into components/products. Tertiary industry refers to the commercial services that support the production and distribution of these goods (e.g. transport or advertising) as well as other services in the economy (e.g. teaching and health care).

Organisation profile

Consistent with the sample being comprised of mainly small businesses the vast majority of respondent organisations (87%) operated from a single site (Figure 3.12) and just over half (53%) reported annual turnover of less than £100,000 (Figure 3.13).

Figure 3.12: Number of sites (n=161)

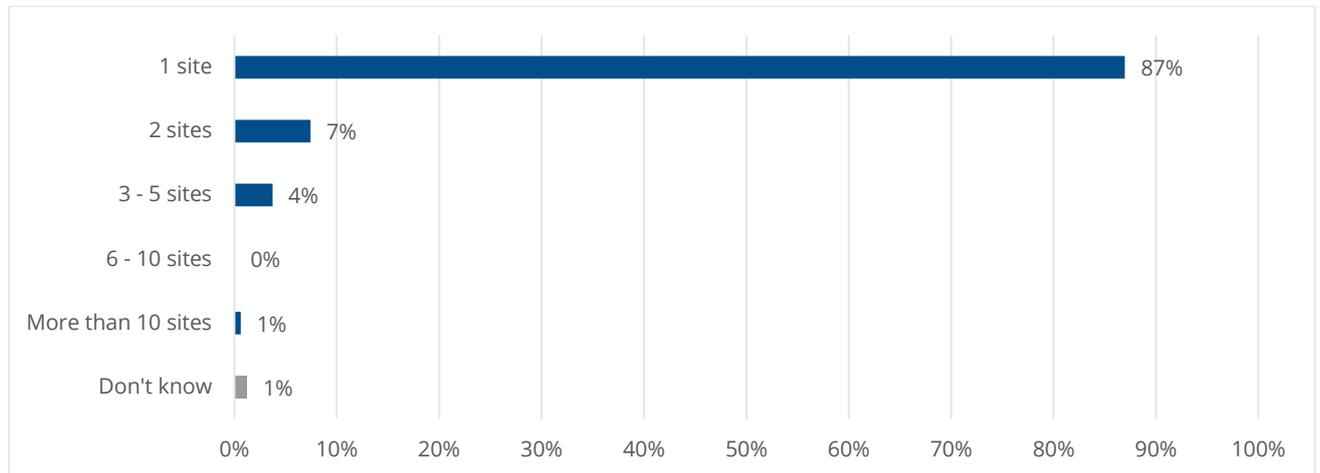


Figure 3.13: Annual turnover (n=161)

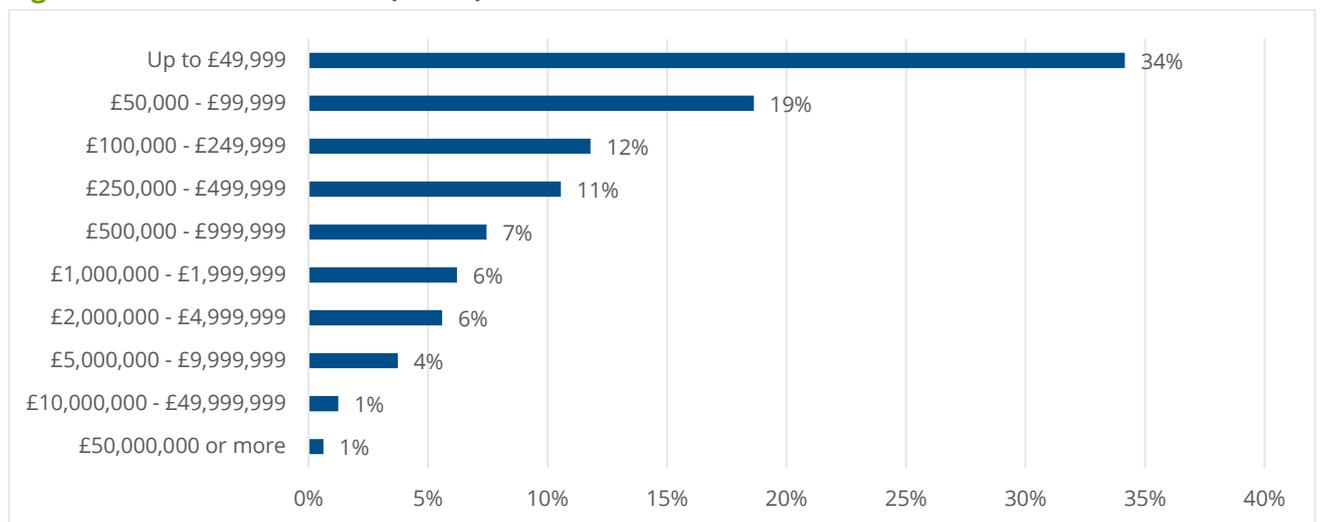
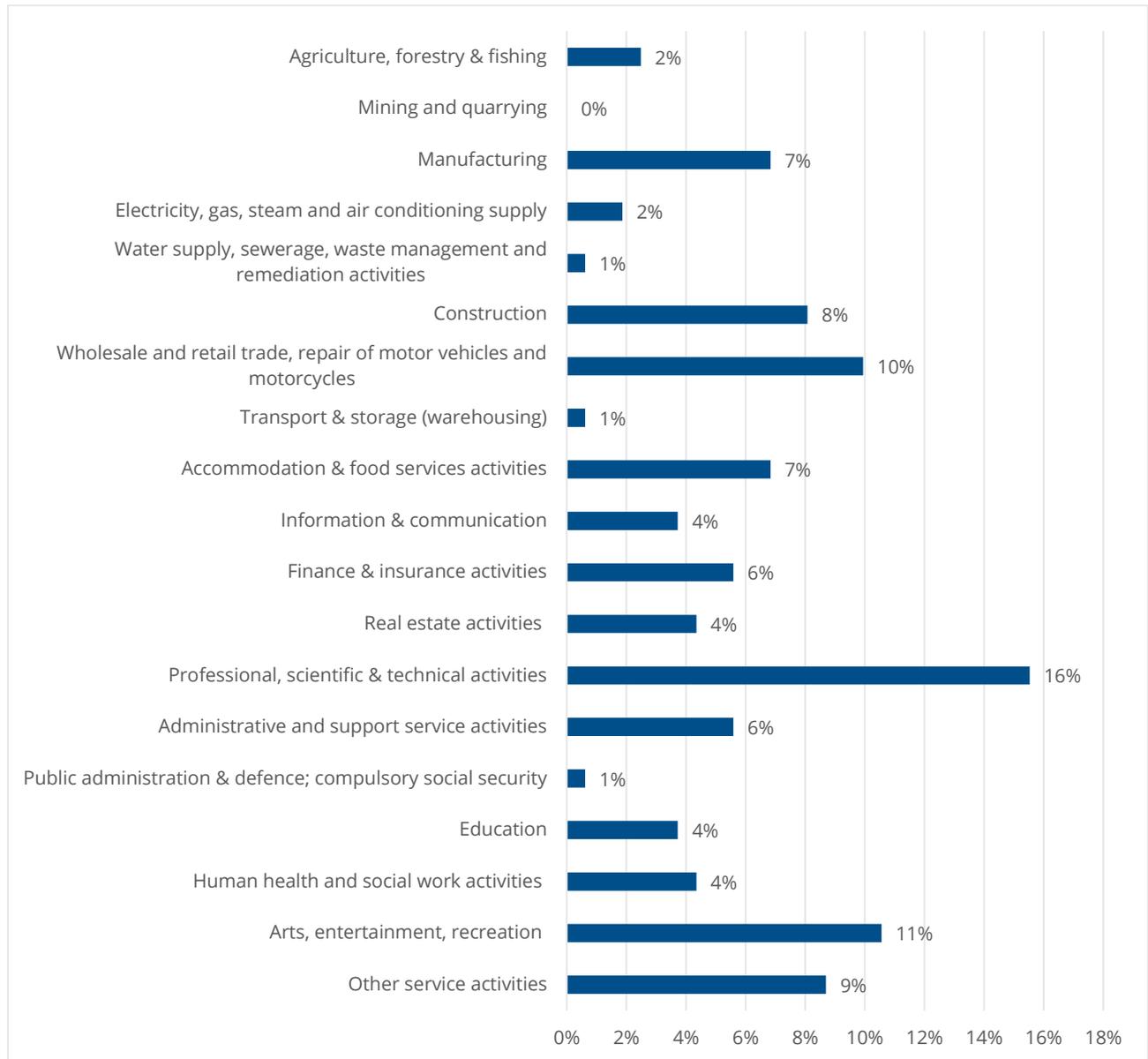


Figure 3.14 shows that respondent organisations were from a variety of different sectors, with the largest representation for 'Professional, scientific and technical activities' (16%), 'Arts, entertainment, recreation' (11%) and 'Wholesale and retail trade, repair of motor vehicles and motorcycles' (10%) sectors.

Figure 3.14: Business activities (n=161)

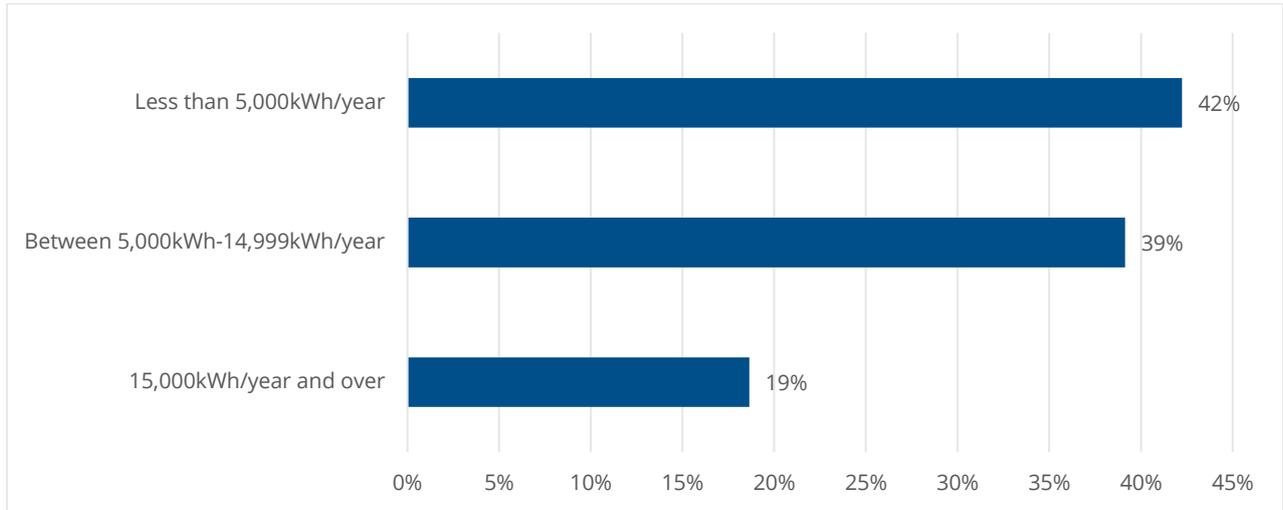


Use of electricity

The majority of respondents indicated that their organisation was a 'low' category consumer of electricity (88%)¹³. Figure 3.15 summarises a combined categorisation of the selected consumer profile and the organisation's annual electricity bills in terms of estimated consumption (in kWh/year). This provides a reasonable segmentation of the business sample across three groups, with the fairly even proportions split between the lowest (42%; less than 5,000 kWh/year) and second (39%; 5,000 – 14,999 kWh/year) categories, and a sizeable proportion of respondents in the high category (19%; over 15,000 kWh/year).

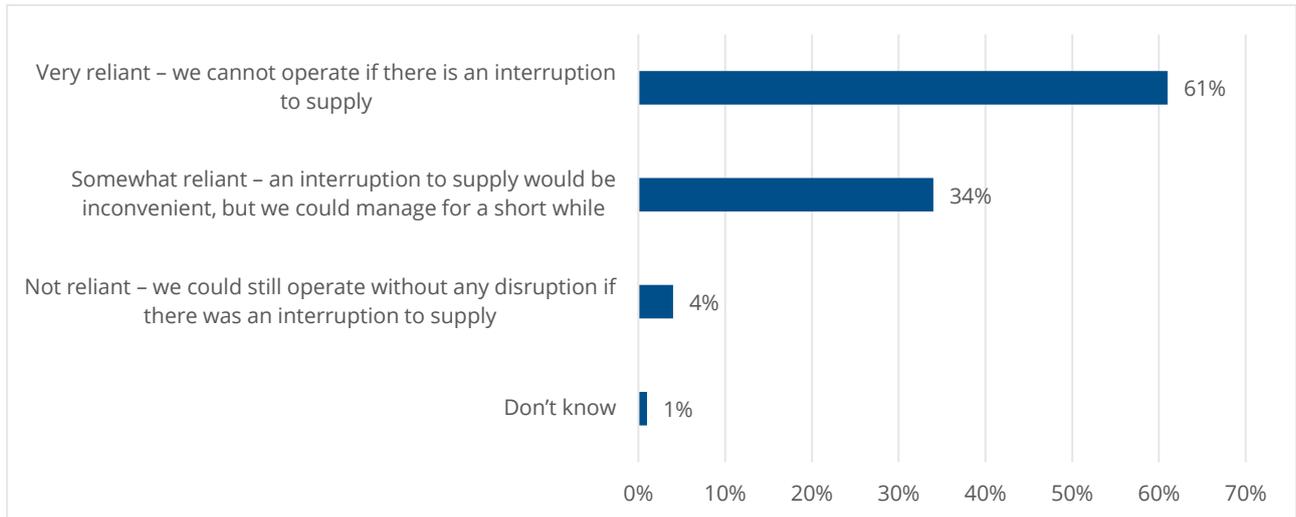
¹³ Respondents selected the consumer profile their organisation best-matched, based on their business activities and uses of electricity. The three profiles corresponded to: low use (typical consumption: 5,000 – 25,000 kWh/year); medium use (typical consumption: 30,000 – 50,000 kWh/year); and high use (typical consumption: over 50,000 kWh/year).

Figure 3.15: Estimated annual electricity consumption (n=161)



The majority of respondents (61%) stated that their organisation’s activities are very reliant on electricity supply, and that they would not be able to continue to operate if there was an outage (Figure 3.16). A further third (34%) stated that their organisation was at least somewhat reliant. Only 4% respondents reported that their organisation had no reliance on electricity and would be able to continue to operate if there was an outage.

Figure 3.16: Reliance on electricity (n=161)



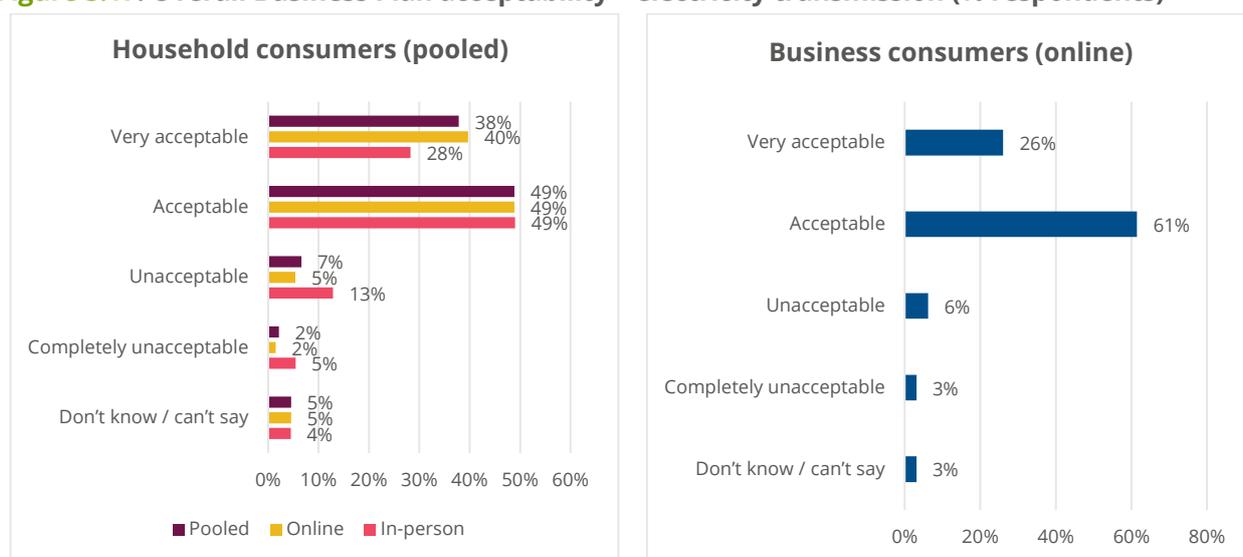
3.2 Overall plan acceptability

Respondents were presented with a summary of the Business Plan in terms of investment areas and associated bill impacts, and the overall bill impact relative to the current amount paid for electricity transmission (see Section 2.2). In the overall acceptability question, they were asked to state whether the plan, the proposed investments and cost to their household/business was acceptable. As shown in Figure 2.4 the corresponding changes in the electricity transmission annual bill were:

- Household consumers: +£0.98 change in annual electricity transmission bill by 2026 (approx. 0.17% change in average overall annual electricity bill for a dual-fuel consumer)
- Business consumers: +0.17% change in overall annual electricity bill by 2026

The majority of household and business respondents stated that the ET Business Plan and associated bill impact was either “acceptable” or “very acceptable”: 87% of household consumers (89% online; 77% in-person); and 87% of business consumers (Figure 3.17). This corresponds to 1,091 household consumers and 141 business consumers (out of 1,419 in total for the ET version of the survey)¹⁴.

Figure 3.17: Overall Business Plan acceptability – electricity transmission (% respondents)



Household pooled: n=1,258 (online: n=1,056; In-person n=202); Business n=161.

For the five direct ET customers that completed the survey (Section 3.1), one respondent indicated “very acceptable” and four stated “acceptable”.

¹⁴ The confidence limits or ‘error margins’ for these results are around +/- 3 percentage points for the pooled household consumer sample (online + in-person) and +/- 6 percentage points for the business consumer sample based on the sample sizes for the respective surveys.

Acceptability by household segment

The high level of acceptability for the ET Business Plan implies that there is limited variation in household consumer views across different segments, such as socio-economic group (SEG)¹⁵, age cohort, location, etc. This is illustrated in the series of comparisons are shown in Figure 3.18.

Figure 3.18: Overall Business Plan acceptability (% respondents) by household consumer segments – electricity transmission



Household pooled (online + in-person): n=1,258.

For the most part, the observed differences between different household segments are marginal and not statistically significant. This means it is not possible to conclude that the level of acceptability differs from the overall result sample¹⁶. The main patterns in the findings are:

- Respondent age and socio-economic group: there is very limited variation in the level of acceptability of the ET Business Plan for these segments (“acceptability” range = 84% to 91%);

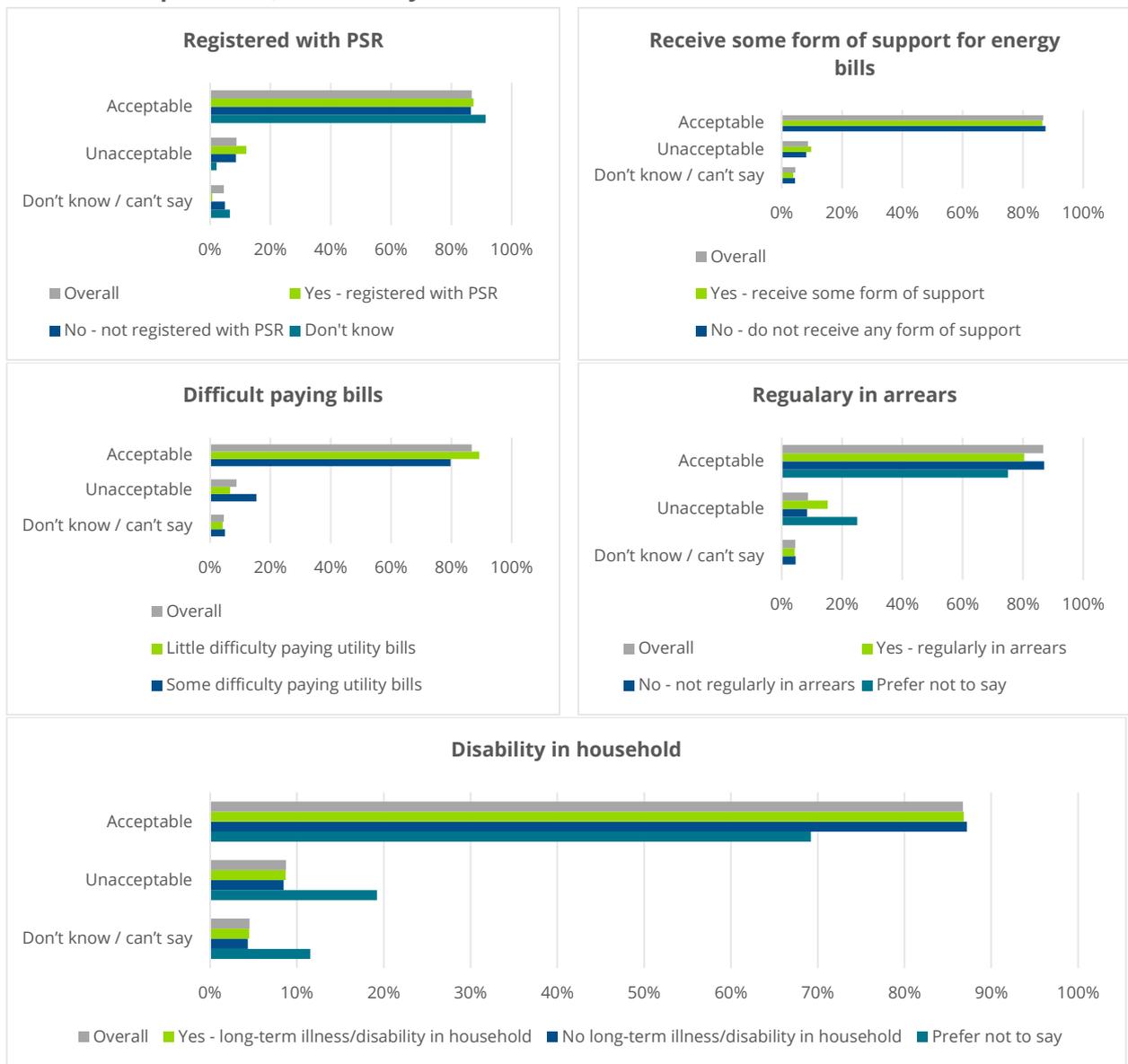
¹⁵ Market Research Society definitions are: A = professionals, very senior managers, etc.; B = middle management in large organisations, top management or owners of small businesses, educational and service establishments; C1 = junior management, owners of small establishments, and all others in non-manual positions; C2 = skilled manual labourers; D = semi-skilled and unskilled manual workers; E = state pensioners, casual and lowest grade workers, unemployed with state benefits only

¹⁶ The reported results are subject to confidence limits (error margins) based on the number of observations for each consumer sub-group. These are up to around +/- 8 percentage points for each sub-group.

- Location: consumers in Wales (“acceptability” = 84%) were observed to have a marginally lower level of overall acceptability for the ET Business Plan compared to England (87%). Note there was no noticeable difference in the acceptability in urban versus rural consumers.
- Annual household income: consumers in the lowest household income bracket (less than £6k per year) have a notably lower level of overall acceptability for the Business Plan (“acceptability” = 79%), with a corresponding increase in the proportion of respondents stating that the plan is not acceptable (“unacceptable” = 15% vs. 9% for the overall sample)¹⁷. Results for all other income segments are consistent with the overall sample results (“acceptability” range = 86% to 92%).

Figure 3.19 shows an alternative set of breakdowns of the acceptability results by the indicators of households potentially in vulnerable circumstances (as per Section 3.1).

Figure 3.19: Overall Business Plan acceptability by vulnerable circumstances indicators (% household respondents) - electricity transmission



Household pooled (online + in-person): n=1,258.

¹⁷ Note that the sample size for the lowest income bracket is relatively small (n=34; 3% of the overall sample).
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The main observations with respect to these breakdowns are:

- Registered with PSR and/or receive some form of support for energy bills and/or disability in the household: no clear difference in level of acceptability for the ET Business Plan compared to the overall sample.
- Difficulty paying bills and/or regularly in arrears: respondents who stated that they encountered difficulty paying their utility bills or were behind with payment (both “acceptability” = 80%) had a lower level of overall acceptability for the plan compared to those who did not¹⁸. Correspondingly, a higher proportion of these respondents stated that the plan was not acceptable (“unacceptable” = 15%).

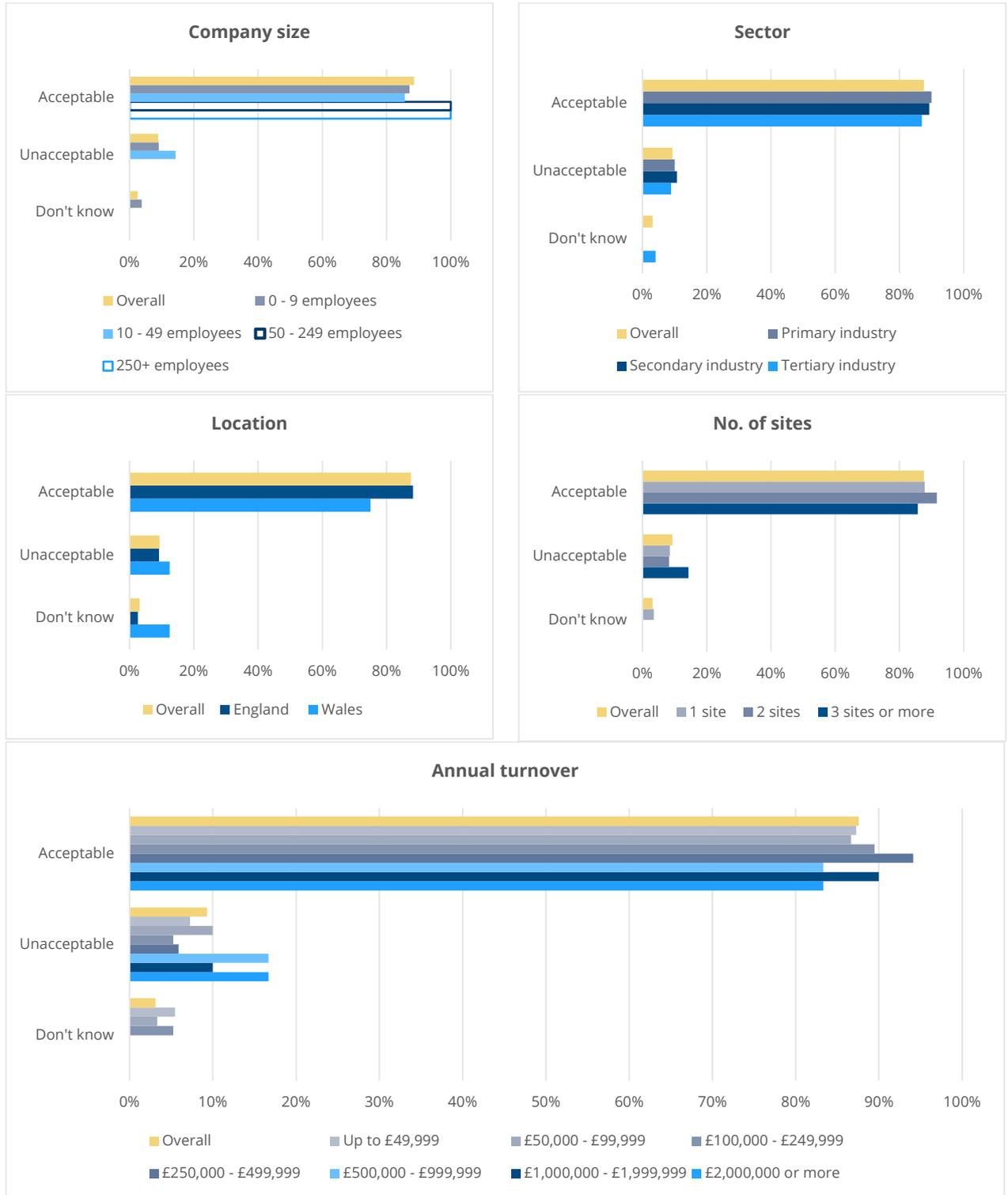
Acceptability by business segment

The variation in the level of acceptability across organisation profile characteristics (company size, sector, location, number of sites, and annual turnover) is set out in Figure 3.20. The main patterns in the results are:

- Company size: there is some variation in the level of acceptability of the ET Business Plan for the segments (“acceptability” range = 87% to 100%), driven by larger respondents indicating higher acceptability. Limited inference can be taken from this result, though, since the sample sizes for larger businesses are particularly small (5 respondents between 50-249 employees; 3 respondents over 250 employees);
- Sector and number of sites: there is very limited variation in the level of acceptability of the ET Business Plan for these segments (“acceptability” range = 86% to 92%);
- Location: consumers in Wales (“acceptability” = 75%) were observed to have a lower level of overall acceptability for the ET Business Plan compared to England (84%). However, the sample size for the number of respondents in Wales is low (8 respondents) meaning limited conclusions can be drawn.
- Annual turnover: respondents in the highest turnover bracket (£2,000,000 or more per year) had a slightly lower level of overall acceptability for the Business Plan (“acceptability” = 83%), with a corresponding increase in the proportion of respondents stating that the plan is not acceptable (“unacceptable = 17% vs. 9% for the overall sample). Although there is some variation in the other segments, the level of acceptability is still largely consistent with the overall sample (“acceptability” range = 83% to 94%).

¹⁸ Given the respective sample sizes – ‘Some difficulty paying bills’ (n= 306; error margin approximately +/- 4 percentage points); ‘Yes – regularly in arrears’ (n=46; error margin approximately +/- 8 percentage points) - it is not possible to conclude that these differences are statistically significant. This is because the results overlap the error margins for the main sample result (87%; +/- 3 percentage points). Nevertheless, the results can be interpreted as indicative that the ET plan has a lower level of acceptability among household consumers who stated they struggled with paying bills (noting, though, that the level of support is still relatively high at around 8 in 10 consumers in this group finding National Grid’s proposal acceptable).

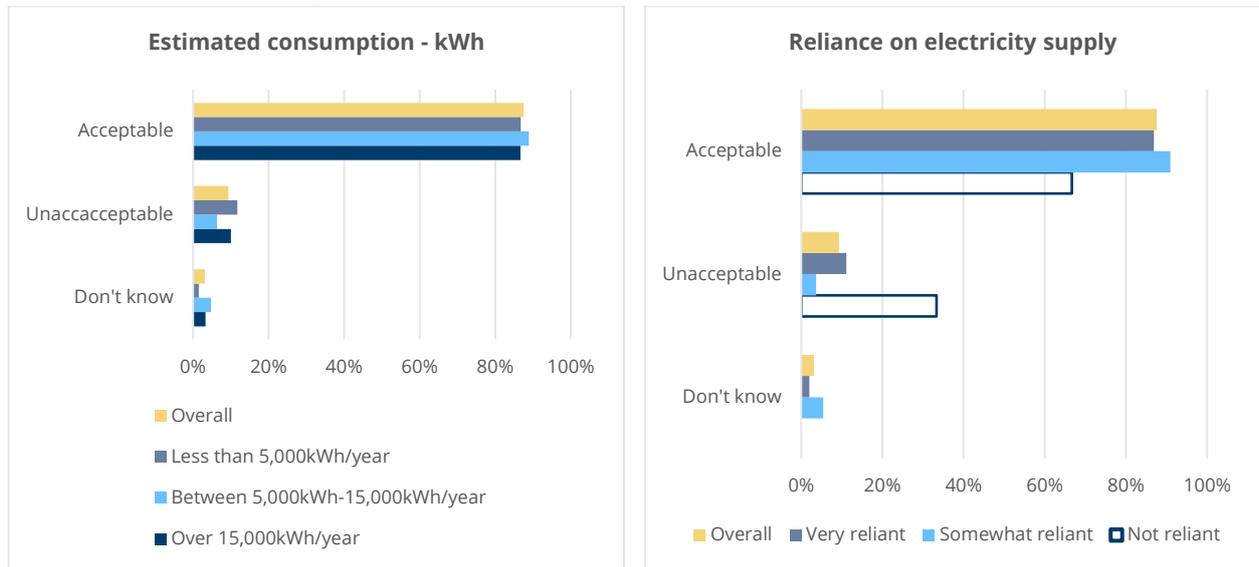
Figure 3.20: Overall Business Plan acceptability (% respondents) by business consumer segments – electricity transmission



Business (online): n=161. Outline of bar charts when sample size less than 10 respondents.

Figure 3.21 presents an alternative set of breakdowns of the acceptability results by consumption in terms of: (a) estimated electricity consumption; and (b) stated reliance on electricity supply.

Figure 3.21: Overall Business Plan acceptability by indicators on the use of electricity (% business respondents) – electricity transmission



Business (online): n=161. Bars in outline indicate sample size fewer than 10 respondents.

The main observations are:

- Estimated consumption (kWh): There is no clear difference in level of acceptability for the ET Business Plan across the three segments compared to the overall sample result.
- Stated reliance on electricity supply: 'Very reliant' business respondents indicated slightly lower levels of acceptability, while 'somewhat reliant' respondents indicated slightly higher levels of acceptability, compared to the overall sample¹⁹. In contrast, the business respondents who are 'not reliant' have lower levels of acceptability. However, given the limited sample size of this sub-group (6 respondents), it is not possible to conclude that this differs from the overall sample result.

¹⁹ Given the respective sample sizes – 'Very reliant' (n= 99; error margin approximately +/- 6 percentage points); 'Somewhat reliant' (n=55; error margin approximately +/- 8 percentage points) - it is not possible to conclude that these differences are statistically significant. This is because the results overlap with the error margins for the main sample result (88%; +/- 5 percentage points).

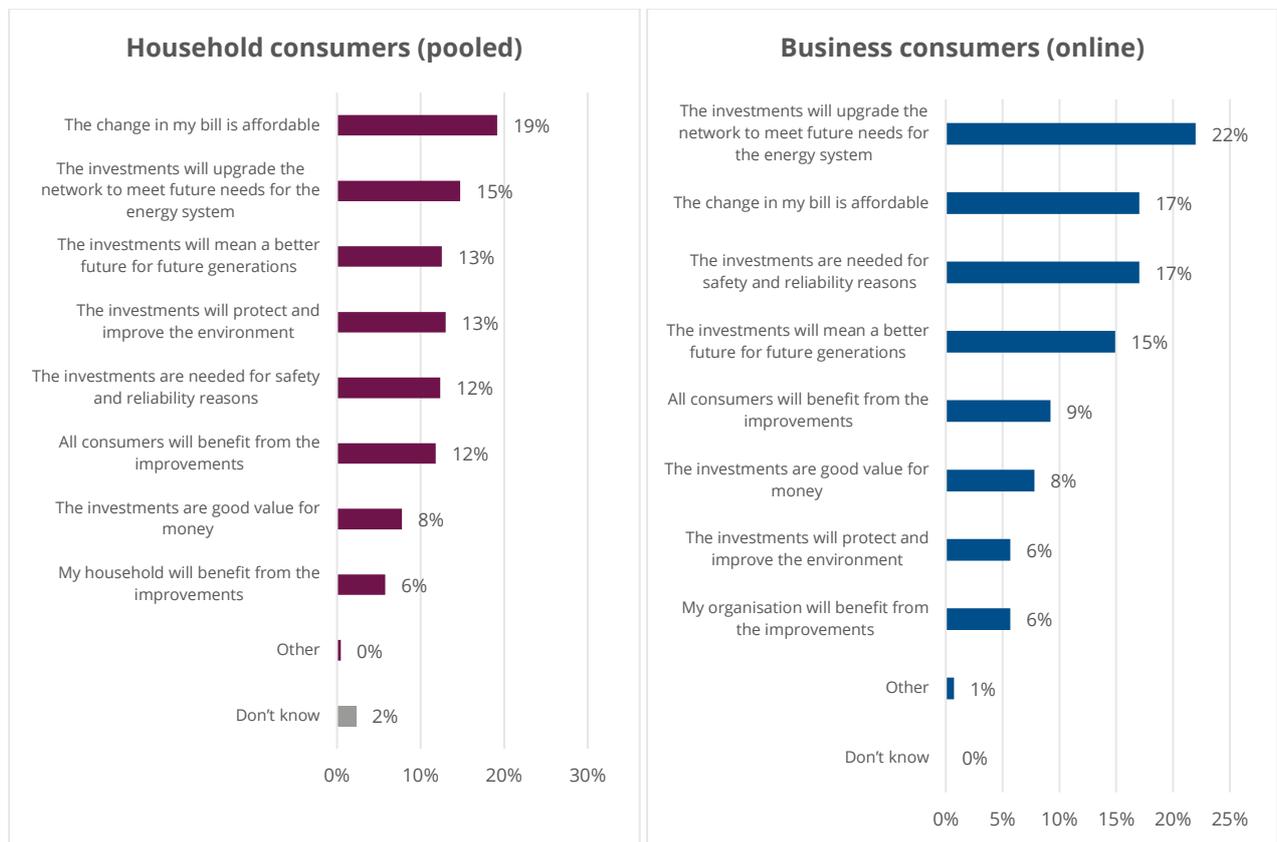
3.2.1 Follow-up questions

A series of follow-up questions in the survey probed the reasons for consumers’ views on the acceptability of National Grid’s ET Business Plan, including the acceptable limit for bill impacts, whether they considered the bill impacts value for money and other characteristics that defined their responses.

Reasons ET Business Plan was acceptable

Survey respondents provided the (main) reason for stating why the ET Business Plan was acceptable (Figure 3.22). For household consumers, a varied range of reasons were provided as the main motivation, including the affordability of the bill impact, agreement that the proposed investments were needed to ensure safety and reliability, or protect the environment, or meet future needs, or because of the overall benefits of the proposed investments to all consumers and future generations.

Figure 3.22: Reasons for acceptability of Business Plan – electricity transmission (% respondents)



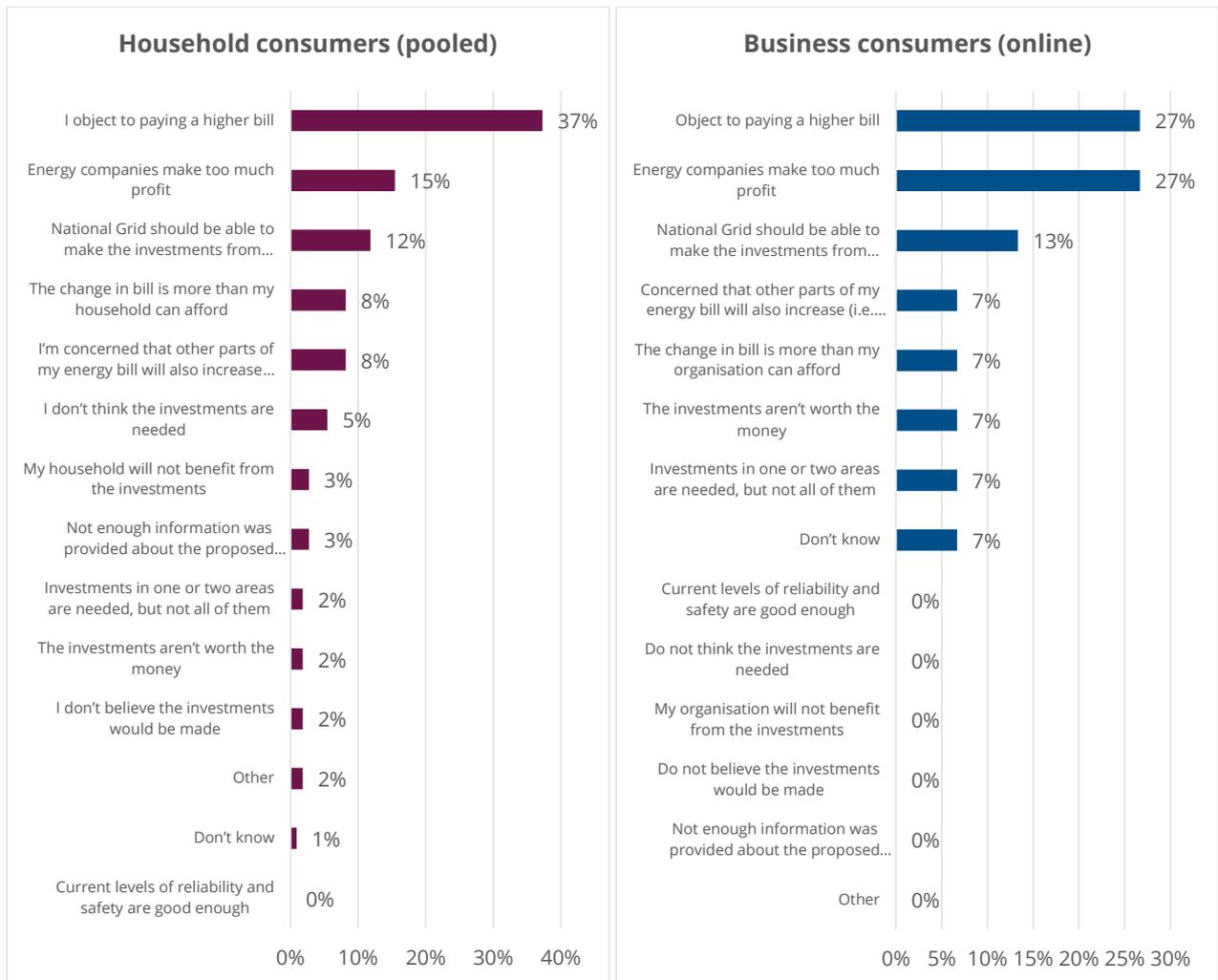
Household pooled (online + in-person): n=1,091; Business n=141. Only includes respondents that indicated that the ET Business Plan was either “acceptable” or “very acceptable”.

For business consumers there was a spread of views. The most common main reason for the acceptability of the Business Plan was that it would upgrade the network to ensure it met the needs of the future energy system (22% respondents), followed by maintaining current service levels in terms of safety and reliability (17%) and the affordability of the bill impact (17%). The view that the business plan would directly benefit the respondent’s organisation was the least frequently selected reason (6%).

Reasons ET Business Plan was unacceptable

Survey respondents also provided the (main) reason for stating why the ET Business Plan was unacceptable (Figure 3.23). For household consumers who stated that the ET Business Plan was either “unacceptable” or “very unacceptable” (9% overall; a total of 110 respondents) the main reason was an objection to paying a higher bill irrespective of the investments that were proposed (37%; 41 respondents). A further 15% (17 respondents) stated that energy companies make too much profit. In combination, these responses reflect a form of ‘principles-based’ response, which is based more on principles rather than a comment on the actual plan and investments proposed by National Grid²⁰. A smaller proportion of respondents highlighted affordability issues (16%; 18 respondents), which were associated either with concerns the bill impacts was more than their household could afford (8%; 9 respondents) or that other parts of the energy bill would increase (8%; 9 respondents), rather than the change in the transmission bill *per se*.

Figure 3.23: Reasons for unacceptability of Business Plan – electricity transmission (% respondents)



Household pooled (online + in-person); n=110; Business n=15. Only includes respondents that indicated that the ET Business Plan was either “unacceptable” or “completely unacceptable”.

²⁰ This is sometimes referred to as a ‘protest’ response.
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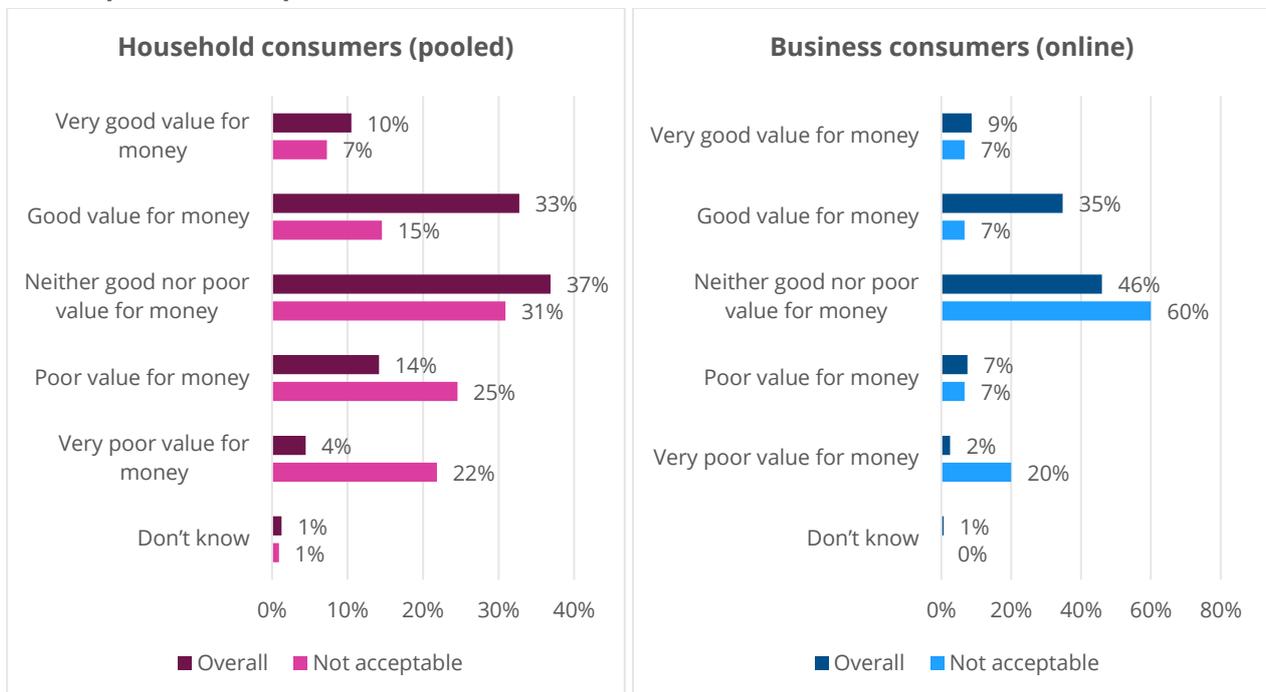
Among business consumers who stated “unacceptable” or “very unacceptable” (9% overall; a total of 15 respondents), principles-based responses were also the most common reason (54%; 8 respondents) – either objecting to a higher bill (27%; 4 respondents) or energy companies making too much profit (27%; 4 respondents).

Views on value for money of bills

In the opening section of the survey, as part of the ‘warm-up’ questions, respondents were asked their view on the value for money of their overall energy bill. A large proportion of respondents felt their overall bill represented either good (“good” or “very good”) value for money (43% households; 43% business), or were indifferent (“neither good nor poor value for money”; 37% households; 46% business).

Figure 3.24 shows respondent’s view on the value for money of their overall energy bill. This provides a comparison of the breakdown between the overall sample and the ‘not acceptable’ responses for the overall business plan (approx. 8 % of household pooled sample; 9% of the business sample). This shows a distinct pattern where only a small proportion of these respondents (about 1 in 5 household; 1 in 7 business) felt that their overall energy bill was either ‘good’ or ‘very good’ value for money. Most business respondents were indifferent (3 in 5 respondents), whilst the largest proportion of household respondent (almost 1 in 2) rated their overall energy bill as either ‘poor’ or ‘very poor’ value for money.

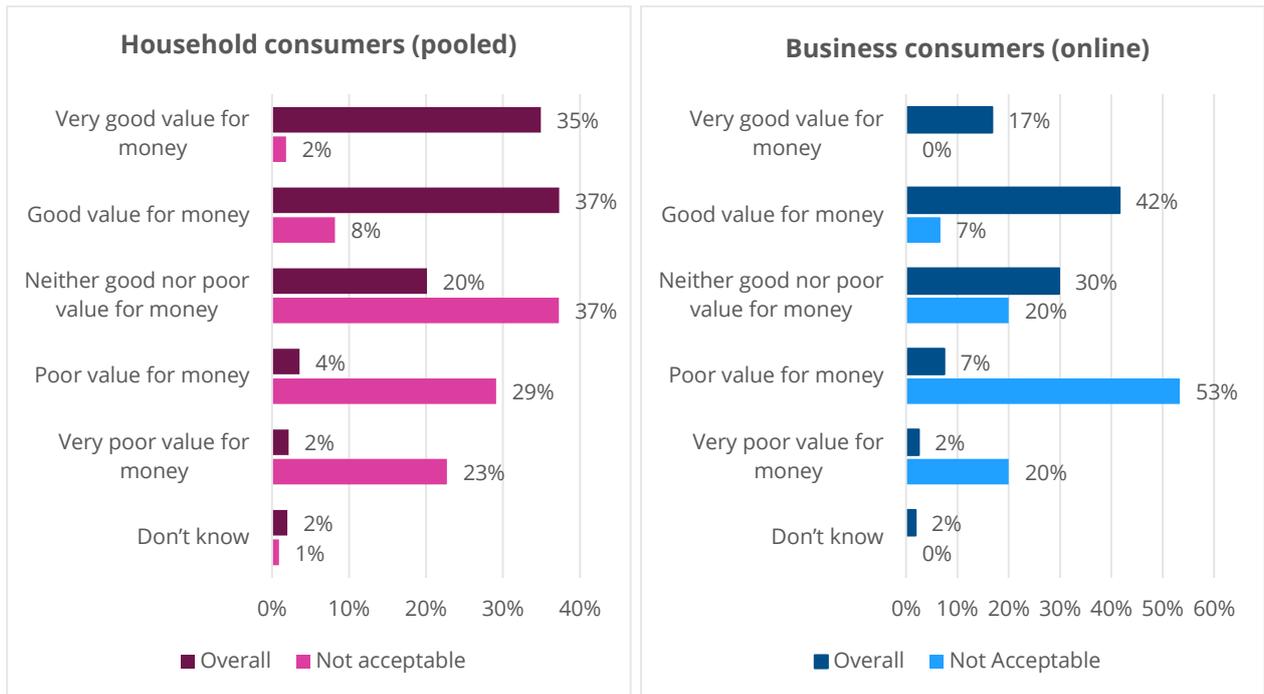
Figure 3.24: Value for money of overall energy bill for respondents stating Business Plan was ‘unacceptable’ (% respondents)



Household pooled (online + in-person): Overall n=1,258; Not acceptable n=101. Business: Overall n=161; Not acceptable n=15.

Turning to respondents' views on the National Grid's proposal, most viewed the (additional) bill impact and associated investments as either 'good' or 'very good' value for money (72% household; 58% business). Consistent with the finding regarding the value for money of the overall energy bill (Figure 3.24 above), respondents that did not find the Business Plan acceptable were also more likely to find it to be either poor value for money or be indifferent (Figure 3.25).

Figure 3.25: Value for money of Business Plan proposals – overall sample vs. 'not acceptable' (% respondents)

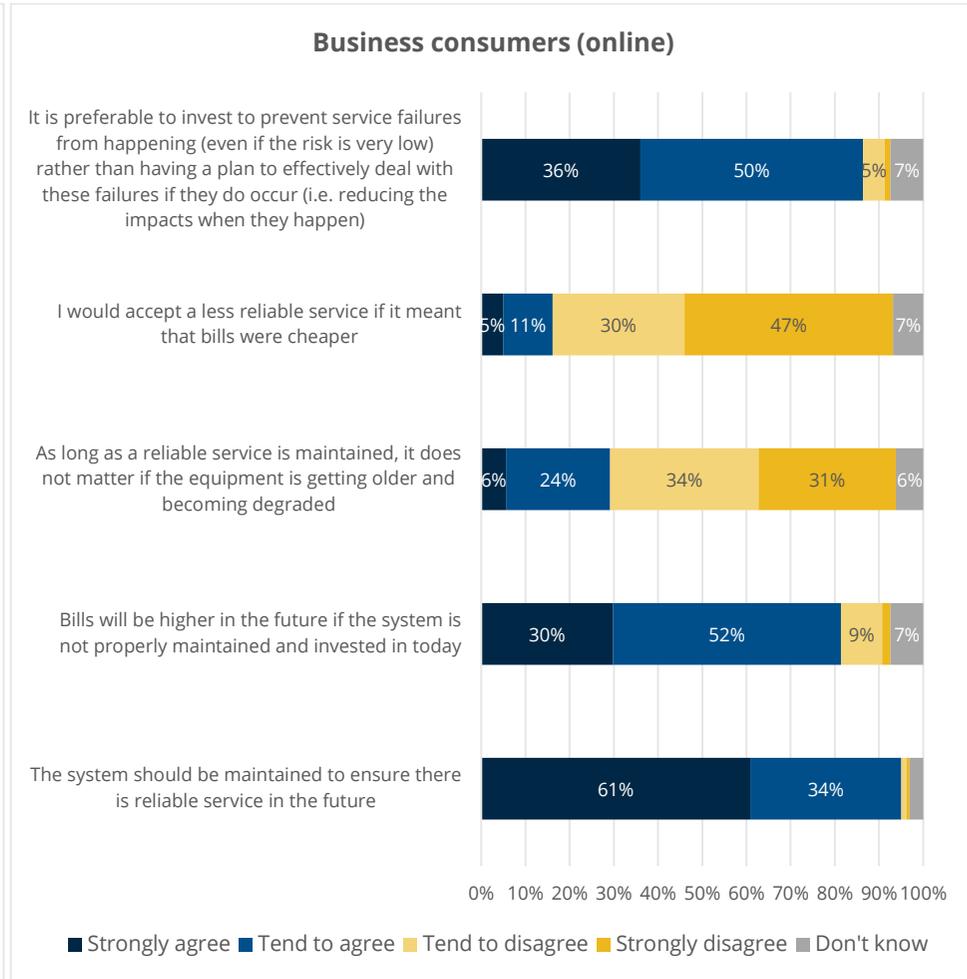
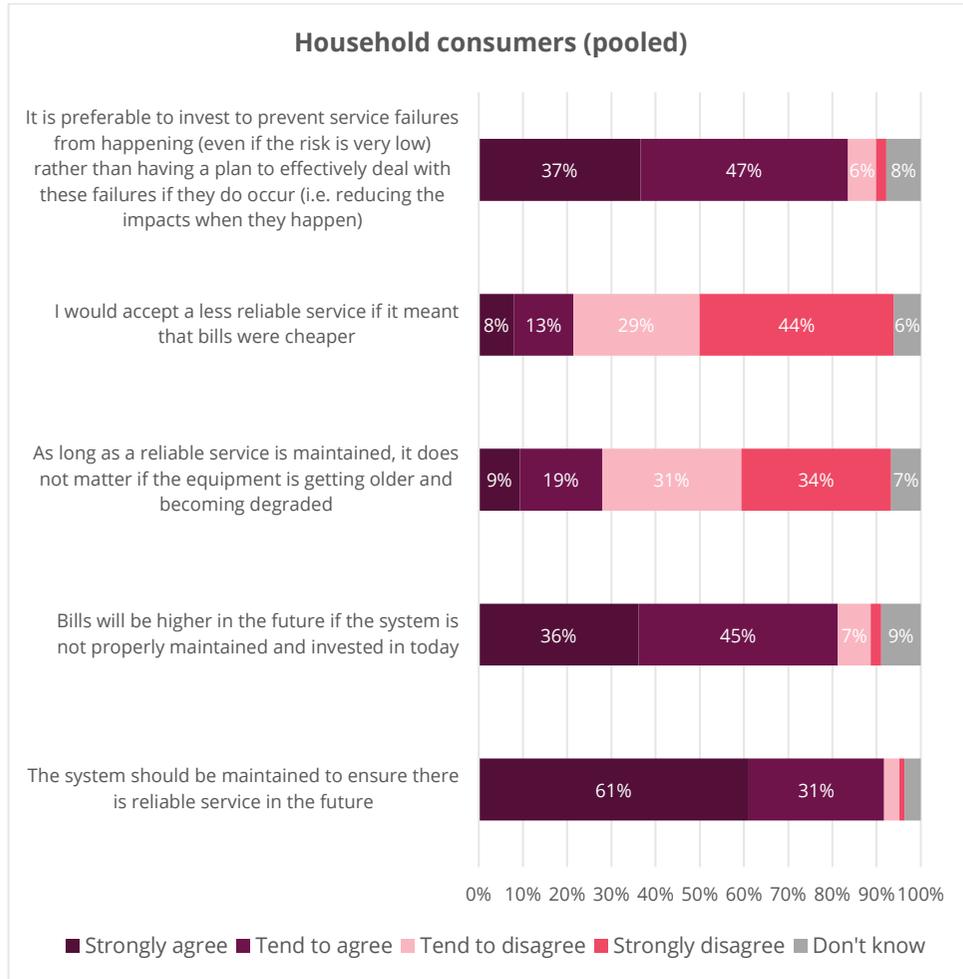


Household pooled (online + in-person): Overall n=1,258; Not acceptable n=101. Business: Overall n=161; Not acceptable n=15.

Views on asset health trade-offs

Respondents were also asked to consider how much they agreed or disagreed with a set of attitudinal statements concerning trade-offs between investment levels and reliability in the short and longer term (Figure 3.26). The five statements were set around the need to ensure long-term reliability within the energy system and trade-offs between lower bills and lower reliability. The majority of household and business respondents agreed with the statements that expressed the need for proactive investment now to safeguard future reliability (around 70 – 90%), typically rejecting lower bills now if this would be at the expense of reliability.

Figure 3.26: Views on asset health trade-offs (% respondents)



Household pooled: n=1,258 (online: n=1,056; In-person n=202); Business n=161.

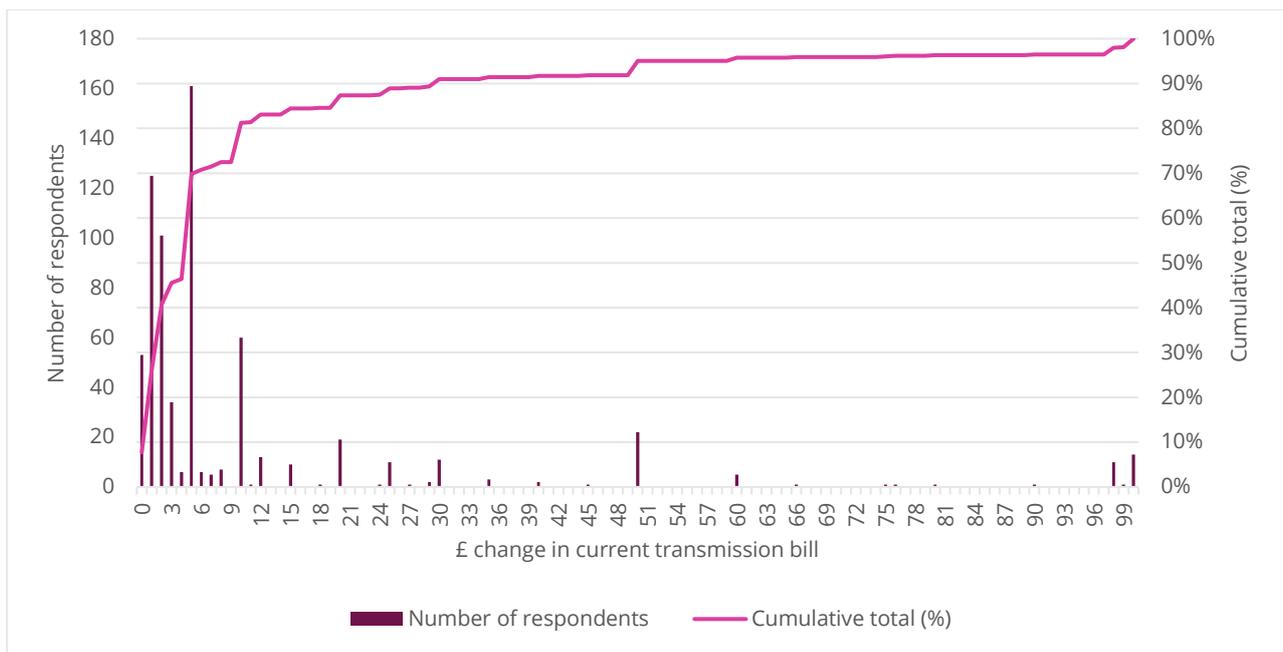
3.2.2 Limits of acceptable bill impact - households

The majority of respondents (84% household; 87% business) indicated that they took their overall energy bill into account at least “a little” when deciding whether the ET Business Plan was acceptable. Hence the headline acceptability results need to be interpreted in the context of current overall energy bills, and not accounting for significant changes in other components of the bill. Indeed, only 26% of household and 21% of business consumers indicated that the National Grid’s proposals were acceptable irrespective of changes in the rest of the energy bill, while notable proportions (12% household and 11% business) indicated that the plan would not be acceptable if other parts of the bill increased (see Annex 4/5). Accordingly, most respondents (57% household and 61% business) were clear that the ET transmission plan was acceptable up to a certain point in terms of the bill impact (see Annex 4/5).

Acceptable vs. unacceptable transmission bill impact - switching point

Household respondents were asked to state their “acceptable” versus “unacceptable” switching point for the additional bill impact for the ET Business Plan (Figure 3.27) (i.e. the change in the transmission bill).

Figure 3.27: Household ‘switching point’ responses – maximum additional bill impact



Household pooled (online + in-person): n=687. A total of 743 respondents (59% of the overall sample) stated a switching value (the remainder stated ‘don’t know/prefer not to say’. Among these, 7% (56 respondents) were assessed as outliers.

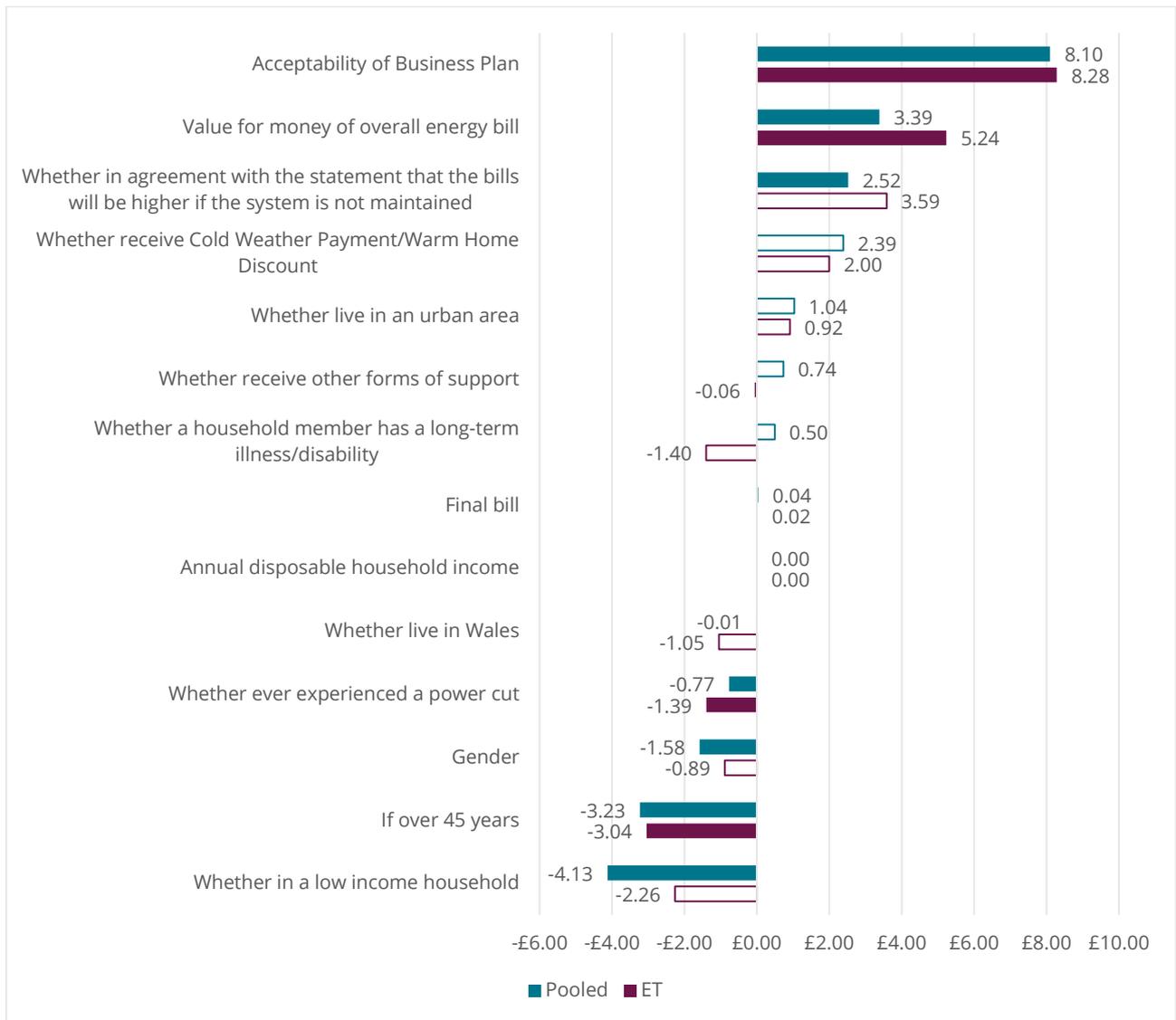
As shown, a wide distribution of responses was observed ranging from £0 (no change) to over a £100 increase on the current transmission bill²¹. Key points to note include: (a) very few respondents stated ‘no change’ in the transmission bill as their switching point – this corresponds to the 53 respondents (i.e. 8% of the sample of 687 respondents) for whom the +£0.98 per year bill impact was not acceptable; and (b) although there was a wide distribution of responses, the majority of respondents (approximately 80%) provided a switching value of £10 or less. Overall, the (mean) average switching point value was approximately +£11 per year. The median value was lower at +£5 per year, reflecting the long tail in the

²¹ Review of the distribution of responses showed that 92% of ‘switching values’ were in the range £0 - £100. Responses over £100 (x4 the current bill amount of £25) were dropped as outliers in order not to unduly influence the calculation of average results.

distribution (i.e. the handful of higher values provided). Regardless, the result show that for the vast majority of household respondents (92% of the sample) the switching point was above the +£0.98 per year bill impact for the ET Business Plan.

Figure 3.28 reports the analysis of household consumers’ switching points, which shows how value (in £) changes with various respondent characteristics, including their answers to other survey questions (overall acceptability of the plan, value for money of energy bills), indicators of vulnerable circumstances, and socio-economic and demographic factors. Results for the ET Business Plan are shown alongside a pooled model (ET and GT combined), which has better explanatory power due to the combined samples (i.e. more data). The purpose of showing the pooled ET and GT results is to illustrate the overall pattern in the findings; i.e. whilst the ET-only results lack precision in terms of statistical significance, they are generally consistent with the overall findings. Annex 6 provides further technical details for the analysis.

Figure 3.28: Change in switching point amount by different household respondent characteristics



Notes: Household Pooled (ET and GT - online + in-person): n=1,855; Household ET (online + in-person): n=878. Bar charts with no fill when marginal effect is not statistically significant at least at the 10% level of significance. For full results see Annex 6.

The main observations are:

- Overall acceptability of the Business Plan: this factor has the strongest influence on the switching point. In line with expectations, if the respondent stated that the Business Plan was acceptable ('acceptable' or 'very acceptable') their switching point for the ET bill impact increased by £8.28, compared to those who stated the overall plan was 'unacceptable' (all else equal).
- Value for money: consistent with previous findings (Figure 3.24), if the respondent considered their overall energy bill to be value for money, their switching point for the ET bill impact increased by £5.24 compared to those who did not think the overall bill was value for money (all else equal).
- Low household income and affordability concerns: If the respondent's household annual income was less than £9,000, they were classified as SEG DE, and indicated they had difficulty in paying household bills, their switching point for the ET bill impact was £2.26 lower compared to higher income groups (all else equal). Note, though, that this result is not statistically significant at conventional levels for the ET-only sample, but direction of the result for the ET/GT pooled model, and hence indicative of the effect (i.e. negative relationship / lower switching point for these consumers).
- Attitude towards asset health: a positive view on proactive investment to maintain future reliability also had a positive effect on the switching value. Respondents who agreed with the statement that 'Bills will be higher in the future if the system is not properly maintained and invested in today' had a switching point that that was £3.59 higher compared those that disagreed (all else equal). Again, this result is not statistically significant at conventional levels for the ET-only sample, but it is in the same direction of the result for the ET/GT pooled model.
- Older age groups: respondents aged over 45 had a switching point that was £3.23 lower than respondents in younger age groups (all else equal).
- Experience of a power cut: this had a negative influence on the switching value. Respondents who have ever experienced a power cut had a switching point for the ET bill impact that was £1.39 lower (all else equal) than those that had never experienced a power cut.

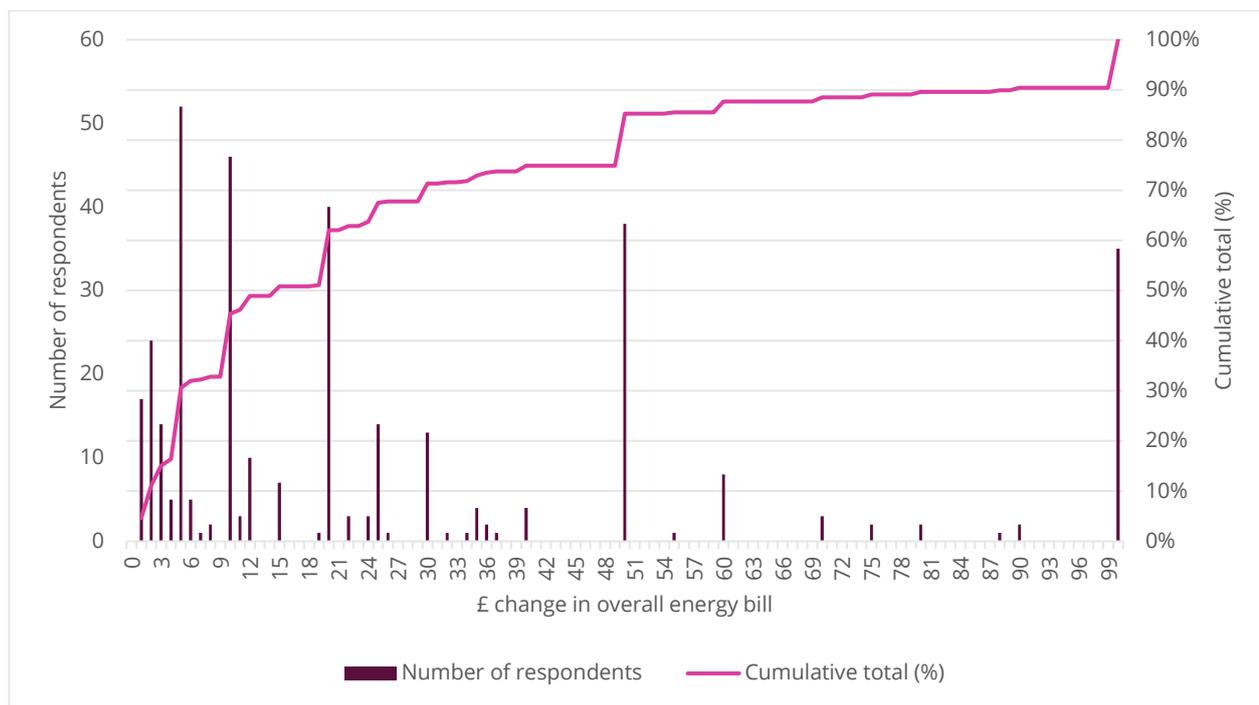
Results for other factors of interest were not found to be statistically significant for the overall pooled model and ET-only sample, although the direction of the effect is reported in Figure 3.28 for general reference.

Limit of overall energy bill changes within which bill impact is acceptable

Respondents also indicated the limit – in terms of changes in overall change in energy bill – within which the ET Business Plan and bill impact would still be considered 'acceptable' or 'very acceptable'. Again, a varied range of responses was observed (Figure 3.29), from £1 to over a £100 increase²².

²² As with the switching points, responses over £100 were dropped as outliers in order to provide conservative estimates that avoid skewing the calculation of average results. Approximately 80% of the sample provide responses of £100 or lower.

Figure 3.29: Distribution of household responses on 'limits' to energy bill



Household pooled (online + in-person): n=366. Only includes respondents that first indicated that the change in the proposed plan would still be acceptable if other parts of the bill changed (885 respondents) and indicated a monetary value for the change (464 respondents). Among these, the remaining 98 respondents (21%) were assessed as outliers.

The (mean) average 'limit' within which the ET Business Plan is acceptable is approximately +£28 per year change in other parts of the overall energy bill (roughly £2.29 per month), with a median value of approximately +£15 per year (£1.25 per month). Hence, the headroom (i.e. the maximum acceptable increase) around the acceptability of the ET Business Plan is about a 2.5% increase in the overall household energy bill – assuming an annual dual fuel bill of £1,120 per year.

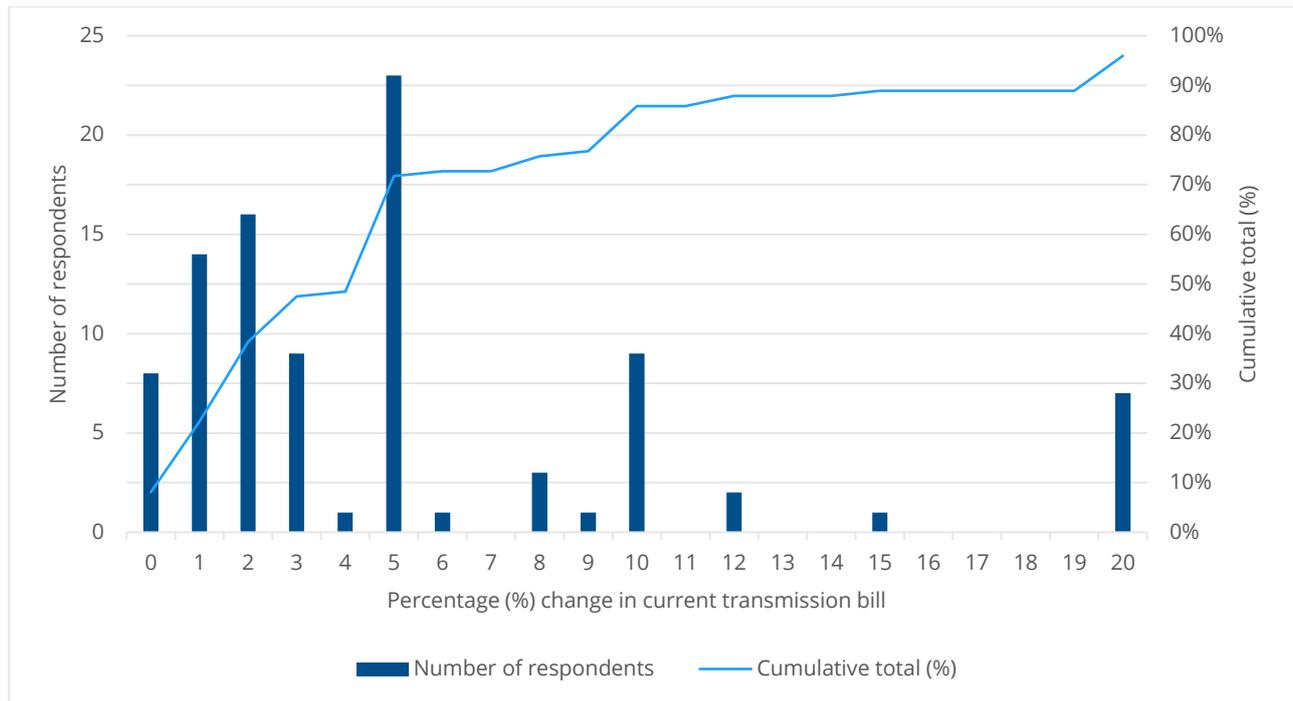
3.2.3 Limits of acceptable bill impact - businesses

Similar to household respondents, business consumers were also asked about their limit of acceptability or 'switching point' (acceptable vs. unacceptable) for the additional bill impact for the ET bill amount (as a percentage change in their current electricity bill) (Figure 3.30)²³.

For business respondents the observed response ranged between 0 percentage points and 60 percentage points (Figure 3.30), where 96% of responses refer to up to 20 percentage points. In total, only 8 respondents (i.e. 5% of the sample) indicated no change in the transmission bill. The (mean) average acceptable change in bill was approx. +7 percentage points (on current amount paid), with a median of +5 percentage points (n=99). Compared to the National Grid proposal of approximately a 4 percentage point increase, the business consumers' limit is closer to the proposed bill impact than the corresponding household limit.

²³ Unlike the household version, business respondents were not asked a separate question on the limit of overall energy bill changes within which the bill impact is acceptable – principally because respondents were not asked to state their overall energy bill at the start of the question. This was because additional questions were included to profile business respondents use and estimated consumption of electricity.

Figure 3.30: Distribution of business responses on ‘switching point’



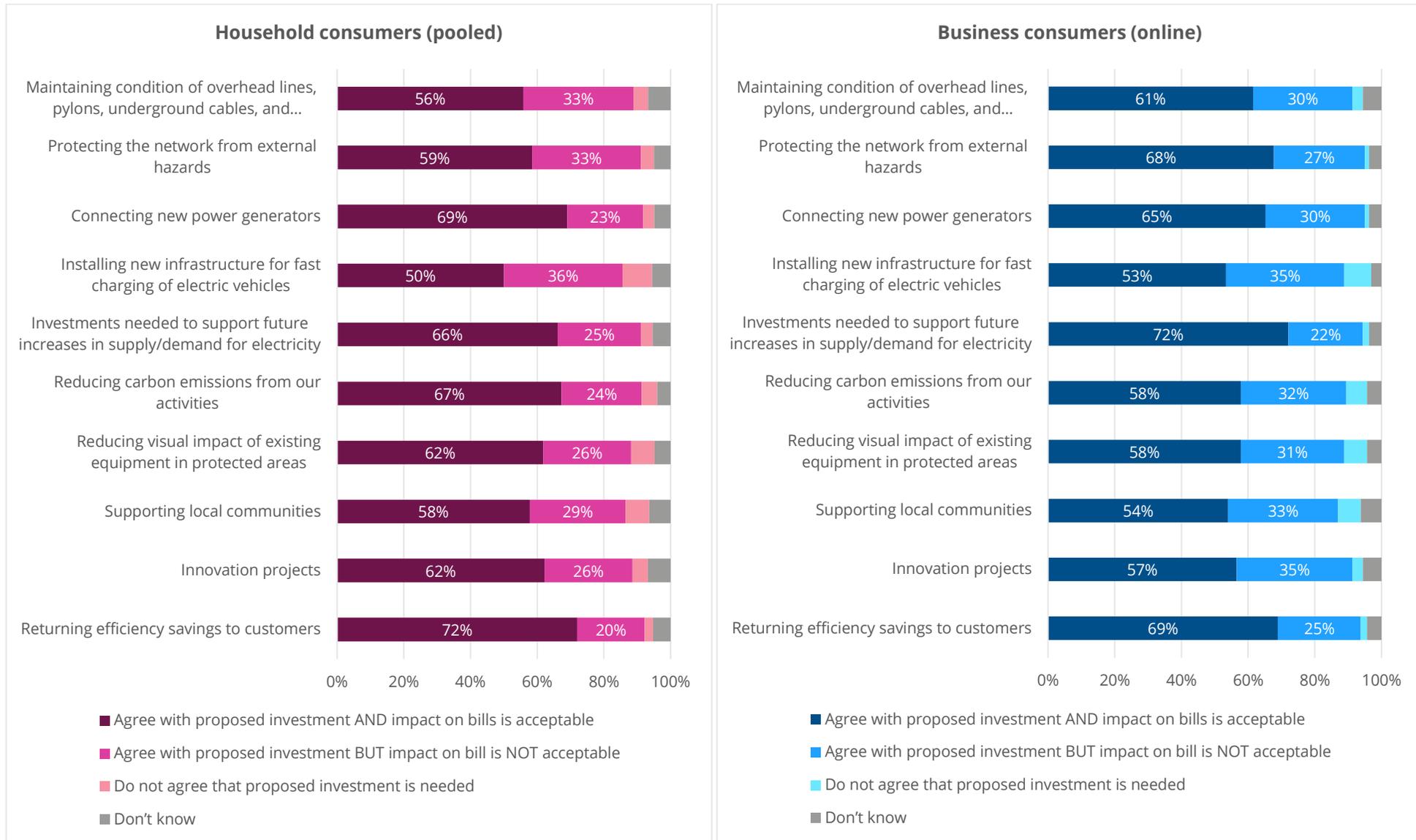
Business (online): n=95. A total of 99 respondents (61% of the overall sample) stated a switching value (the remainder stated ‘don’t know/prefer not to say’). Among these, 4% (4 respondents) were assessed as outliers.

3.3 Acceptability of proposed investments

Respondents were presented with information on 10 individual investments, within five investment areas for the ET Business Plan, and the associated bill impacts (as summarised in Figure 2.10). As described in Section 2.2, respondents were asked to state whether each individual investment proposal was acceptable, in terms of: (a) agree with the proposed investment and its specific bill impact; (b) agree with the proposed investment but not the bill impact; (c) do not agree with the proposed investment; or (d) don’t know. Overall results are presented in Figure 3.31, which shows a consistent pattern of responses for both household and business respondents:

- The majority stated that the proposed investments and the bill impact was acceptable – on average around 60% for household respondents and 61% for business respondents;
- A small, but consistent proportion of respondents stated their support for the investment proposals but challenged the individual bill impacts (on average 27% household respondents, and 30% business respondents); and
- Very few respondents outright rejected the proposed investments and the need for action by National Grid (on average 5% household respondents; 4% business respondents).

Figure 3.31: Acceptability of individual investments – electricity transmission (% respondents)



Household pooled: n=1,258 (online: n=1,056; In-person n=202); Business n=161.

3.3.1 Reasons for agreeing with the proposed investments

Questions in the survey probed consumers’ views on the acceptability of the individual investments, including the priorities for these investments and other characteristics that defined their responses.

Investment priorities

Respondents were asked to rank the four investment areas and two additional bill changes from most important (1) to least important (6). There was a consistent pattern across both household and business respondents (Table 3.6), with the most important area being ‘Ensuring a safe and reliable network’ and the least important ‘Innovation projects’. ‘Improving the environment and supporting local communities’ was normally towards the bottom of the ranking and the remaining areas were largely interchangeable.

Table 3.6: Ranking of electricity transmission investment areas

Rank	Investment
1	Ensuring a safe and reliable network
2 =	Planning the energy system of the future; Protecting the network from external hazards; Returning efficiency savings to our customers
-	
-	
5	Improving the environment and supporting local communities
6	Innovation projects

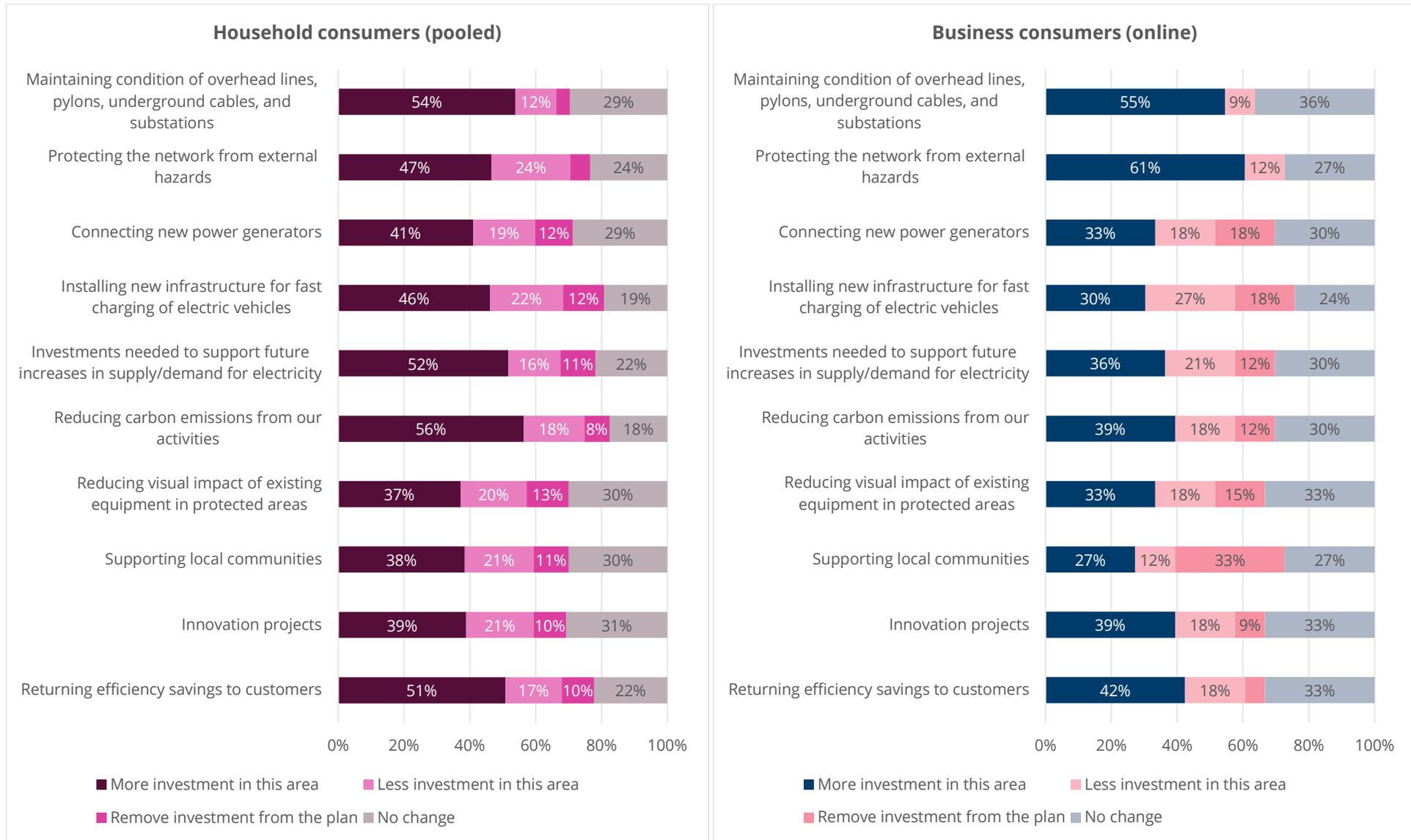
Household pooled: n=1,258 (online: n=1,056; In-person n=202); Business n=161.

Respondents were also asked whether they would make any changes to the proposed plan. A total of 234 household respondents (19% of the household sample) and 33 business respondents (20% of the business sample) stated that some changes would make the plan more acceptable. Figure 3.32 summarises the changes that these respondents would make to the individual investments. The observations are:

- The majority of respondents supported the proposed investments, indicating they wanted either ‘more’ investment (approximately 40% of respondents) or ‘no change’ (approximately 30% of respondents). These equate to approximately 13% of the overall household pooled sample and 14% of the overall business sample.
- A minority indicated a preference for ‘less’ investment (approx. 20% of respondents; 4% of the household pooled and business samples) or that the investment should be removed from the plan (approx. 10% of respondents; or 2% of the household pooled and business samples). This corresponds with the low proportions overall that indicated that the ET Business Plan was not acceptable.

There is also some variation between the individual investments. In line with consumers’ ranking of investment areas, ‘Maintaining condition of overhead lines, pylons, underground cables, and substations’ (i.e. ‘Ensuring a safe and reliable network’) had high levels of support and ‘Supporting local communities’ and ‘Innovation projects’ had lower levels of support.

Figure 3.32: Changes to investments (% respondents)

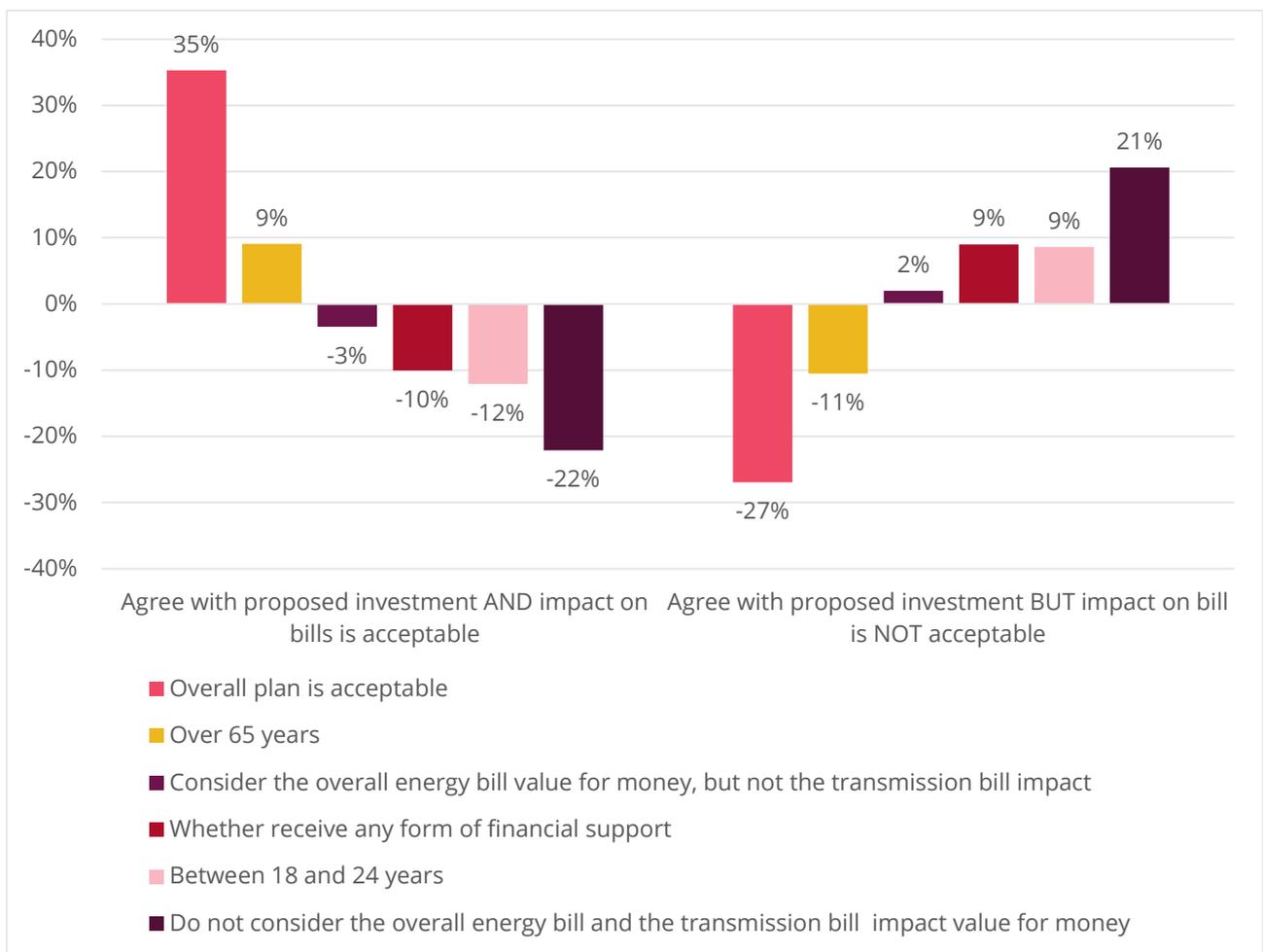


Household pooled: n=234; Business n=33. Only respondents that indicated they would make changes to the investment plan.

Respondent profiles

Figure 3.33 reports results from an analysis of the likelihood of household respondents stating either: (a) agree with the proposed investment and the bill impact; or (b) agree with the proposed investment but not the bill impact. This shows the average probability (in %) of selecting either response by a selection of respondent characteristics, including their answers to other survey questions (overall acceptability of the plan, value for money of transmission bills and energy bills), indicators of vulnerable circumstances, and socio-economic and demographic factors. The results shown are the averages over all 10 investments. The full model specification tested for the likelihood of respondents stating: (a) agree with the proposed investment and its specific bill impact; (b) agree with the proposed investment but not the bill impact; or (c) do not agree with the proposed investment. Annex 6 provides the full set of results^{24,25}.

Figure 3.33: Household respondents - average likelihood of agreeing with the proposed investment by different respondent characteristics



Household Pooled (ET - online + in-person): average sample size across 10 models - n=1,085. Given that this is an average of 10 models, commentary is included in the text on statistical significance.

²⁴ Results with respect to 'Do not agree that proposed investment is needed' were mostly not significant, due to the small number of respondents that selected this option for each investment.

²⁵ Note, equivalent analysis was not conducted for the business sample (161 respondents) due to the sample size.

The main observations are:

- Overall acceptability of the Business Plan: this factor has the strongest correlation with the likelihood of a respondent stating the individual investment and the bill impact are acceptable. In line with expectations, if the respondent stated that the Business Plan was acceptable ('acceptable' or 'very acceptable') they were 35% more likely to agree with the investment and bill impact than those who stated the overall plan was 'unacceptable' (all else equal). Similarly, they were 27% less likely to agree with investment but not the bill impact, than those who stated the overall plan was 'unacceptable' (all else equal).
- Value for money of both the transmission bill impact and energy bill: consistent with previous findings on overall plan acceptability, respondents who did not consider the transmission bill impact and their overall energy bill value for money were 22% less likely to find an investment and its bill impact acceptable - compared to those who thought otherwise (all else equal). The respondents in this group were also 21% more likely to agree with the plan but not the bill impact, than those who did not have the same view on value for money of the bills (all else equal).
- Youngest age group: respondents between the age of 18 and 24 years were 12% less likely to agree with a proposed investment and bill impact than those over the age of 24 years (all else equal). Similarly, respondents in the youngest cohort were 9% more likely to agree with the proposed investments but not the bill impact, than those over the age of 24 years (all else equal). Note, however, this result was not statistically significant for 5 out of 10 of the investments.
- Oldest age group: respondents over the age of 65 years were 9% more likely to agree with an investment and the bill impact, compared to those below the age of 65 (all else equal). This group was also 11% less likely to agree with the investment but not the bill impact, compared to younger cohorts (all else equal).
- Financial support on energy bills: respondents who stated they received any form of support on energy bills were 10% less likely to find a proposed investment and the bill impact acceptable, compared to those that do not receive any form of financial support (all else equal). These respondents were also 9% more likely to agree with the investment and not the bill, compared to those that do not (all else equal).
- Value for money of the overall energy bill but not the transmission bill: respondents who considered the overall energy bill to be value for money, but did not consider the transmission bill to be value for money were 3% less likely to find both the investment and bill impact acceptable compared to those who thought otherwise (all else equal). The respondents in this group were also 2% more likely to agree with the proposed investments but not the bill impacts, compared to others (all else equal). Note, however, this result was not statistically significant in 9 of the 10 models.

These findings are further illustrated by an analysis of the profile of consumers who tended to agree with the proposed investments. Three groups of household respondents were identified:

- First, the majority (70%) of respondents that indicated that the investment and the bill impact were acceptable;
- Then two types that agreed with the investment but did not find the bill impact acceptable:

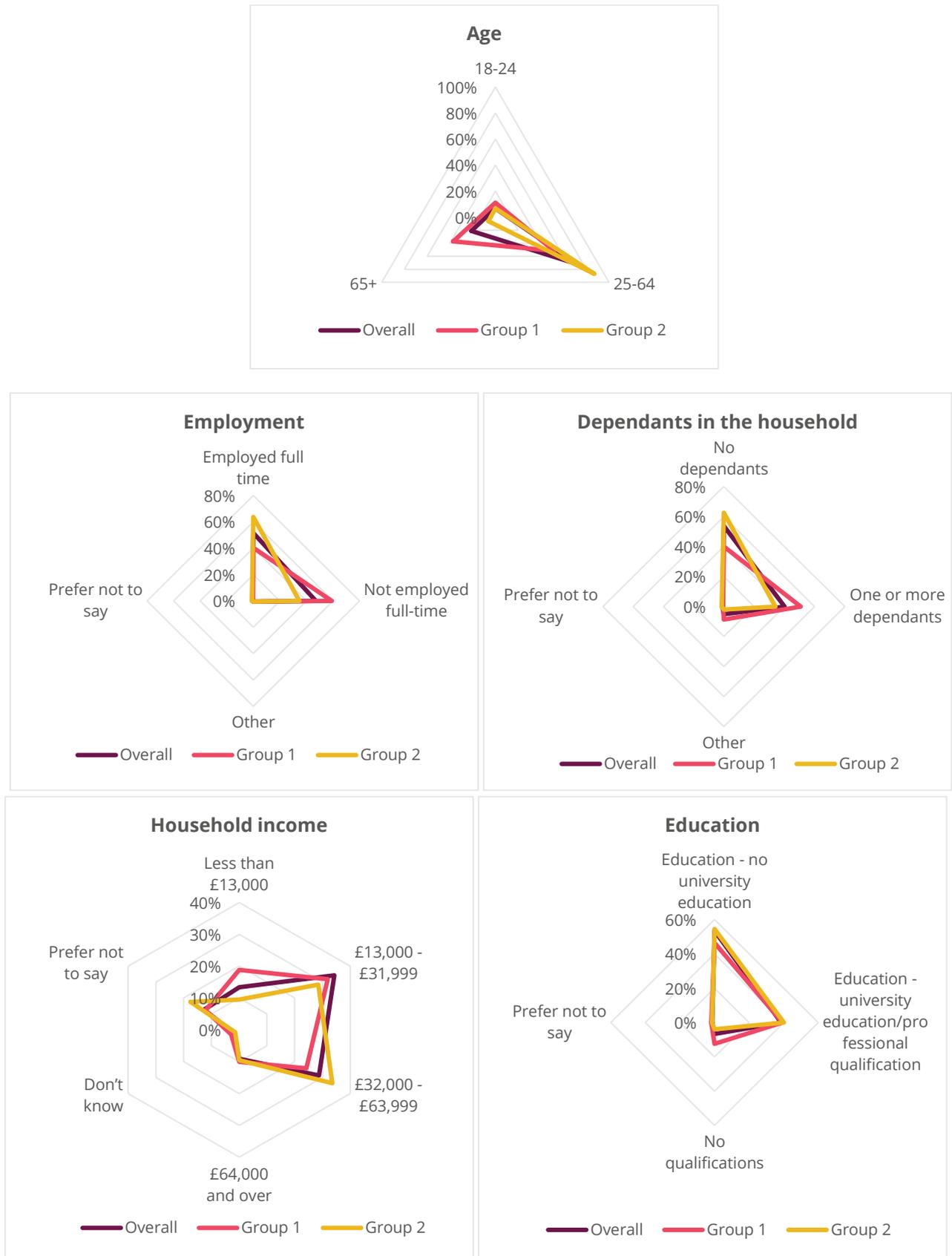
- A relatively small group (approx. 10% of the overall sample) that indicated concerns around affordability (labelled 'Group 1'); and
- A larger group (approx. 20% of the overall sample) who typically saw overall bills and the investment as poor value for money (labelled 'Group 2').

Comparisons of the Group 1 and 2 profile in terms of age cohort, employment, dependants in the household, household income and education are shown in Figure 3.34²⁶. Annex 7 provides further detail. Compared to the nationally-representative overall sample, the main findings are:

- Age: Respondents in Group 1 ('affordability concerns') were more likely to be in either the youngest age group (18-24) or the oldest (65+) compared to the overall sample. In comparison, respondents in Group 2 ('value for money concerns') were more likely to be aged between 25-64 years.
- Employment: Group 2 respondents were more likely to be employed than the overall sample, and Group 1 was equivalently more likely to be unemployed, retired etc.
- Dependants (children or elderly) in the household: Group 1 respondents were more likely to have one or more dependants living in the household compared to the overall sample, while Group 2 respondents are more likely to have no dependants in the household.
- Household income: Respondents in Group 1 were more likely to be in a low-income group, with gross annual household income less than £13k, compared to the overall sample. In contrast, Group 2 respondents were more likely to earn gross annual household income greater than UK median (approx. £32k).
- Education: Respondents in Group 1 were more likely to report having no education or professional qualifications compared to the overall sample. In contrast to Group 2, which is more in line with the overall sample profile.

²⁶ As comparison of Socioeconomic group (SEG) conflates multiple dimensions of respondent socio-economic characteristics, including income and employment, these dimensions are assessed separately.

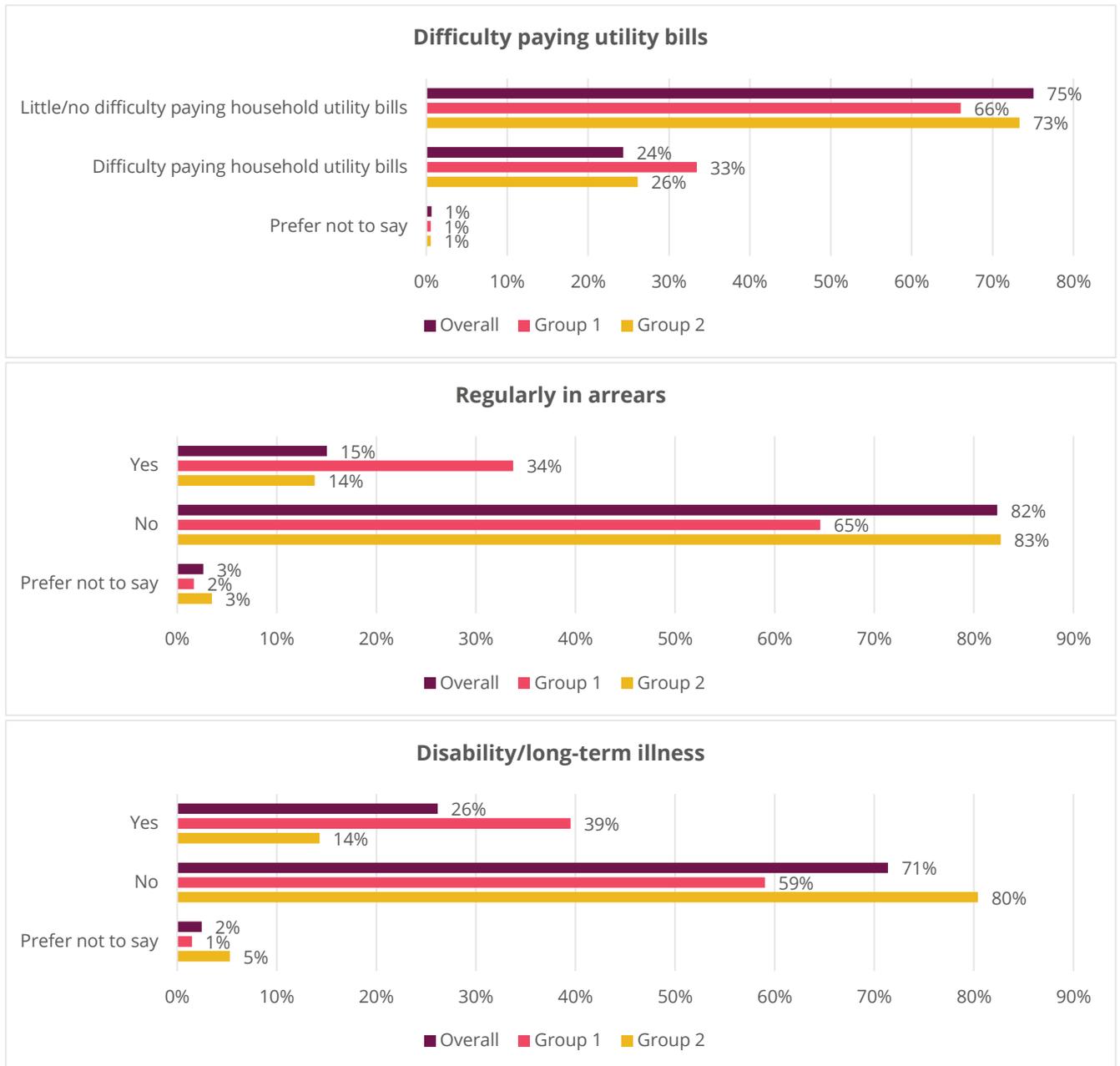
Figure 3.34: Household respondent profiles for acceptability of individual investments and bill impacts - overall versus Group 1 and 2 respondents



Household pooled (online + in-person): n=1,258.

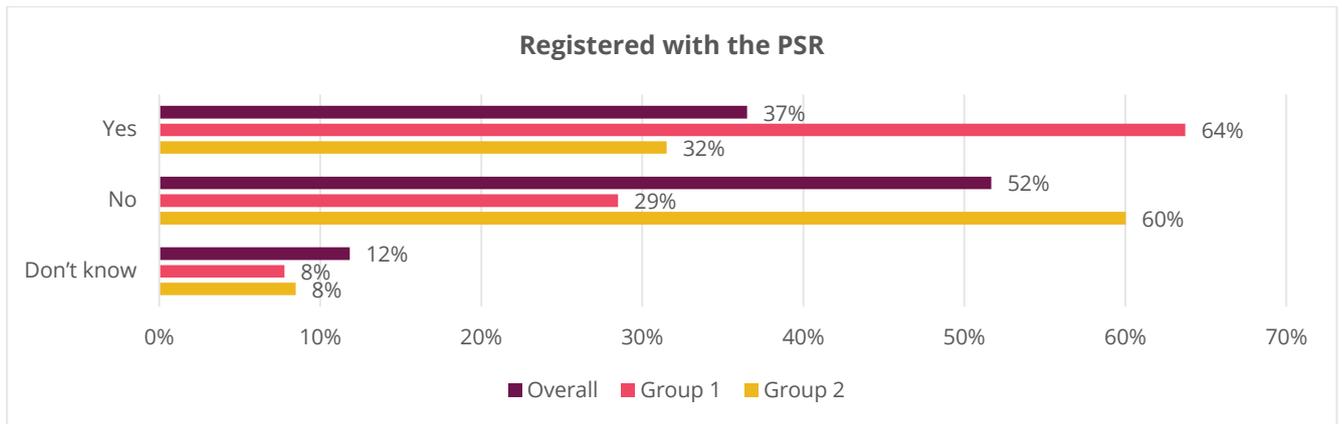
Another dimension distinguishing the Group 1 and 2 profiles are indicators of households that are potentially in vulnerable circumstances (as per Section 3.1). The key criterion for identifying the Group 1 respondents was that all of these respondents receive some form of financial support for energy bills (e.g. Cold Weather payments). Furthermore, as Figure 3.35 shows, this group has higher proportions of respondents that stated they encountered difficulty in paying household utility bills, a household member with a disability, registered with the PSR, and more likely to be in arrears²⁷.

Figure 3.35: Indicators of vulnerable circumstances - overall versus Group 1 and 2 respondents



²⁷ It was also observed that Group 1 respondents tended to have a higher proportion of households on a prepayment card/meter compared to Group 2 and the overall sample – although the distinction was less strong than the results shown in Figure 3.35.

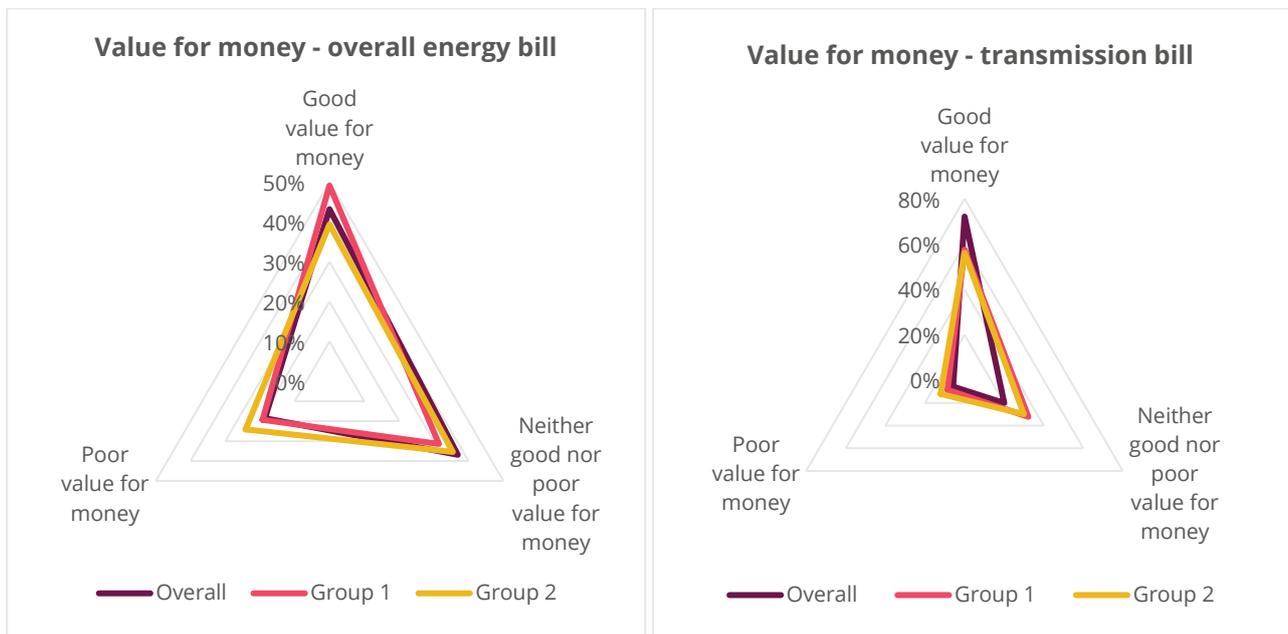
Figure 3.35: cont.



Household pooled (online + in-person): n=1,258.

Figure 3.36 shows that – compared to the overall sample - both Group 1 and 2 respondents were more likely to consider the ET Business Plan to be either poor value for money or indifferent. However, Group 1 respondents were more likely to consider the overall energy bill to be good value for money, while Group 2 respondents were more likely to consider the energy bill poor value for money.

Figure 3.36: Value for money – overall versus Group 1 and 2 respondents



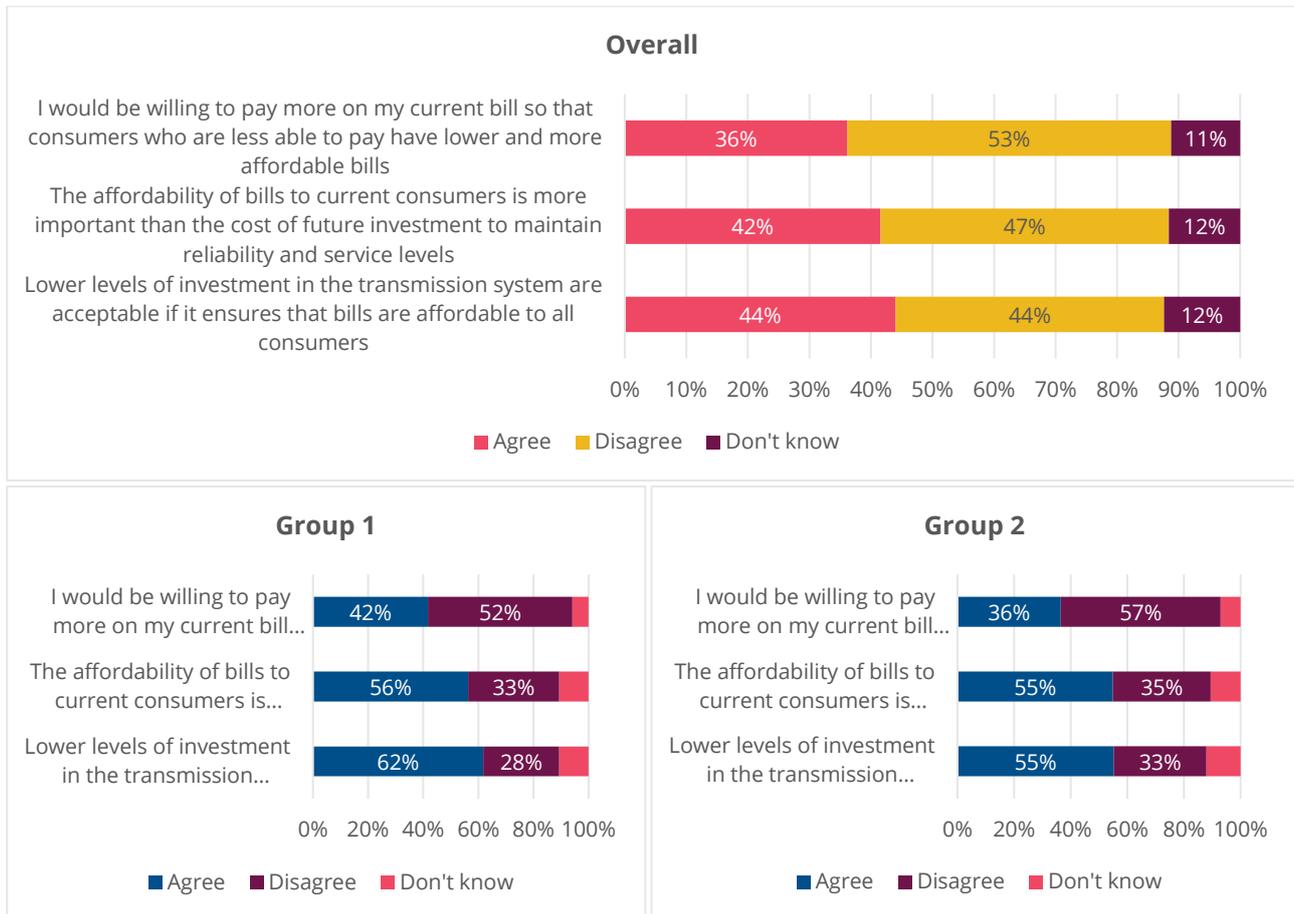
Household pooled (online + in-person): n=1,258.

Also observed in the data, was that Group 1 respondents tended to pay a higher annual dual fuel bill (approx. £2,010 per year) compared to Group 2 (approx. £1,375 per year) and the overall sample (approx. 1,353/year). To put this in perspective, Group 2 and overall sample results are comparable to the national average energy bill of £1,120, while the Group 1 average bill is almost 80% higher.

The Group 1 and 2 respondents also differed from the overall sample in terms of their responses to attitudinal questions in the survey. Figure 3.37 compares the respective responses on attitudes towards affordability. Overall, Group 1 and 2 respondents were more likely to agree to the statements concerning

the affordability of current bills versus the costs of future investment, and that lower levels of investment are acceptable if it ensures that bills are affordable to all consumers. Indeed, these were the majority views for the Group 1 and 2 respondents, whereas the overall sample response was more evenly balanced.

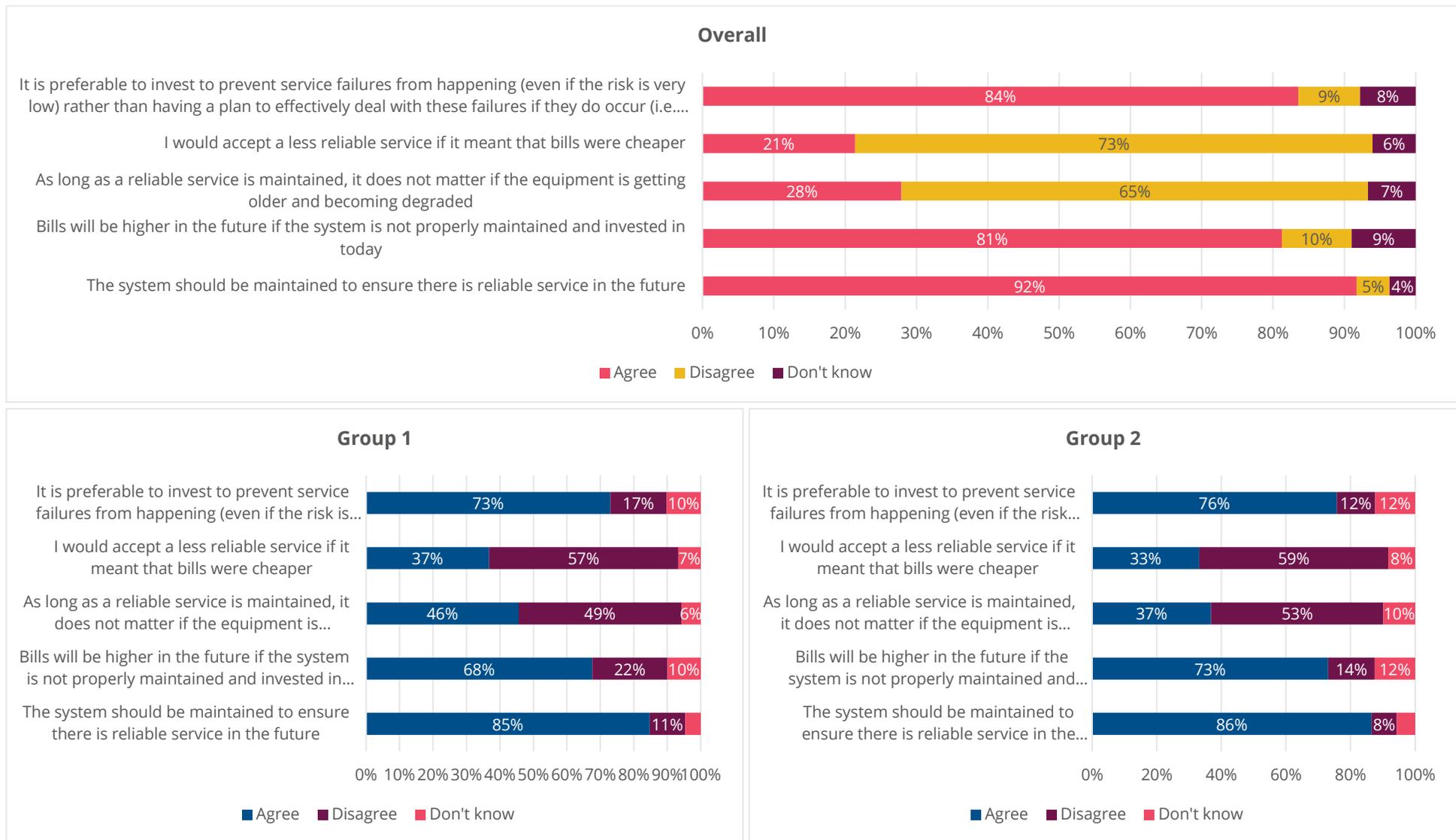
Figure 3.37: Attitudinal responses on affordability – overall versus Group 1 and 2 respondents



Household pooled (online + in-person): n=1,258.

Figure 3.38 compares responses from the overall sample on attitudes on asset health (Figure 3.29) with those from respondents in Group 1 and 2. Overall, both Group 1 and 2 respondents were less likely to agree with statements that emphasise the need to ensure long-term reliability within the energy system, and more likely to agree with the statements that suggest a compromise between lower bills and lower reliability. Group 1 respondents were also less likely (than Group 2) to agree with the statements that ensure long-term reliability within the energy system. They were also more likely to agree with the statement that suggests a compromise between lower bills and lower reliability would be acceptable. In contrast, Group 2 respondents were less likely (than Group 1) to agree with the statement that electricity transmission equipment does not need to be maintained, as long as service levels are maintained.

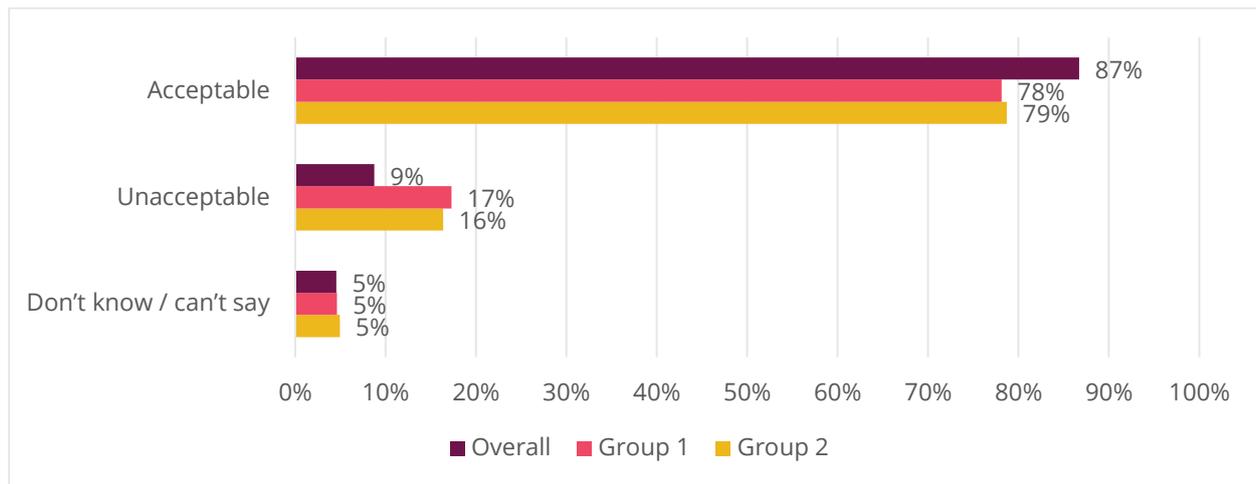
Figure 3.38: Attitudinal responses on reliability – Overall versus Group 1 and 2



Household pooled (online + in-person): n=1,258.

Despite the diverging views of the Group 1 and 2 respondents on the acceptability of the individual investment proposals and aspects around value for money and affordability, the level of acceptability for the overall ET Business Plan was still high. Almost 80% indicated that the plan is acceptable (“very acceptable” or “acceptable”) (Figure 3.39); hence whilst the bill impact of the individual investments was challenged, the overall plan was still viewed as acceptable – potentially because this was the ‘net’ change factoring in the efficiency savings component²⁸.

Figure 3.39: Acceptability of overall business plan – overall versus Group 1 and 2 respondents



3.3.2 Reasons for not agreeing with proposed investments

A very small number of respondents indicated that they did not agree with the proposed investments (on average 5% of household respondents; on average 4% of business respondents). These respondents were asked why the investments were not acceptable. Given the limited number of responses, it is not possible to make any strong inferences from the results, but broadly – and for completeness – they tended to reflect the following:

- Current service levels are sufficient, so there is no need for more investment;
- The high cost of the bill impact;
- Principles-based responses about paying for National Grid’s activities – for example National Grid (or the government) should be paying for the investment or it will just increase profits/be paid to top staff;
- Environmental reasons - especially disagreeing with the need to invest to reduce environmental/climate change impacts, with a few indicating that some investments could cause negative impacts; and
- The investments are not necessary – for example as they do not consider the investment to be within the remit of National Grid or they do not see the benefits of the investments and would rather see the money reinvested/used elsewhere.

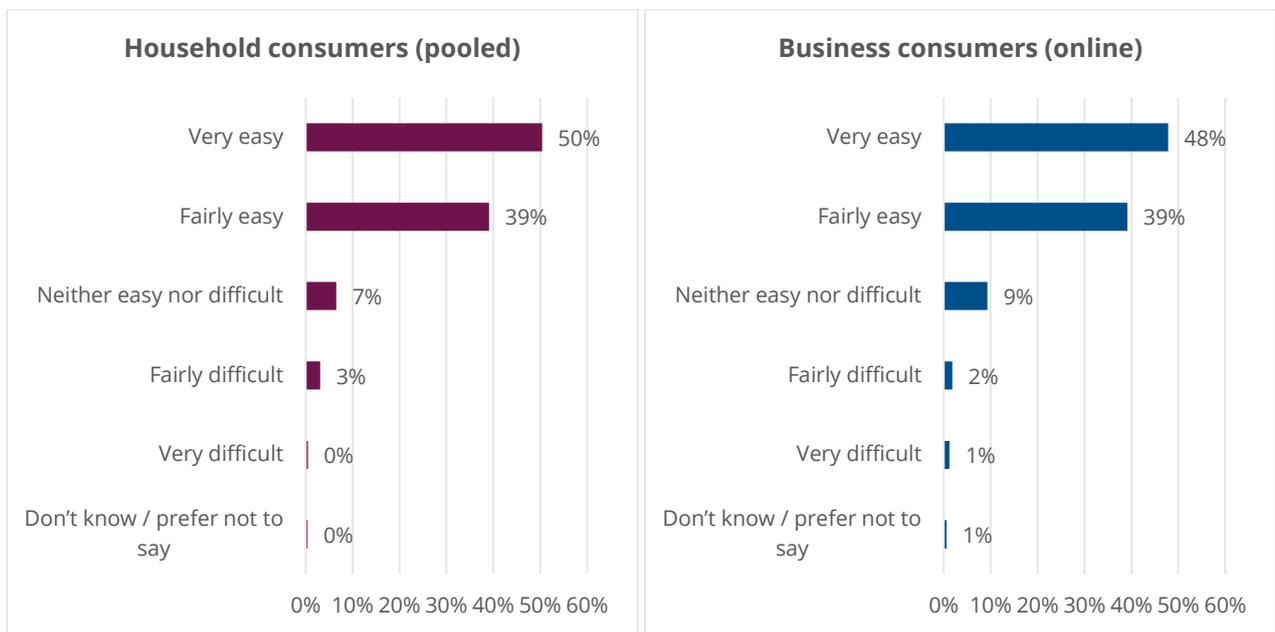
These findings are broadly in line with the reasons given for the unacceptability of the overall Business Plan (Figure 3.23).

²⁸ The stated reasons why the Business Plan was acceptable/unacceptable to group 1 and 2 respondents are in line with the overall sample, but the samples are too small to indicate stronger patterns. See Annex 7 for the full set of results.

3.4 Respondent feedback

The survey design and testing stage provided the first opportunity to gauge the level of understanding and respondent engagement with the survey. As set out in the Stage 1 Qualitative Research Report, the participants in the testing stage found the survey interesting and educational, and overall felt that it provides enough information about the proposals for the ET Business Plan to give an informed view on its acceptability. Subsequent feedback in the survey from respondents was consistent with this finding. As set out in Figure 3.40, the majority of household and business respondents (approx. 90%) stated that the survey was easy to complete (either “very easy” or “fairly easy”).

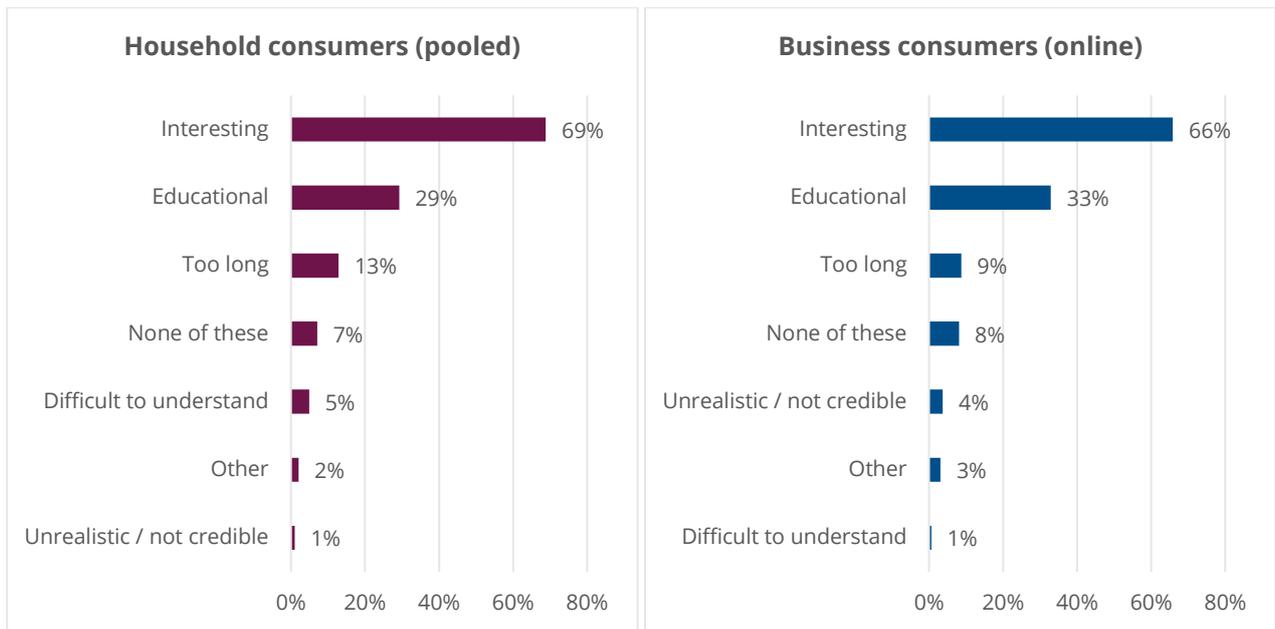
Figure 3.40: Ease of answering questions in the survey (% respondents)



Household pooled: n=1,258 (online: n=1,056; In-person n=202); Business n=161.

Furthermore, as set out in Figure 3.41, respondents' views on the survey overall indicated that most found it interesting (69% households; 66% business) and a significant proportion also reported that it was educational (29% households; 33% business sample). A relatively small proportion did state that it was too long (13% households; 9% business). Very few, however, respondents indicated that it was 'unrealistic/not credible' (13 household respondents; 6 business respondents). Overall, then, the positive view of the survey and high level of engagement from consumer observed in the qualitative testing stage held through the main survey implementation.

Figure 3.41: Feedback on the survey (% respondents)



Notes: Household pooled: n=1,258; Business n=161. Respondents were allowed to select more than one option in their response.

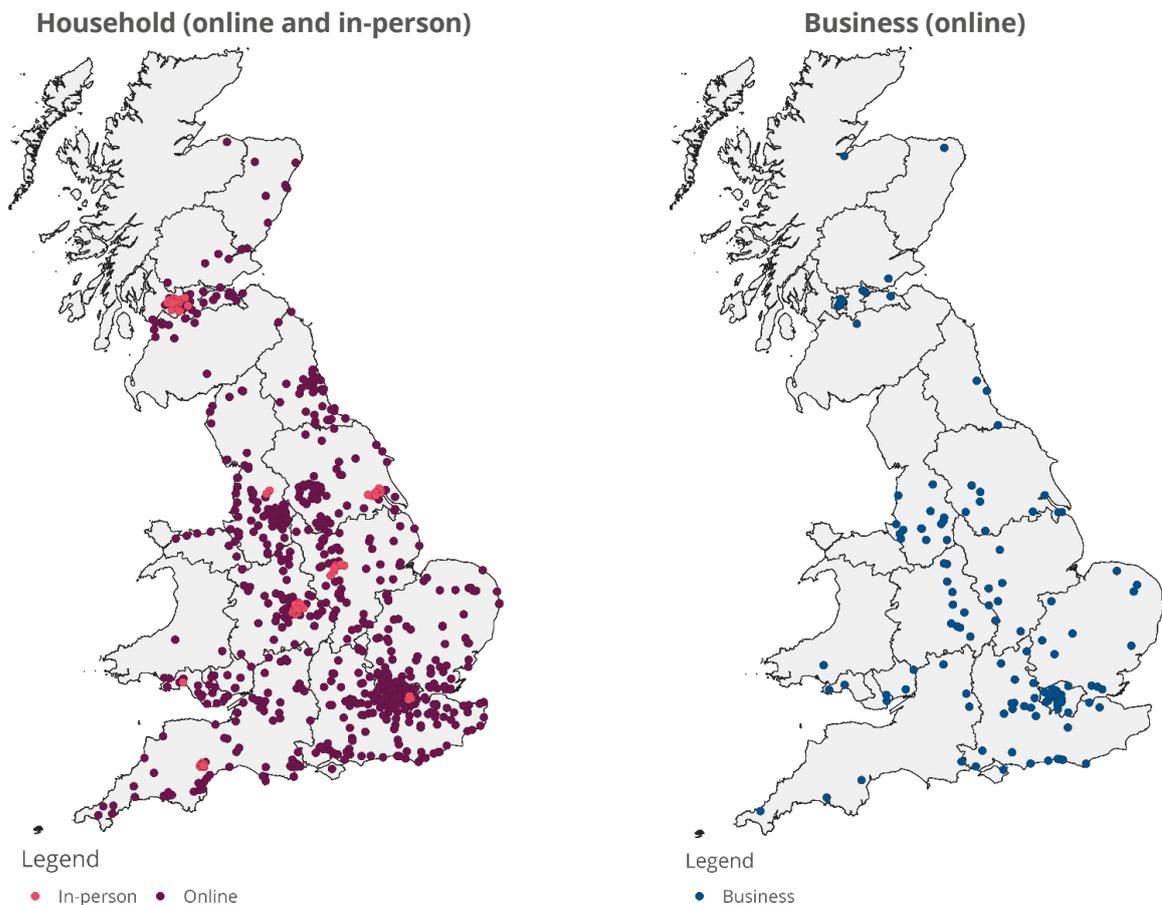
4. Gas transmission results

This section presents the results of the household and business samples for GT Business Plan. It includes the sample profile and representativeness, acceptability of the overall business plan, and acceptability of individual investment. Full summary statistics are provided in Annex 3.2 (household) and Annex 4.2 (business).

4.1 Sample profile

A total of 1,433 consumers participated in the research for the GT Business Plan, with 1,270 in the household (pooled) sample and 163 in the business sample. The household versions of the survey were administered to nationally representative samples of consumers through a combination of online (1,058 responses) and in-person interviews (212 responses). The business consumer version was administered via the online format only. Average survey completion times were 18 minutes for the household survey and 15 minutes for business survey. Figure 4.1 shows the geographic distribution of respondents by survey mode and sub-sample.

Figure 4.1: Distribution of survey respondents – GT Business Plan



Note: The map shows locations for respondents that provided postcode information (outcode only).

In addition, seven direct customers started the GT version of the survey, but none completed it. No further results are reported for direct customers.

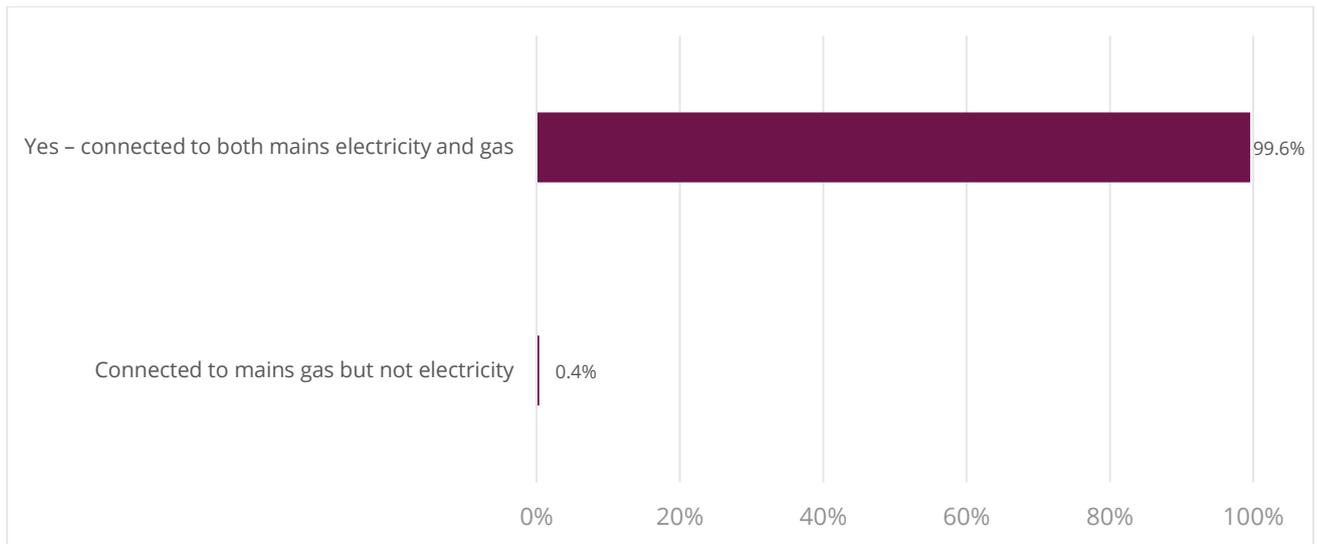
4.1.1 Household consumers

The household survey collected information on the socio-economic and demographic characteristics of household respondents.

Respondent screening and location

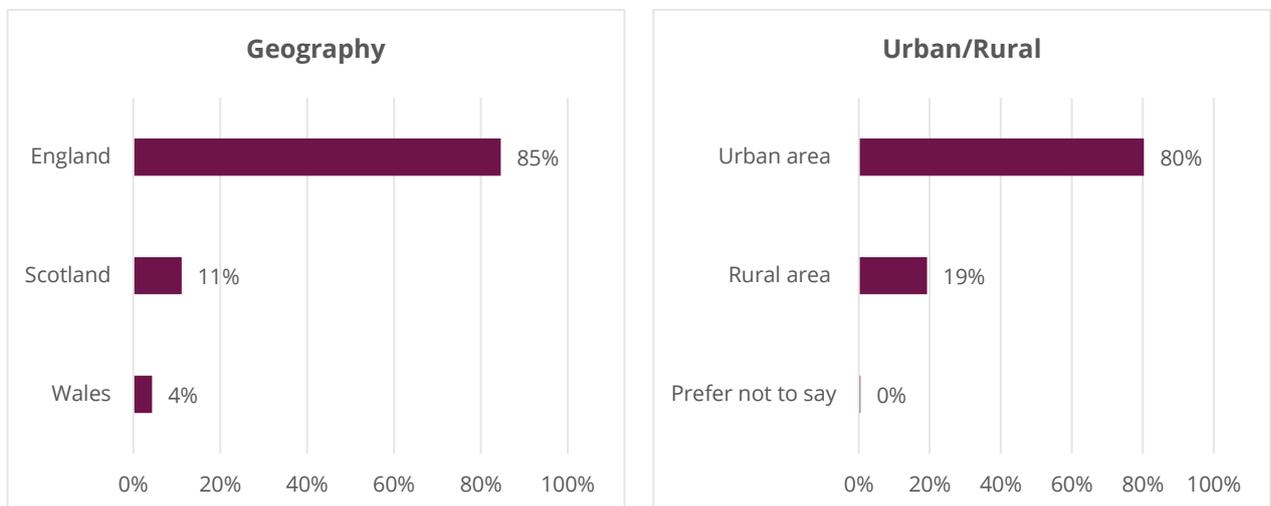
Figure 4.2 shows that almost all respondents were connected to both mains electricity and gas, while just five respondents (0.4%) were connected to mains only.

Figure 4.2: Connection to mains gas and electricity (n=1,270)



The breakdown of the sample in terms of location is provided in Figure 4.3. The majority of respondents were from England (85%) with the remaining split between Scotland (11%) and Wales (4%). The majority of respondents stated that they lived in an urban area (80%) and the rest a rural area (19%). Both sets of result are broadly in line with the household profile for England, Wales and Scotland.

Figure 4.3: Location (n=1,270)



Sample representativeness

The representativeness of the household (pooled) sample was assessed in relation to the sampling criteria specified in Section 2.3. The breakdown of the sample by age is shown in Table 4.1. Overall, the survey sample compares well with the national statistics and each age cohort is within +/- 2 percentage points difference of the national profile.

Table 4.1: Age (n=1,270)

		n	%
18 - 24		88	7%
	Quota		11%
25 - 34		195	16%
	Quota		17%
35 - 44		258	20%
	Quota		16%
45 - 54		252	20%
	Quota		18%
55 - 64		220	17%
	Quota		15%
65+		257	20%
	Quota		23%
Total		1270	

The proportion of male/female respondents is also consistent with the target quotas, with representation of the segment within +/- 2 percentage point of difference (Table 4.2).

Table 4.2: Gender (n=1,269)

		n	%
Female		627	49%
	Quota		51%
Male		642	51%
	Quota		49%
Total		1269	

Note: One respondent said "Prefer not to say".

Turning to respondent socio-economic group (SEG), segment DE is within 1 percentage points of target quotas. The sample shows oversampling of the segment AB, and correspondingly, segment C1C2 is under-sampled²⁹.

²⁹ Note that sampling weight were tested in the analysis but these did not alter the Business Plan acceptability results, hence the imbalance in the sample with regards to SEG does not have a material impact.

Table 4.3: SEG (n=1,270)

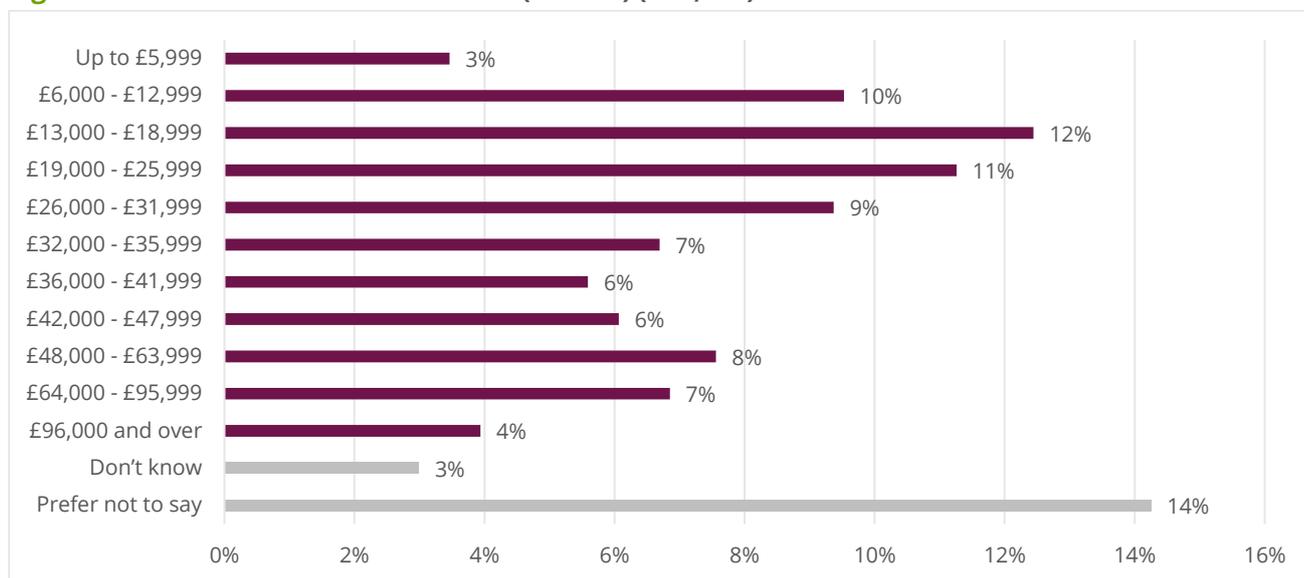
	n	%
AB	392	31%
Quota		22%
C1C2	538	42%
Quota		52%
DE	340	27%
Quota		26%
Total	1270	

Note: Market Research Society definitions are: A = professionals, very senior managers, etc.; B = middle management in large organisations, top management or owners of small businesses, educational and service establishments; C1 = junior management, owners of small establishments, and all others in non-manual positions; C2= skilled manual labourers; D = semi-skilled and unskilled manual workers; E = state pensioners, casual and lowest grade workers, unemployed with state benefits only (NRS, 2008 <http://www.nrs.co.uk/lifestyle-data/>).

Demographic and socio-economic profile

Figure 4.4 shows the classification of respondents in terms of household income. Average self-reported net total household income was approximately £32,000 per year, with a median within the range £26,000 - £31,999 per year and a mode within the range £13,000 - £18,999 per year. Overall, these results are largely consistent with average figures in the UK, where the ONS estimates median household disposable income was £28,400 in 2018³⁰.

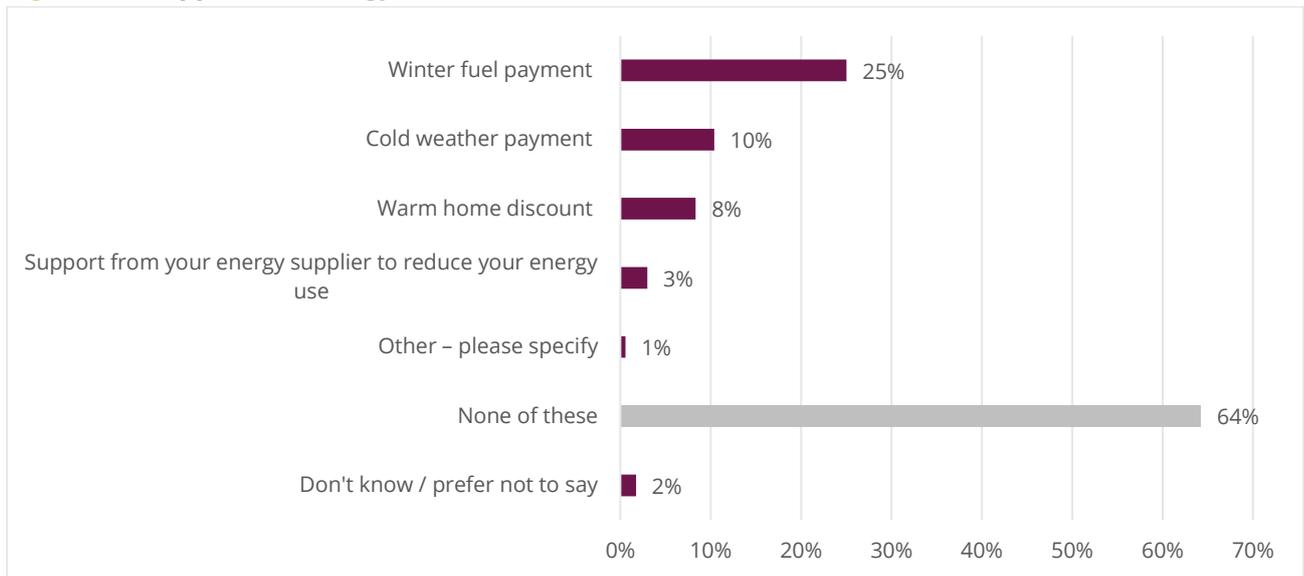
Figure 4.4: Total net household income (annual) (n=1,270)



Consumers potentially in vulnerable circumstances

A number of the survey questions provide indicators for households that are potentially in vulnerable circumstances. Overall, approximately 30% of the household sample met one or more of these criteria. Around 4 in 10 respondents received some form of financial support for their energy bills, through the winter fuel payment, cold weather payment or warm home discount (Figure 4.5). Among these, those who receive cold weather payment and warm home discount (i.e. 18%) are most likely to be in vulnerable circumstances as the payments/discount are targeted at households with elderly member on pension credit and/or disabled and households at risk of fuel poverty (respectively).

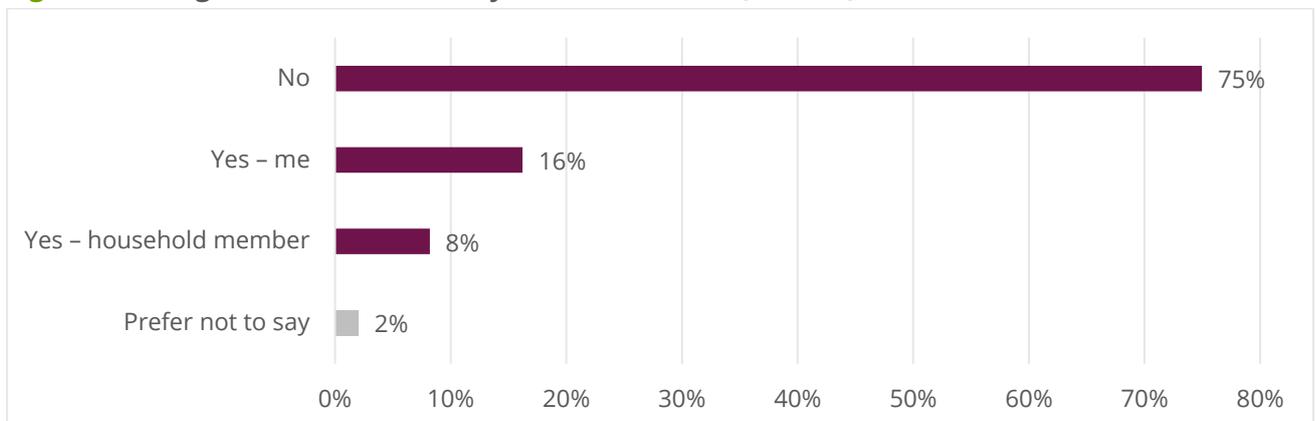
Figure 4.5: Support for energy bills (n=1,270)



Notes: Respondents could state more than one form of support (therefore responses do not sum to 100%).

Almost a quarter of respondents (24%) indicated that someone in their household had a long-term illness or disability (either 'Yes - me' or 'Yes - household member') (Figure 4.6).

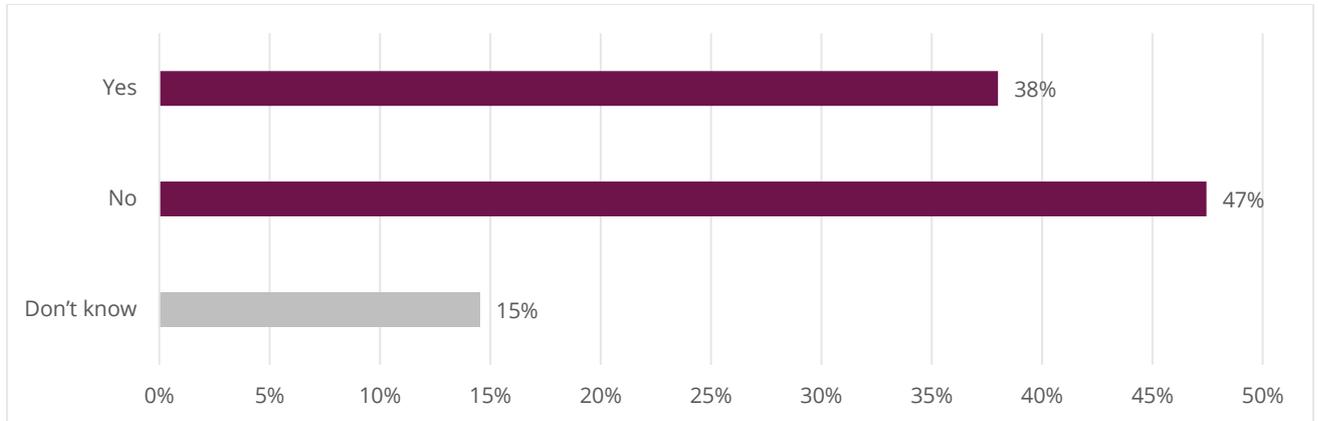
Figure 4.6: Long-term illness/disability in the household (n=1,270)



Notes: Respondent could select both 'Yes - me' and 'Yes - household' (i.e. options were multi-coded), so responses do not add up to 100%.

Under one-third of respondents stated that they knew of the Priority Service Register (PSR). Among these respondents, 38% (i.e. 12% of the overall sample) were registered with the PSR (Figure 4.7).

Figure 4.7: Registered with Priority Service registered (n=367)



Finally, a quarter of respondents (25%) indicated that they encounter some difficulty paying household bills (either 'sometimes' or 'always') (Figure 4.8), whilst around 1 in 5 (21%) stated that they were regularly in arrears (Figure 4.9).

Figure 4.8: Difficulty paying bills (n=1,270)

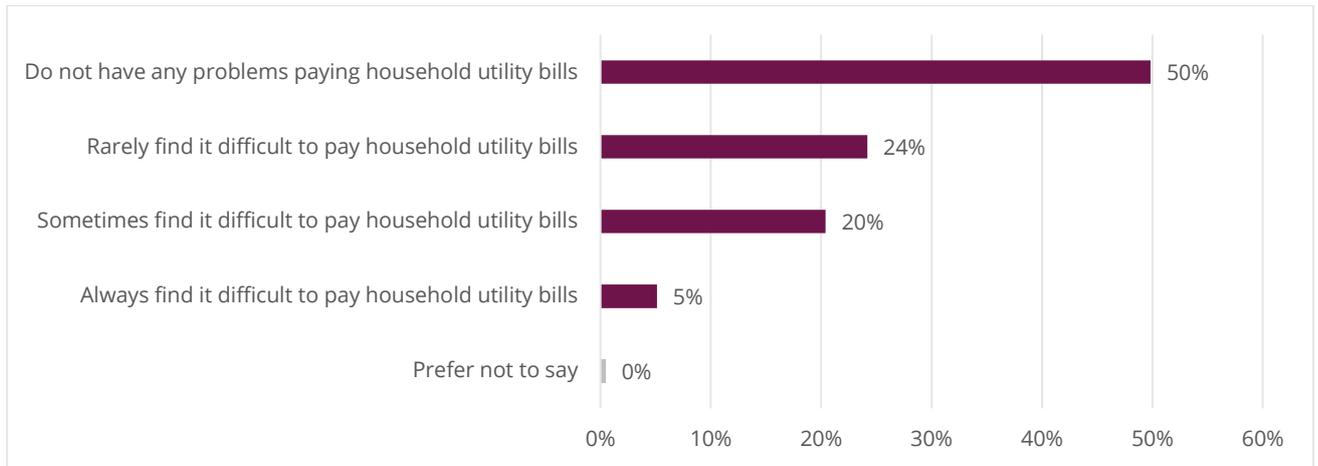
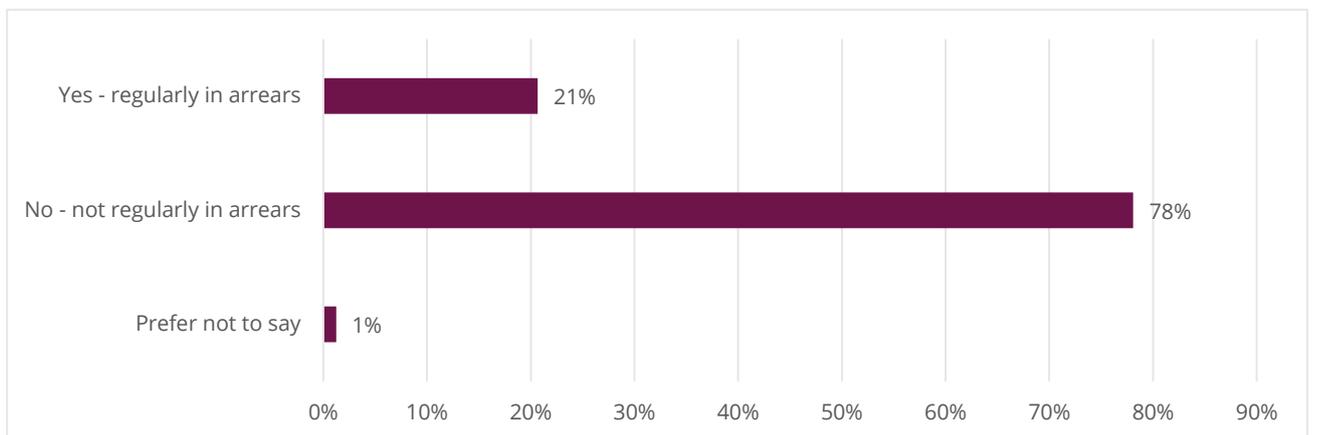


Figure 4.9: Regularly in arrears (n=1,270)

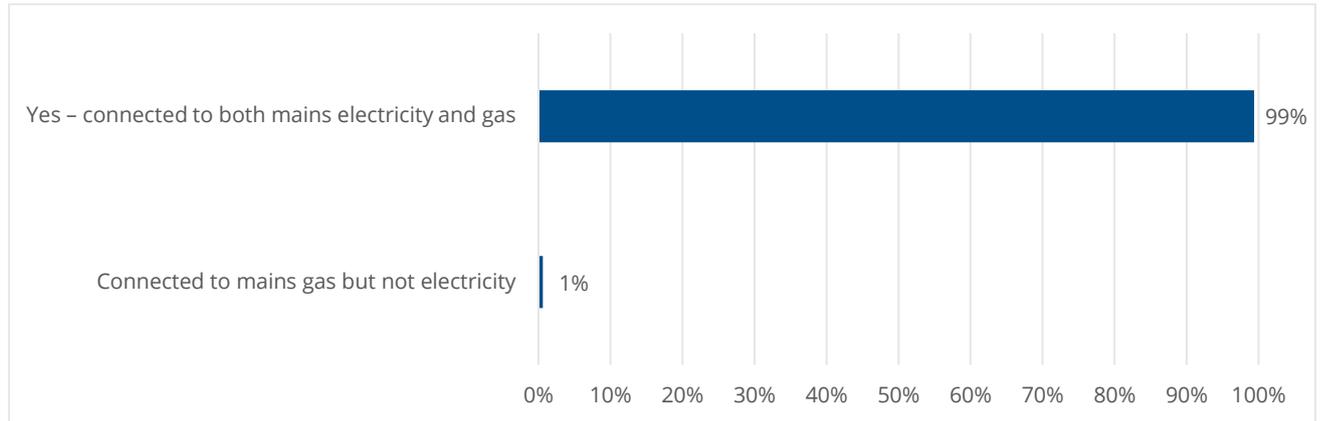


4.1.2 Business end-users

Respondent screening and location

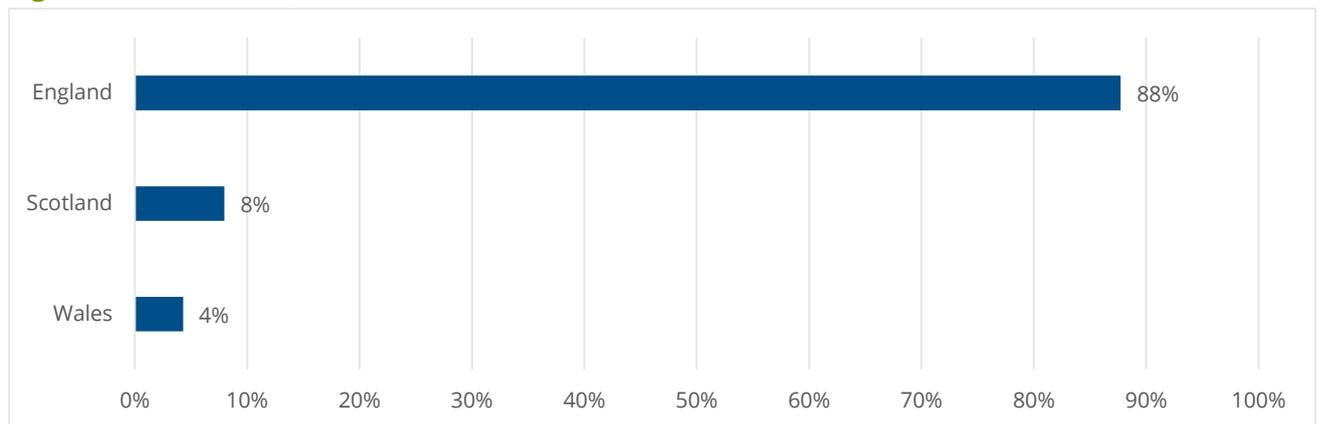
Figure 4.10 shows that almost all respondents (99%) of business respondents were connected to both mains electricity and gas, while just one respondent was connected to mains gas only.

Figure 4.10: Connection to mains gas and electricity (n=163)



The breakdown of the business sample in terms of location is provided in Figure 4.11. Similar to the household sample, the majority of respondents were from England (88%) with the remaining split between Scotland (8%) and Wales (4%).

Figure 4.11: Location (n=163)



Sample representativeness

The representativeness of the business sample was assessed in relation to the sampling criteria specified in Section 2.3. The breakdown in terms of sector³¹ is presented in Table 4.4. The primary industry corresponds perfectly with the target quotas. The sample shows oversampling of the tertiary industry, and correspondingly, secondary industry is under-sampled.

Table 4.4: Main activity (n=163)

	n	%
Primary industry	8	5%
<i>Quota</i>		5%
Secondary industry	20	12%
<i>Quota</i>		18%
Tertiary industry	135	83%
<i>Quota</i>		77%
Total	163	

Representation in terms of the number of employees was more varied but the overall pattern is representative of the national profile. Organisations with 10-49 employees are over-represented by 2 percentage points whilst smaller companies (of 0-9 employees) are under-represented by 10 percentage points. The remaining categories are within 4 percentage points difference of the national profile.

Table 4.5: Number of employees (n=163)

	n	%
0 - 9	131	80%
<i>Quota</i>		90%
10 - 49	17	10%
<i>Quota</i>		8%
50 -249	8	5%
<i>Quota</i>		1%
250+	7	4%
<i>Quota</i>		1%
Total	163	

Organisation profile

Consistent with the sample being comprised of mainly small businesses the vast majority of respondent organisations (84%) operated from a single site (Figure 4.12) and just over half (54%) reported annual turnover of less than £100,000 (Figure 4.13).

³¹ Primary industries involve extracting (e.g. mining) or growing (e.g. agriculture) raw materials from the natural environment. Secondary industries involve manufacturing and assembly process of converting raw materials into components/products. Tertiary industry refers to the commercial services that support the production and distribution of these goods (e.g. transport or advertising) as well as other services in the economy (e.g. teaching and health care).

Figure 4.12: Number of sites (n=163)

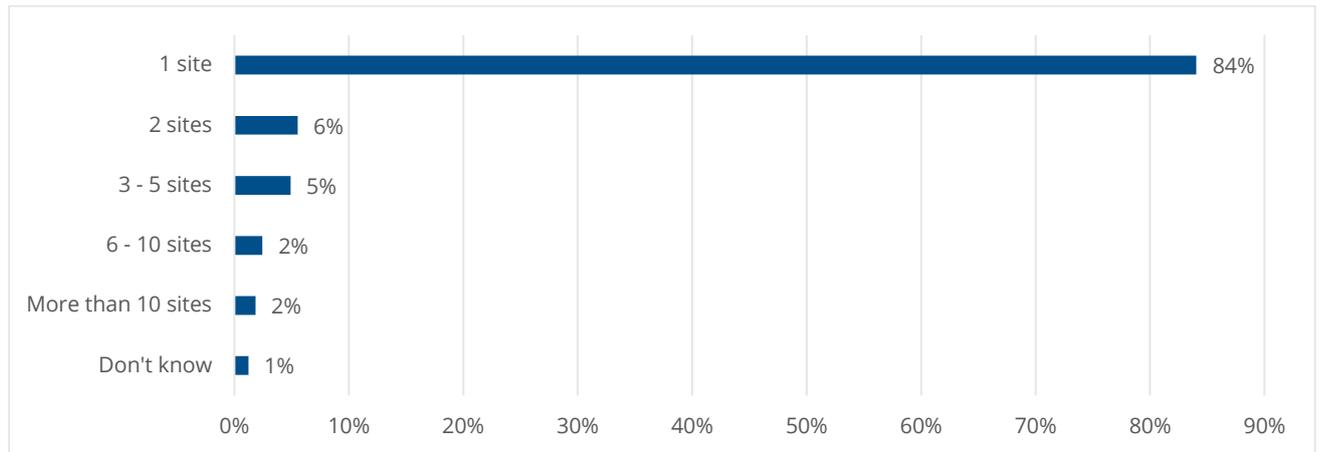


Figure 4.13: Annual turnover (n=163)

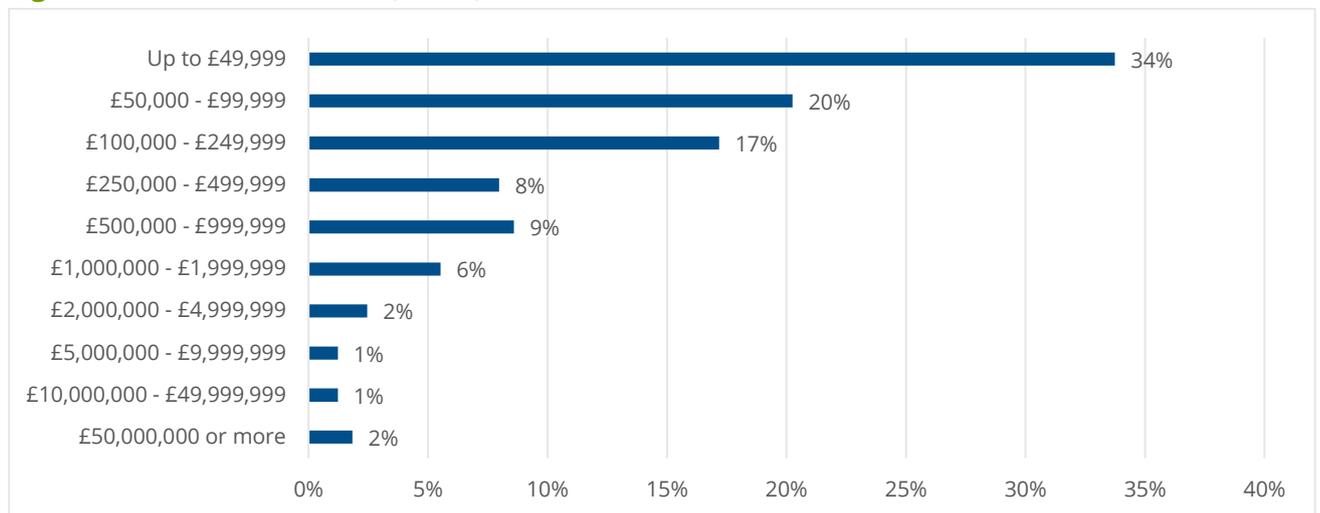
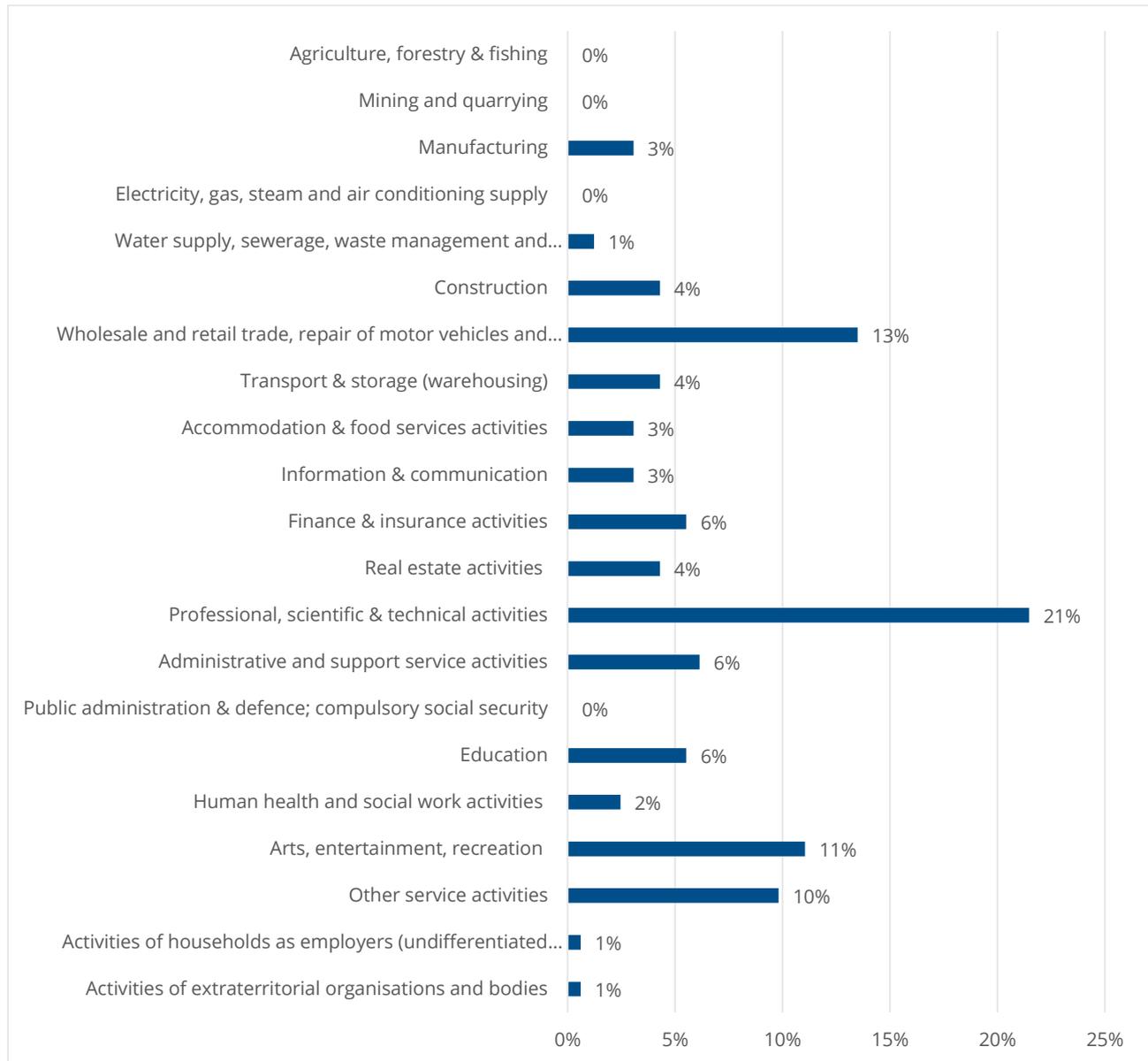


Figure 4.14 shows that respondent organisations were from a variety of different sectors, with the largest representation for 'Professional, scientific and technical activities' (21%), 'Wholesale and retail trade, repair of motor vehicles and motorcycles' (13%) and 'Arts, entertainment, recreation' (11%) sectors.

Figure 4.14: Business activities (n=163)

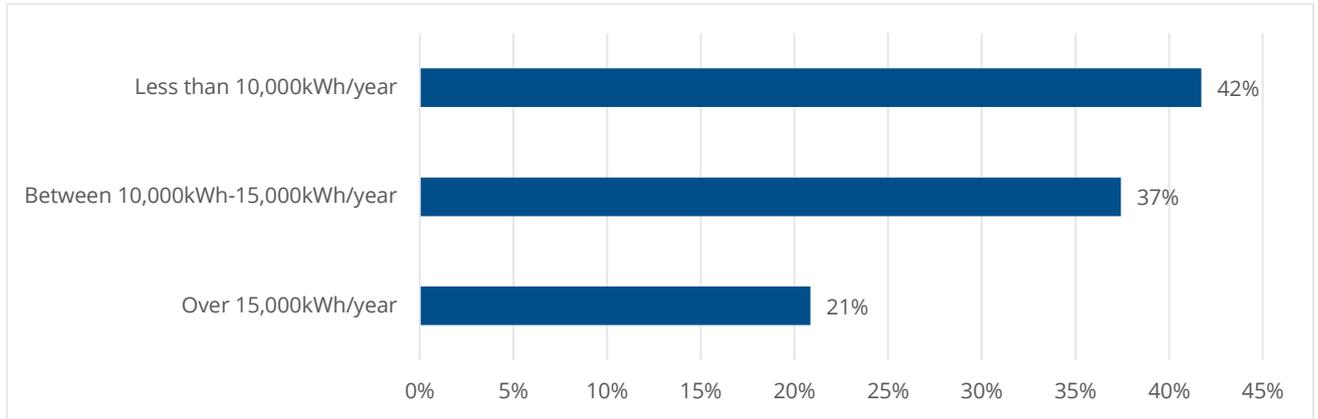


Use of gas

The majority of respondents indicated that their organisation was a ‘low’ category consumer of gas (80%)³². Figure 4.15 summarises a combined categorisation of the selected consumer profile and the organisation’s annual gas bills in terms of estimated consumption (in kWh/year). This provides a reasonable segmentation of the business sample across three groups, with the fairly even proportions split between the lowest (42%; less than 10,000 kWh/year) and second (37%; 10,000 – 14,999 kWh/year) categories, and a sizeable proportion of respondents in the high category (21%; over 15,000 kWh/year).

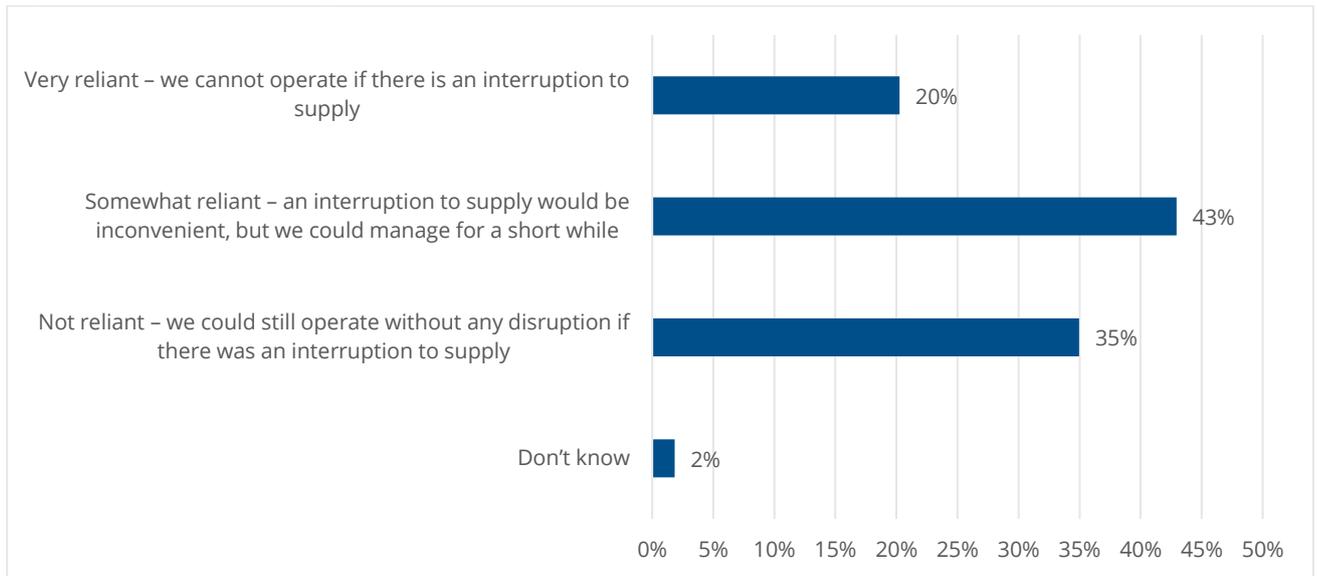
³² Respondents selected the consumption profile their organisation best-matched, based on their business activities and uses of gas. The three profiles corresponded to: low use (typical consumption: 5,000 – 30,000 kWh/year); medium use (typical consumption: 30,000 – 65,000 kWh/year); and high use (typical consumption: over 65,000 kWh/year).

Figure 4.15: Estimated annual gas consumption (n=163)



The majority of respondents (43%) stated that their organisation’s activities are somewhat reliant on supply, and an interruption to supply would be inconvenient but manageable for a short while (Figure 4.16). A further third (35%) stated that their organisation was not reliant. Around 1 in 5 respondents stated that their organisation is very reliant on gas and that they would not be able to continue to operate if there was an outage.

Figure 4.16: Reliance on gas (n=163)



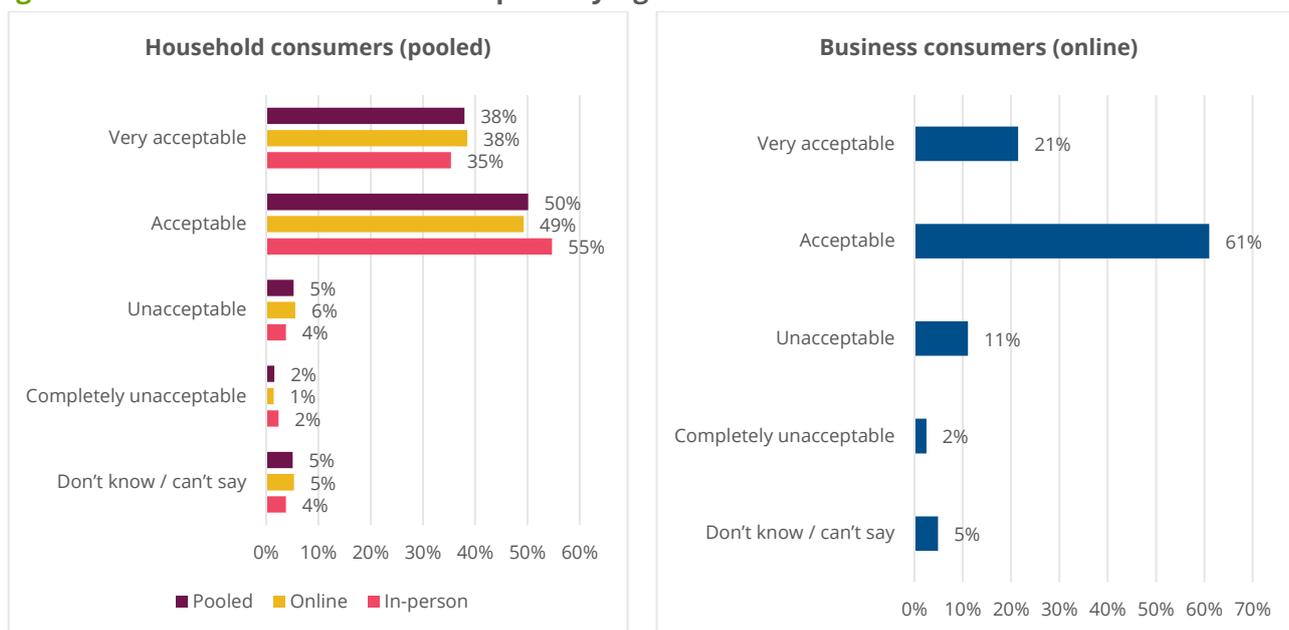
4.2 Overall plan acceptability

Respondents were presented with a summary of the Business Plan in terms of investment areas and association bill impacts, and the overall bill impact relative to the current amount paid for gas transmission (see Section 2). In the overall acceptability question, they were asked to state whether the plan, the proposed investments and cost to their household/business was acceptable. As shown in Figure 2.4 the corresponding changes in the gas transmission annual bill were:

- Household consumers: +£0.54 change in annual gas transmission bill by 2026 (approx. 0.08% change in average overall annual gas bill for a dual-fuel consumer)
- Business consumers: +0.08% change in overall annual gas bill by 2026

The majority of household and business respondents stated that the GT Business Plan and associated bill impact was either “acceptable” or “very acceptable”: 88% of household consumers (87% online; 90% in-person); and 82% of business consumers said that the plan was either “acceptable” or “very acceptable” (Figure 4.17). This corresponds to 1,119 household consumers and 133 business consumers (out of 1,433 in total for the GT version of the survey)³³.

Figure 4.17: Overall Business Plan acceptability – gas transmission



Household pooled: n=1,270 (online: n=1,058; In-person n=212); Business n=163.

³³ The confidence limits or ‘error margins’ for these results are around +/- 3 percentage points for the pooled household consumer sample (online + in-person) and +/- 6 percentage points for the business consumer sample based on the sample sizes for the respective surveys.

Acceptability by household segment

The high level of acceptability for the GT Business Plan implies that there is limited variation in household consumer views across different segments, such as socio-economic group (SEG)³⁴, age cohort, location, etc. This is illustrated in the series of comparisons are shown in Figure 4.18.

Figure 4.18: Overall Business Plan acceptability (% respondents) by household consumer segments – gas transmission



Household pooled (online + in-person): n=1,270.

For the most part, the observed differences between different household segments are marginal and not statistically significant. This means it is not possible to conclude that the level of acceptability differs from the overall result sample³⁵. The main patterns in the findings are:

- Respondent age: there is very limited variation in the level of acceptability of the GT Business Plan for these segments (“acceptability” range = 85% to 91%);
- Location: consumers in Wales (“acceptability” = 82%) were observed to have a lower level of overall

³⁴ Market Research Society definitions are: A = professionals, very senior managers, etc.; B = middle management in large organisations, top management or owners of small businesses, educational and service establishments; C1 = junior management, owners of small establishments, and all others in non-manual positions; C2= skilled manual labourers; D = semi-skilled and unskilled manual workers; E = state pensioners, casual and lowest grade workers, unemployed with state benefits only

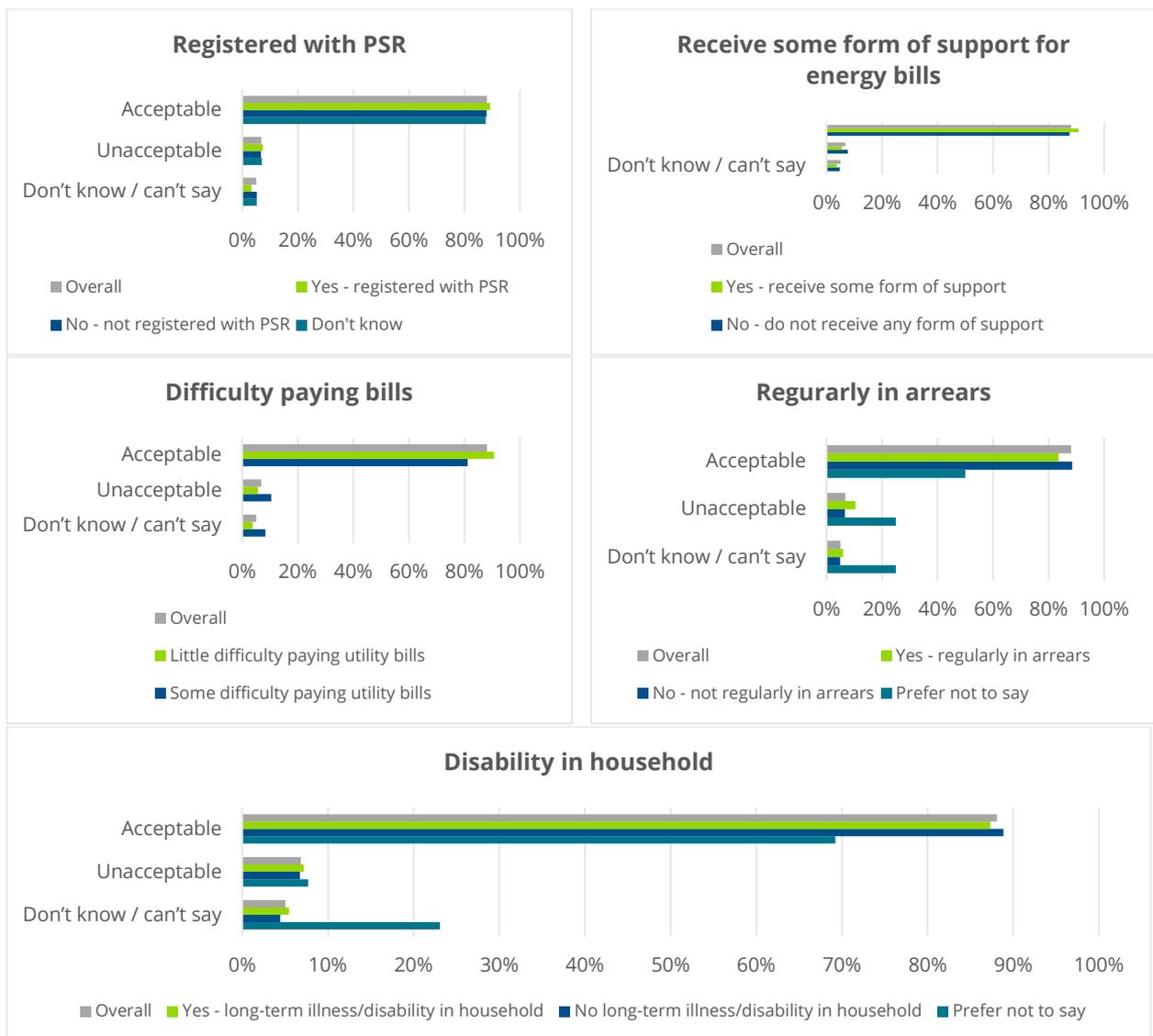
³⁵ The reported results are subject to confidence limits (error margins) based on the number of observations for each consumer sub-group. These are up to around +/- 8 percentage points for each sub-group.

acceptability for the GT Business Plan compared to Scotland and England. Note there was no noticeable difference in the acceptability in urban versus rural consumers; and

- Annual household income: consumers with the lowest household income (less than £6k per year) have a notably lower level of overall acceptability for the Business Plan (“acceptability” = 75%), but there is not a corresponding increase in the proportion of respondents stating that the plan is not acceptable (“unacceptable” = 2%). Instead there is a higher proportion that stated, “don’t know/can’t say” (23%). Regardless, this finding aligns with the view that affordability of the bill impact is the principal consideration for household consumers. It is not unreasonable that the lowest income consumers could be uncertain as to the implications for their household budgets and the potential for overall energy bills to change too.

Figure 4.19 shows an alternative set of breakdowns of the acceptability results by the indicators of households potentially in vulnerable circumstances (as per Section 4.1).

Figure 4.19: Overall Business Plan acceptability by vulnerable circumstances indicators (% household respondents) – gas transmission



Household pooled (online + in-person): n=1,270

The main observations with respect to these breakdowns are:

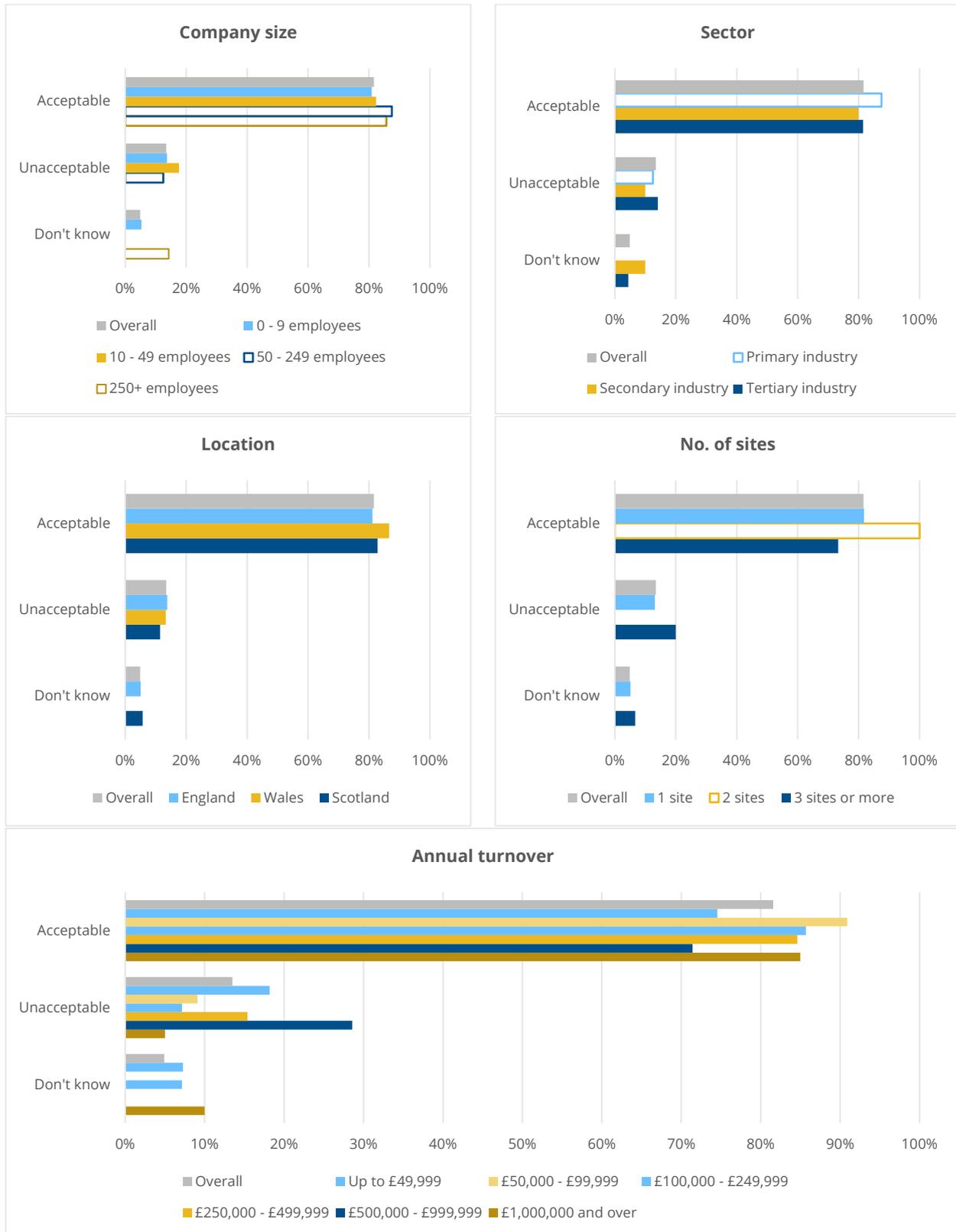
- Registered with PSR, disability or long-term illness in the household, and/or receive some form of support for energy bills: no clear difference in level of acceptability for the GT Business Plan compared to the overall sample.
- Difficulty paying bills: consumers who stated that they encountered difficulty paying their utility bills (“acceptability” = 81%) had a lower level of overall acceptability for the plan compared to those who did not .
- Regularly in arrears: consumers who stated their household was regularly in arrears with bill payments (“acceptability” = 84%) had a lower level of overall acceptability for the plan compared to those who did not .

Acceptability by business segment

The variation in the level of acceptability across organisation profile characteristics (company size, sector, location, number of sites, and annual turnover) is set out in Figure 4.20. The main patterns in the results are:

- Company size: there is limited variation in the level of acceptability of the GT Business Plan for the segments (“acceptability” range = 82% to 88%), driven by larger respondents who indicated higher acceptability. However, limited inference can be taken from this result since the sample sizes for larger businesses are particularly small (8 respondents between 50-249 employees; 7 respondents over 250 employees);
- Sector and location: there is limited variation in the level of acceptability of the GT Business Plan for these segments (“acceptability” range = 80% to 88%);
- Number of sites: there is some variation in the level of acceptability of the GT Business Plan for these segments (“acceptability” range = 73% to 100%), driven by businesses with 2 sites have indicated higher acceptability. Limited inference can be taken from this result, though, since the sample sizes for business with 2 sites are particularly small (9 respondents);
- Annual turnover: respondents in the highest turnover bracket (£1,000,000 or more per year) had a slightly lower level of overall acceptability for the Business Plan (“acceptability” = 83%), with a corresponding increase in the proportion of respondents stating that the plan is not acceptable (“unacceptable” = 17% vs. 9% for the overall sample). Although there is some variation in the other segments, the level of acceptability is still largely consistent with the overall sample (“acceptability” range = 83% to 94%).

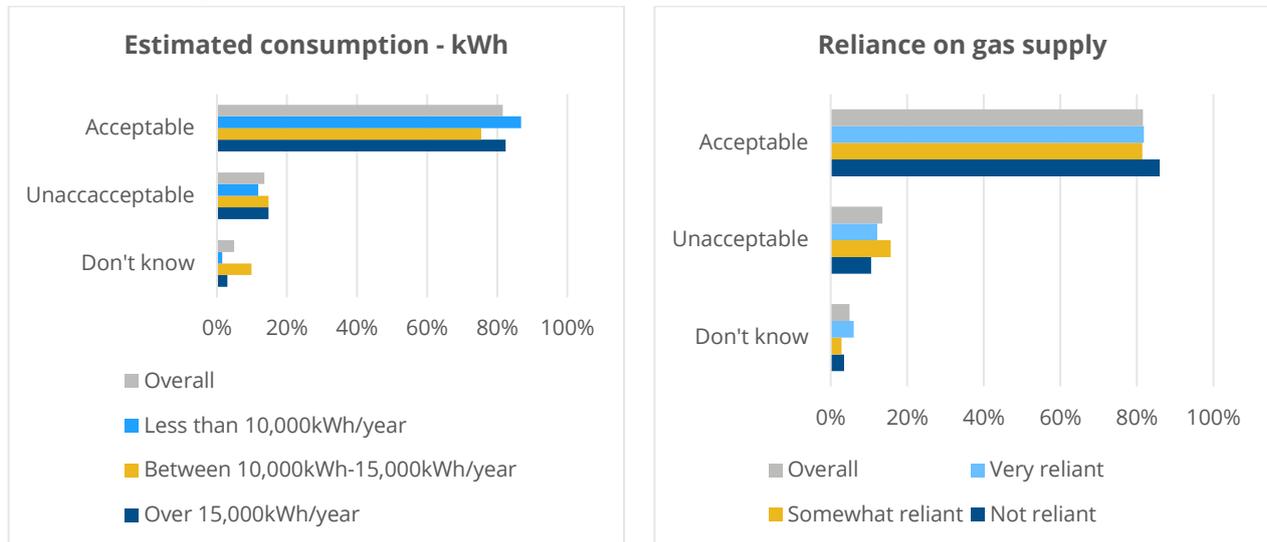
Figure 4.20: Overall Business Plan acceptability (% respondents) by business consumer segments – gas transmission



Business (online): n=163. Outline of bar charts when sample size less than 10 respondents.

Figure 4.21 presents an alternative set of breakdowns of the acceptability results by consumption in terms of: (a) estimated gas consumption; and (b) stated reliance on gas supply.

Figure 4.21: Overall Business Plan acceptability by indicators on the use of gas (% business respondents) – gas transmission



Business (online): n=163. Bars in outline indicate sample size fewer than 10 respondents.

The main observations are:

- Estimated consumption (kWh): Businesses using (an estimated) 10,000kWh–15,000kWh/year of gas indicated slightly lower levels of acceptability, while businesses with lower and higher estimated consumption indicated higher level, compared to the overall sample. However, given the limited sample size of each of the sub-groups, it is not possible to conclude that this differs from the overall sample³⁶.
- Stated reliance on gas supply: There is a very limited variation in the level of acceptability of the GT Business Plan for these segments (“acceptability” range = 82% to 86%).

4.2.1 Follow-up questions

A series of follow-up questions in the survey probed the reasons for consumers’ views on the acceptability of National Grid’s GT Business Plan, including the acceptable limit for bill impacts, whether they considered the bill impacts value for money and other characteristics that defined their responses.

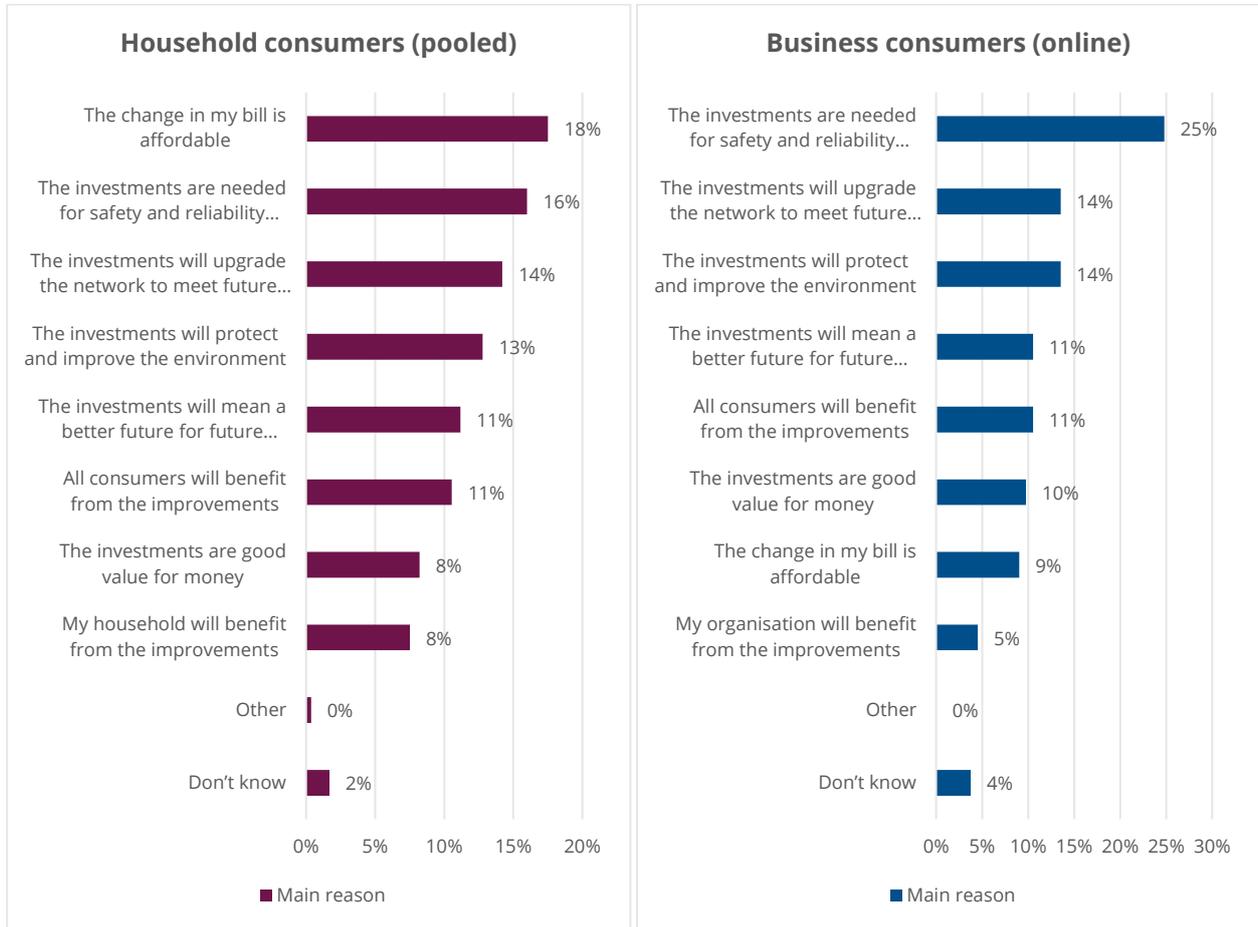
Reasons GT Business Plan was acceptable

Survey respondents provided the (main) reason for stating why the GT Business Plan was acceptable (Figure 4.22). For household consumers, a varied range of reasons were provided as the main motivation, including the affordability of the bill impact, agreement that the proposed investments were needed to

³⁶ Given the respective sample sizes – ‘Between 10,000kWh-15,000kWh/year’ (n= 61; error margin approximately +/- 8 percentage points); ‘Less than 10,000kWh/year’ (n=68; error margin approximately +/- 8 percentage points); and ‘Over 15,000kWh/year’ (n= 34; error margin approximately +/- 9 percentage points) - it is not possible to conclude that these differences are statistically significant. This is because the results overlap with the error margins for the main sample result (82%; +/- 5 percentage points).

ensure safety and reliability, protect the environment, meet future needs, or because of the overall benefits of the proposed investments to all consumers.

Figure 4.22: Reasons for acceptability of Business Plan – gas transmission (% respondents)



Household pooled (online + in-person): n=1,119; Business n=133. Only includes respondents that indicated that the GT Business plan was either “acceptable” or “very acceptable”.

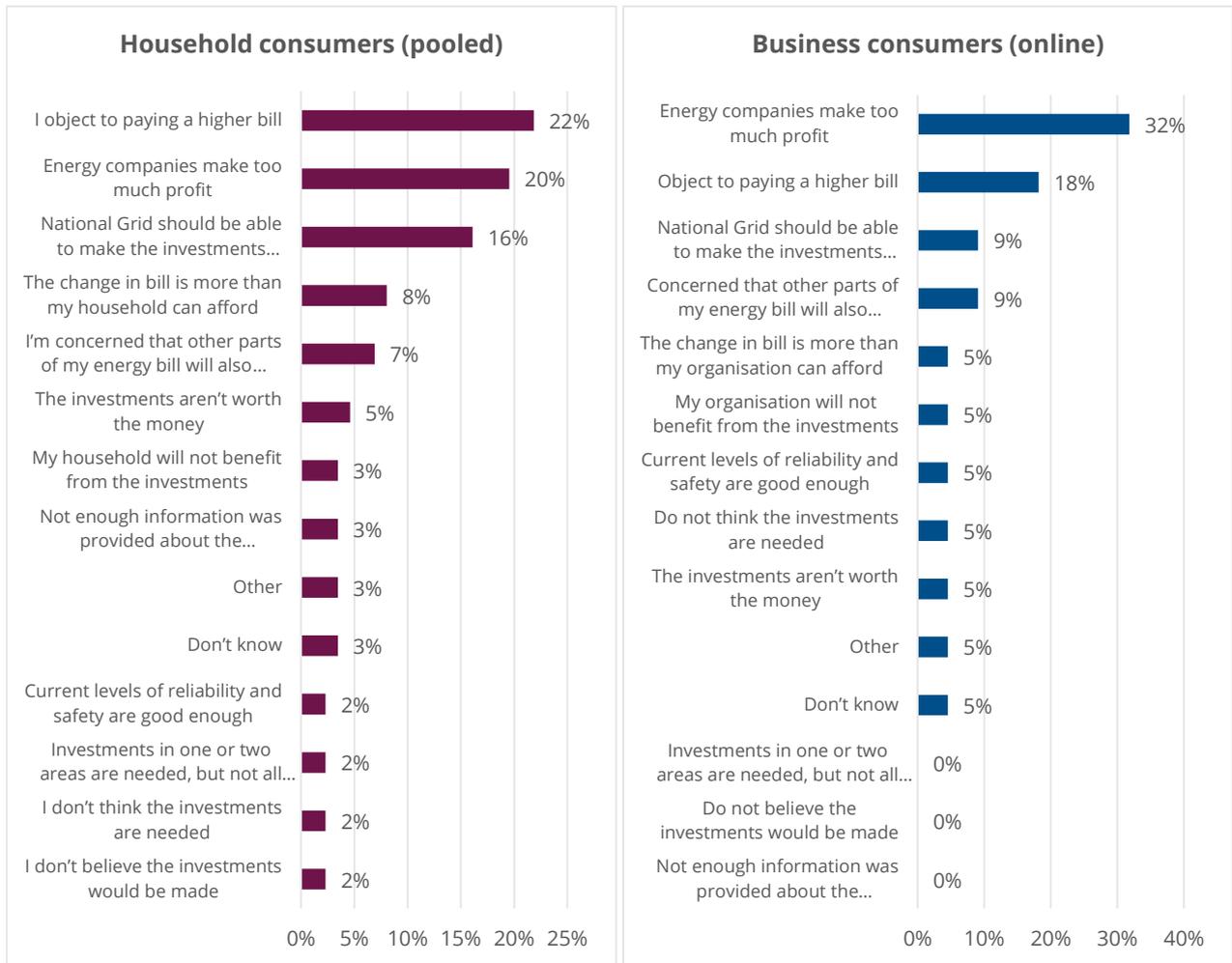
For business consumers there was a spread of views. The most common main reason for the acceptability of the Business Plan was that it would ensure the safety and reliability of the gas supply (25% respondents), followed by addressing future energy needs (14%) and protecting and improving the environment (14%). The view that the business plan would directly benefit the respondent’s organisation was the least frequently selected reason (5%).

Reasons GT Business Plan was unacceptable

Survey respondents also provided the main reason for stating why the GT Business Plan was unacceptable (Figure 4.23). For household consumers who stated that the GT Business Plan was either “unacceptable” or “very unacceptable” (7% overall; a total of 87 respondents) the main reason was an objection to paying a higher bill irrespective of the investments that were proposed (22%; 19 respondents). A further 20% (17 respondents) stated that energy companies make too much profit and that National Grid should pay for the investments from current bills (16%; 14 respondents). In combination, these responses reflect a form of ‘principles-based’ response, which is based more on

principles rather than a comment on the actual plan and investments proposed by National Grid³⁷. A smaller proportion of respondents highlighted affordability issues (15%; 13 respondents); this was split between concern over the affordability of the transmission bill impact (8%; 7 respondents) and concern that other parts of the energy bill would also increase (7% respondents), rather than the change in the transmission bill *per se*.

Figure 4.23: Reasons for unacceptability of Business Plan – gas transmission (% respondents)



Household pooled (online + in-person): n=87; Business n=22. Only includes respondents that indicated that the GT Business Plan was either “unacceptable” or “completely unacceptable”.

Overall conclusions are harder to draw for business consumers. This is because of the small number of survey respondents that stated that the GT Business Plan unacceptable (13% overall; a total of 22 respondents). The range of responses provided, though, were similar to the households in terms of the view that investments should be made with current bill amounts, objections to paying higher bills and affordability concerns.

Among business consumers who stated “unacceptable” or “very unacceptable” (13% overall; a total of 22 respondents), the range of responses was similar to the households in terms of the view that investments should be made with current bill amounts, objections to paying higher bills and affordability concerns. Principles-based responses were the most common reason (59%; 13 respondents) – either energy

³⁷ This is sometimes referred to as a ‘protest’ response.
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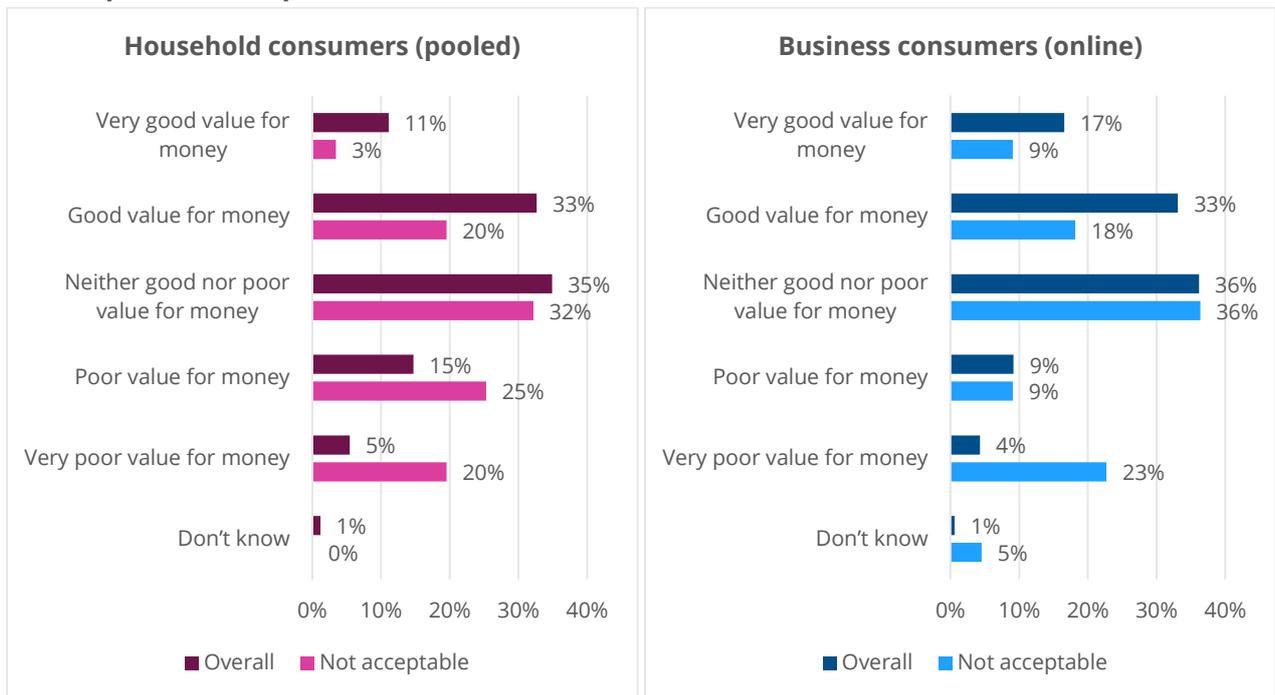
companies making too much profit (32%; 7 respondents); objecting to a higher bill (18%; 4 respondents); or investments should be made from current bill amounts (9%; 2 respondents).

Views on value for money of bills

In the opening section of the survey, as part of the ‘warm-up’ questions, respondents were asked their view on the value for money of their overall energy bill. A large proportion of respondents felt their overall bill represented either good (“good” or “very good”) value for money (44% households; 50% business), or were indifferent (“neither good nor poor value for money”; 35% households; 36% business).

Figure 4.24 shows respondent’s view on the value for money of their overall energy bill. This provides a comparison of the breakdown between the overall sample and the ‘not acceptable’ responses for the overall business plan (approx. 7 % of household pooled sample; 13% of the business sample). This shows a distinct pattern where only a small proportion of these respondents (about 1 in 5 household; 2 in 7 business) felt that their overall energy bill was either ‘good’ or ‘very good’ value for money. Most business respondents were indifferent (2 in 5 respondents), whilst the largest proportion of household respondent (almost 1 in 2) rated their overall energy bill as either ‘poor’ or ‘very poor’ value for money.

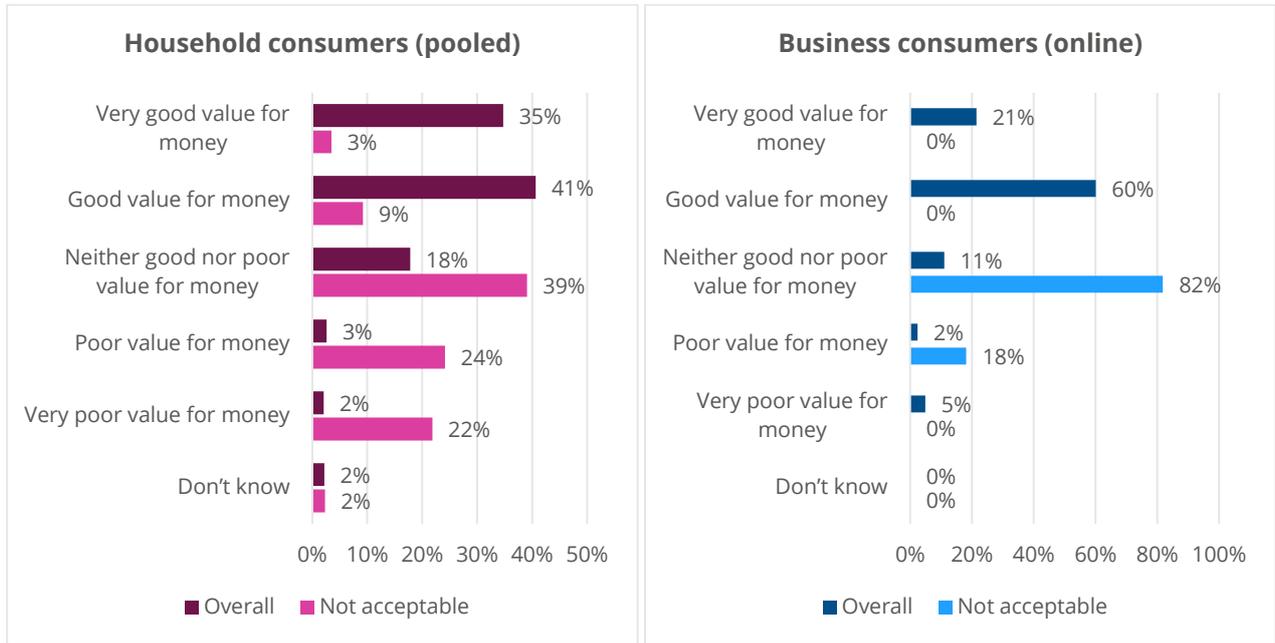
Figure 4.24: Value for money of overall energy bill for respondents stating Business Plan was ‘unacceptable’ (% respondents)



Household pooled (online + in-person): Overall n=1,270; Not acceptable n=87. Business: Overall n=163; Not acceptable n=22.

Looking to respondents’ views on the National Grid’s proposal, most viewed the (additional) bill impact and associated investments as either ‘good’ or ‘very good’ value for money (76% household; 81% business). Consistent with the finding regarding the value for money of the overall energy bill (Figure 4.24 above), respondents that did not find the Business Plan acceptable were also more likely to find it to be either poor value for money or be indifferent (Figure 4.25).

Figure 4.25: Value for money of Business Plan proposals – overall sample vs. ‘not acceptable’ (% respondents)

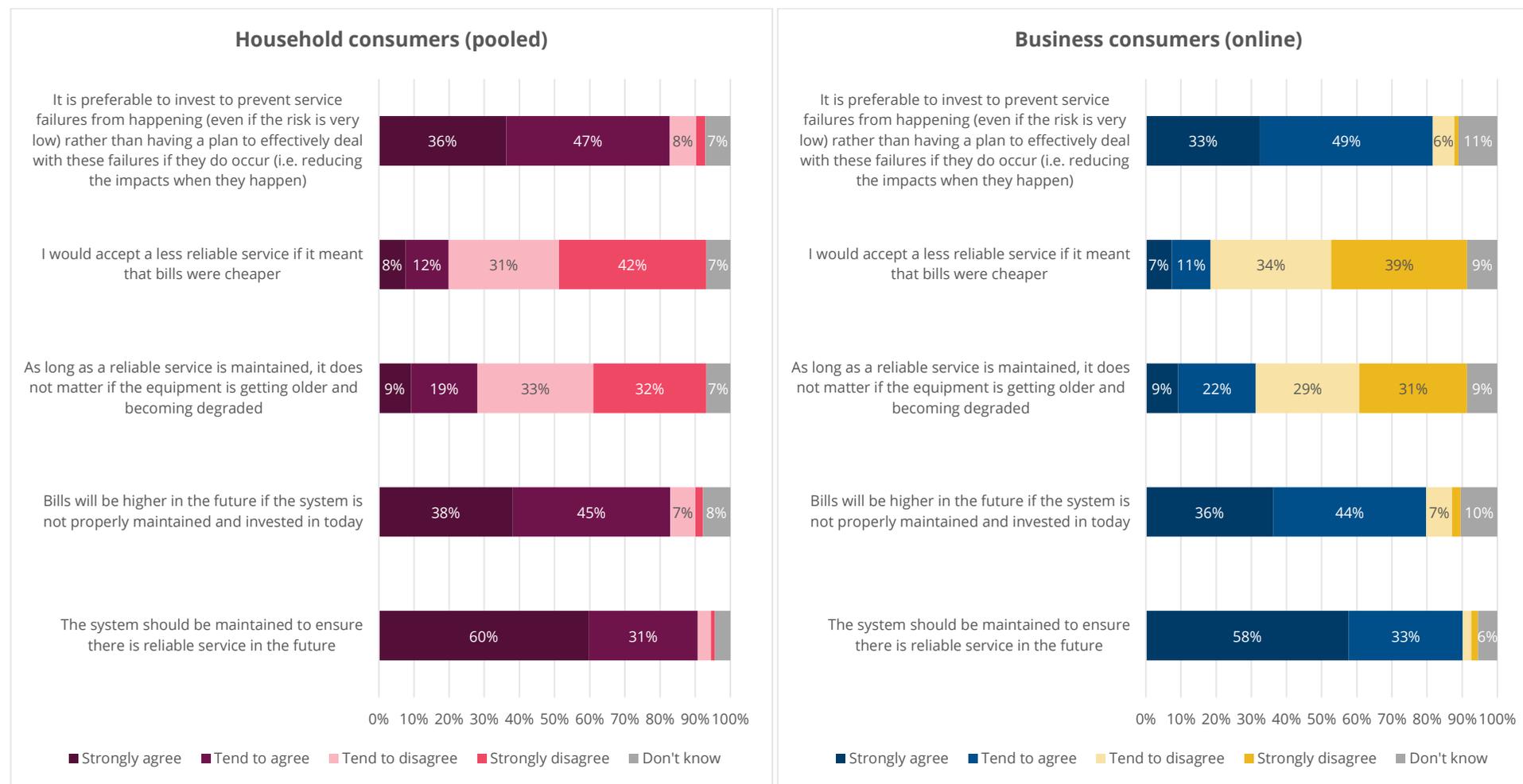


Household pooled (online + in-person): Overall n=1,270; Not acceptable n=87. Business: Overall n=163; Not acceptable n=22.

Views on asset health trade-offs

Respondents were also asked to consider how much they agreed or disagreed with a set of attitudinal statements concerning trade-offs between investment levels and reliability in the short and longer term (Figure 4.26). The five statements were set around the need to ensure long-term reliability within the energy system and trade-offs between lower bills and lower reliability. The majority of household and business respondents agreed with the statements that expressed the need for proactive investment now to safeguard future reliability (around 80 – 90%), typically rejecting lower bills now if this would be at the expense of reliability.

Figure 4.26: Views on asset health trade-offs (% respondents)



Household pooled: n=1,270 (online: n=1,058; In-person n=212); Business n=163.

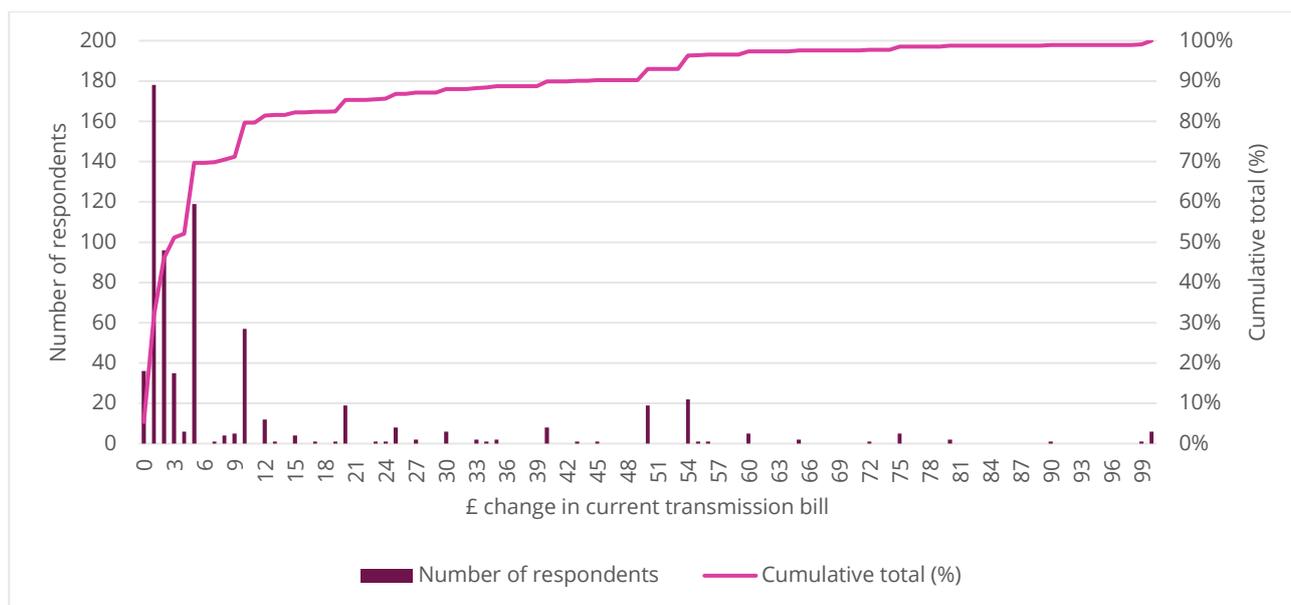
4.2.2 Limits of acceptable bill impact - households

The majority of respondents (82% household; 86% business) indicated that they took their overall energy bill into account at least “a little” when deciding whether the GT Business Plan was acceptable. Hence the headline acceptability results need to be interpreted in the context of current overall energy bills, and not accounting for significant changes in other components of the bill. Indeed, only 28% of household and 26% of business consumers indicated that the National Grid’s proposals were acceptable irrespective of changes in the rest of the energy bill, while notable proportions (12% household and 8% business) indicated that the plan would not be acceptable if other parts of the bill increased (see Annex 4/5). Accordingly, most respondents (56% household and 62% business) were clear that the GT transmission plan was acceptable up to a certain point in terms of the bill impact (see Annex 4/5).

Acceptable vs. unacceptable transmission bill impact - switching point

Household respondents were asked to state their “acceptable” versus “unacceptable” switching point for the additional bill impact for the GT Business Plan (Figure 4.27) (i.e. the change in the transmission bill).

Figure 4.27: Household ‘switching point’ responses – maximum additional bill impact



Household pooled (online + in-person): n=674. A total of 710 respondents (56% of the overall sample) stated a switching value (the remainder stated ‘don’t know/prefer not to say’. Among these, 5% (36 respondents) were assessed as outliers.

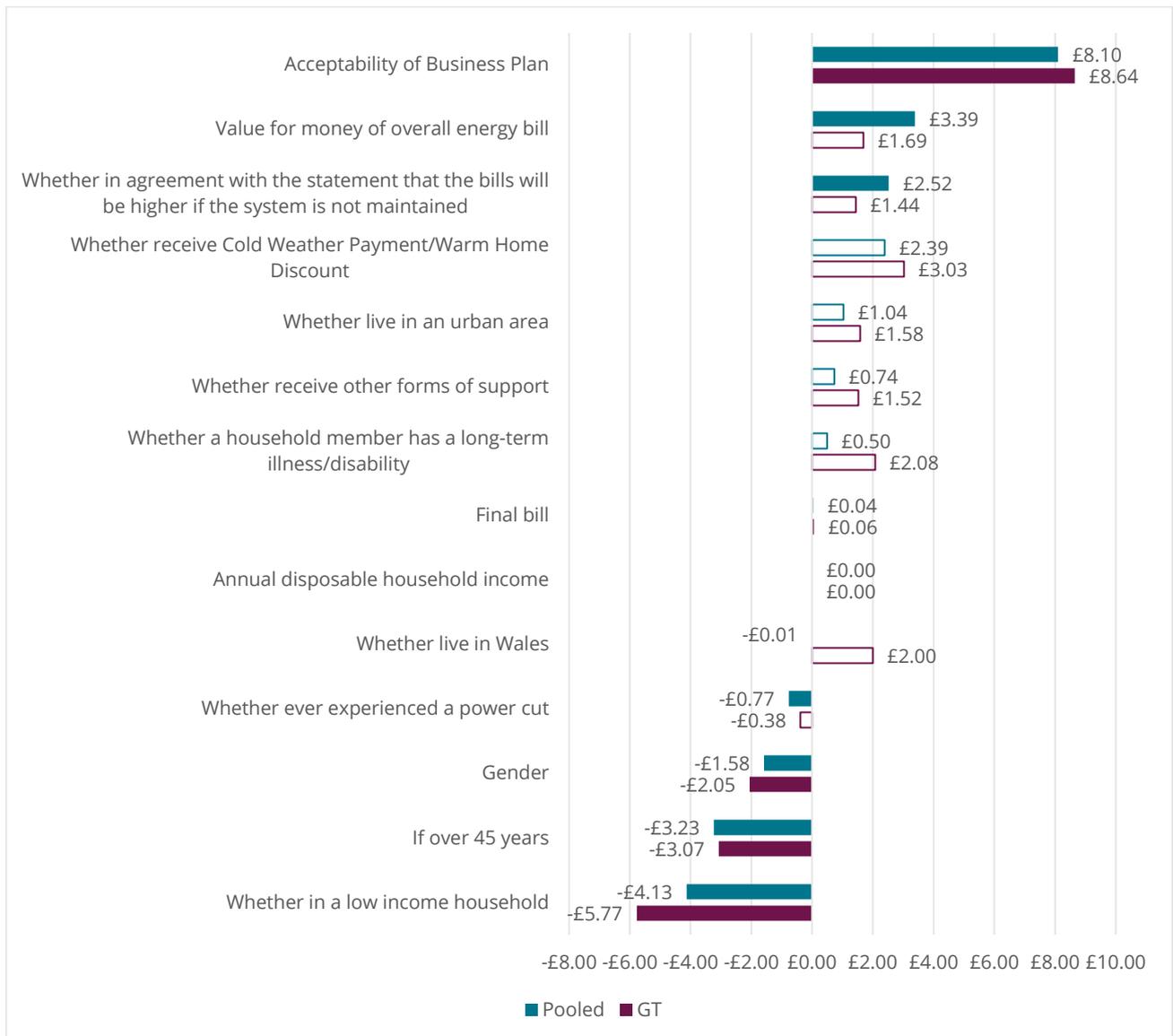
As shown, a wide distribution of responses was observed ranging from £0 (no change) to over a £100 increase on the current transmission bill³⁸. Key points to note include: (a) very few respondents stated ‘no change’ in the transmission bill as their switching point – this corresponds to 36 respondents (i.e. 5% of the sample of 674 respondents) for whom the +£0.54 per year bill impact was not acceptable; and (b) although there was a wide distribution of responses, the majority of respondents (approximately 80%) provided a switching value of £10 or less. Overall, the (mean) average switching point value was approximately +£11 per year. The median value was lower at +£3 per year, reflecting the long tail in the distribution (i.e. the handful of higher values provided). Regardless, the result shows that for the vast majority of household

³⁸ Review of the distribution of responses showed that 95% of ‘switching values’ were in the range £0 - £100. Responses over £100 (x11 the current bill amount of £99) were dropped as outliers in order not to unduly influence the calculation of average results.

respondents (95% of the sample) the switching point was above the +£0.54 per year bill impact for the GT Business Plan (on the transmission bill).

Figure 4.28 reports the analysis of household consumers’ switching points, which shows how value (in £) changes with various respondent characteristics, including their answers to other survey questions (overall acceptability of the plan, value for money of energy bills), indicators of vulnerable circumstances, and socio-economic and demographic factors. Results for the GT Business Plan are shown alongside a pooled model (ET and GT combined), which has better explanatory power due to the combined samples (i.e. more data). The purpose of showing the pooled ET and GT results is to illustrate the overall pattern in the findings; i.e. whilst the GT-only results lack precision in terms of statistical significance, they are generally consistent with the overall findings. Annex 6 provides further technical details for the analysis.

Figure 4.28: Change in switching point amount by different household respondent characteristics



Household Pooled (ET and GT - online + in-person): n=1,855; Household GT (online + in-person): n=977. Bar charts with no fill when marginal effect is not statistically significant at least at the 10% level of significance. For full results see Annex 6.

The main observations are:

- Overall acceptability of the Business Plan: this factor has the strongest influence on the switching point. In line with expectations, if the respondent stated that the Business Plan was acceptable ('acceptable' or 'very acceptable') their switching point for the GT bill impact increased by £8.64, compared to those who stated the overall plan was 'unacceptable' (all else equal).
- Low household income and affordability concerns: If the respondent's household annual income was less than £9,000, they were classified as SEG DE, and indicated they had difficulty in paying household bills, their switching point for the GT bill impact was £5.77 lower compared to higher income groups (all else equal).
- Value for money: consistent with previous findings (Figure 4.24), if the respondent considered their overall energy bill to be value for money, their switching point for the GT bill impact increased by £1.69 compared to those who did not think the overall bill was value for money (all else equal). Note, though, that this result is not statistically significant at conventional levels for the GT-only sample, but it is in the same direction of the result for the ET/GT pooled model, and hence indicative of the effect (i.e. positive relationship / higher switching point for these consumers).
- Attitude towards asset health: a positive view on proactive investment to maintain future reliability also had a positive effect on the switching value. Respondents who agreed with the statement that 'Bills will be higher in the future if the system is not properly maintained and invested in today' had a switching point that that was £1.44 higher compared those that disagreed (all else equal). Again, this result is not statistically significant at conventional levels for the GT-only sample, but it is in the same direction of the result for the ET/GT pooled model.
- Older age groups: respondents aged over 45 had a switching point that was £3.07 lower than respondents in younger age groups (all else equal).
- Experience of a power cut: this had a negative influence on the switching value. Respondents who have ever experienced a power cut had a switching point for the GT bill impact that was £0.38 lower (all else equal) than those that had never experienced a power cut. However, this too, is not statistically significant at conventional levels for the GT-only sample, but remains in the same direction as the ET/GT pooled model.

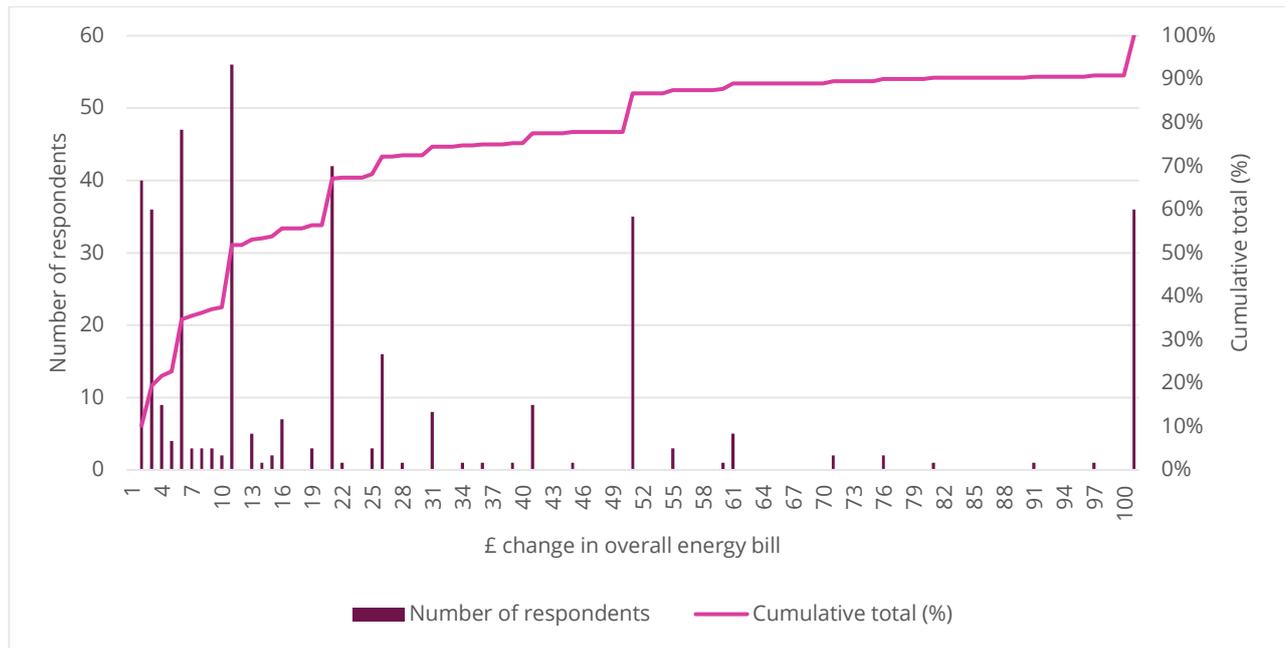
Results for other factors of interest were not found to be statistically significant for the overall pooled model and GT-only sample, although the direction of the effect is reported in Figure 4.28 for general reference.

Limit of overall energy bill changes within which bill impact is acceptable

Respondents also indicated the limit – in terms of changes in overall change in energy bill – within which the GT Business Plan and bill impact would still be considered 'acceptable' or 'very acceptable'. Again, a varied range of responses was observed (Figure 4.29), from £1 to over a £100 increase³⁹.

³⁹ As with the switching points, responses over £100 were dropped as outliers in order to provide conservative estimates that avoid skewing the calculation of average results. Over 80% of the sample provide responses of £100 or lower.

Figure 4.29: Distribution of household responses on 'limits' to energy bill



Household pooled (online + in-person); n=392. Only includes respondents that first indicated that the change in the proposed plan would still be acceptable if other parts of the bill changed (941 respondents) and indicated a monetary value for the change (469 respondents). Among these, the remaining 77 respondents (16%) were assessed as outliers.

The (mean) average 'limit' within which the GT Business Plan is acceptable is approximately +£25 per year change in other parts of the overall energy bill (roughly £2.09 per month), with a median value of approximately +£10 per year (£0.83 per month). Hence, the headroom (i.e. the maximum acceptable increase) around the acceptability of the GT Business Plan is about a 2.2% increase in the overall household energy bill – assuming an annual dual fuel bill of £1,120 per year.

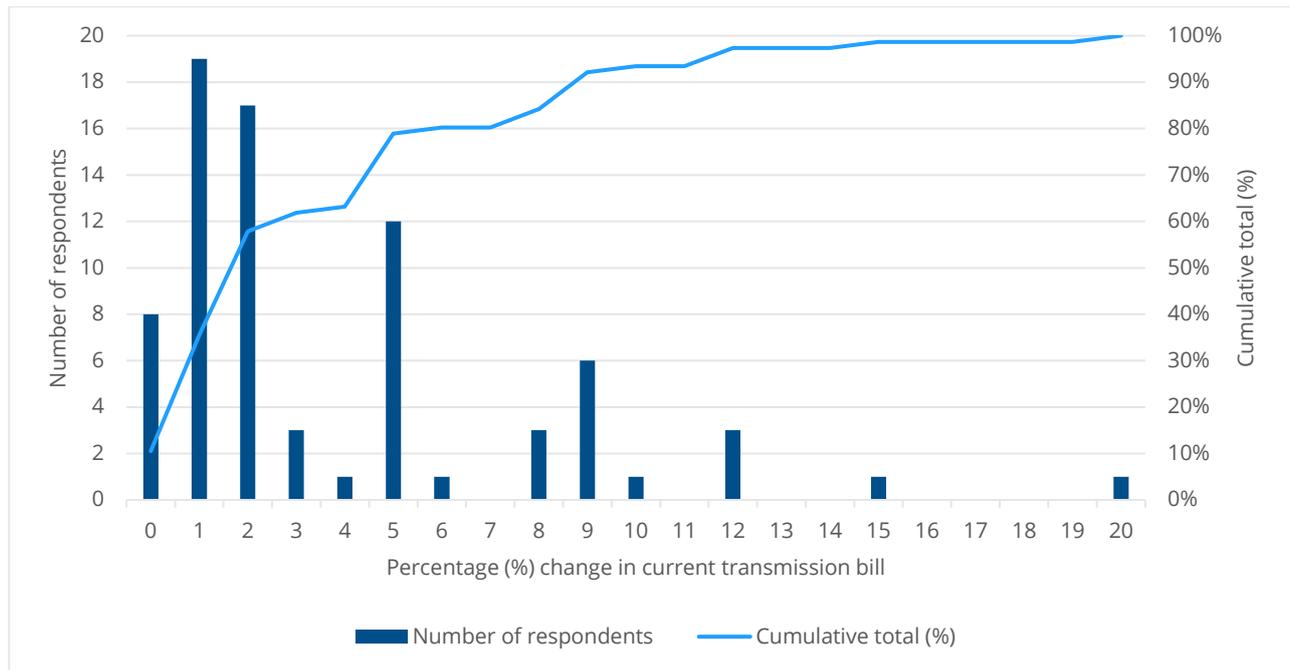
4.2.3 Limits of acceptable bill impact - businesses

Similar to household respondents, business consumers were also asked about their limit of acceptability or 'switching point' (acceptable vs. unacceptable) for the additional bill impact for the GT bill amount (as a percentage change in their current gas bill) (Figure 4.30)⁴⁰.

For business respondents the observed response ranged between 0 percentage points and 55 percentage points (Figure 4.30), where 91% of responses refer to up to 20 percentage points. In total, only 8 respondents (i.e. 5% of the sample) indicated no change in the transmission bill. The (mean) average acceptable change in bill was approx. +7 percentage points (on current amount paid), with a median of +2 percentage points (n=95). Compared to the National Grid proposal of approximately 6 percentage point increase, the business consumers' limit is closer to the proposed bill impact than the corresponding household limit.

⁴⁰ Unlike the household version, business respondents were not asked a separate question on the limit of overall energy bill changes within which the bill impact is acceptable – principally because respondents were not asked to state their overall energy bill at the start of the question. This was because additional questions were included to profile business respondents use and estimated consumption of electricity.

Figure 4.30: Distribution of business responses on ‘switching point’



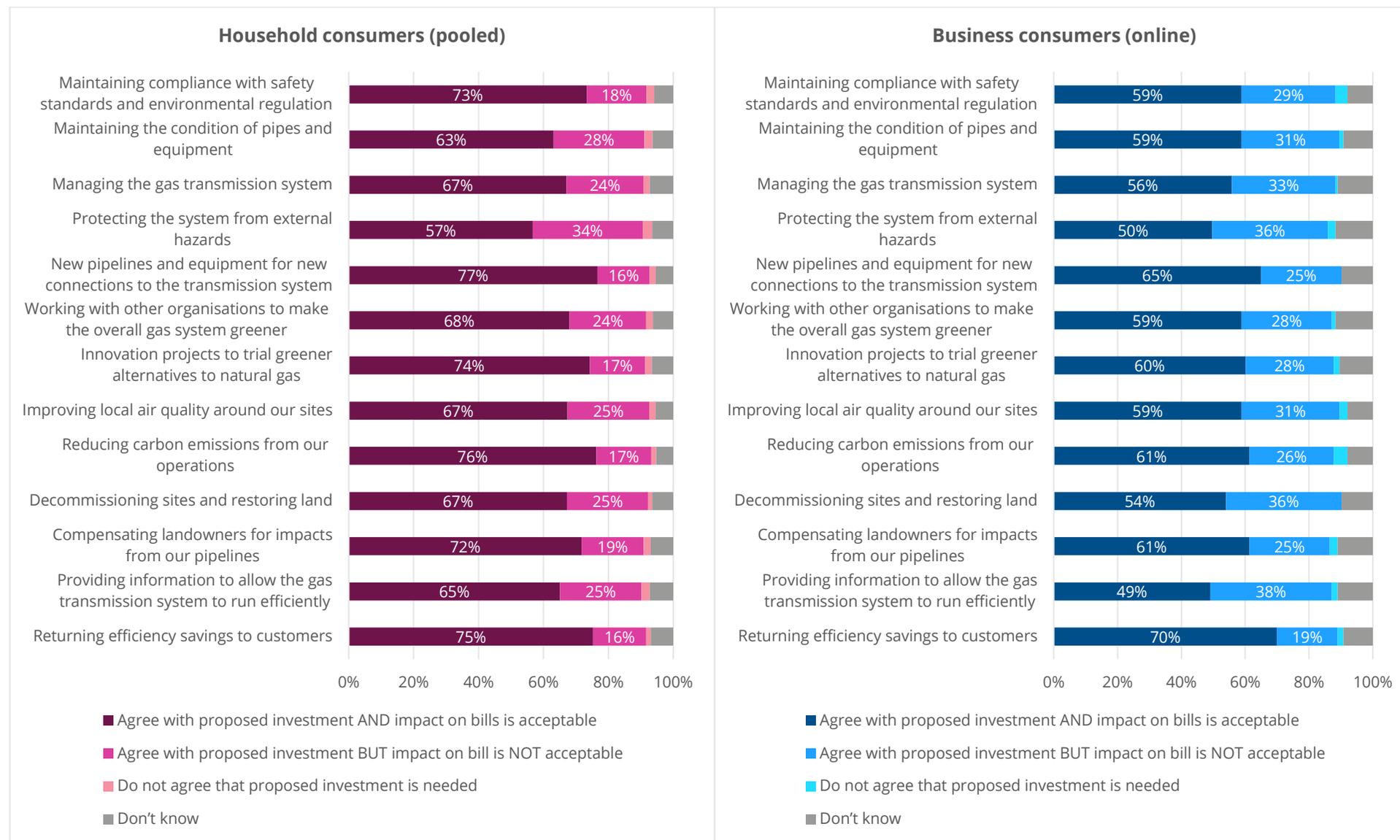
Business (online): n=76. A total of 81 respondents (50% of the overall sample) stated a switching value (the remainder stated ‘don’t know/prefer not to say’). Among these, 9% (7 respondents) were assessed as outliers.

4.3 Acceptability of proposed investments

Respondents were presented with information on 13 individual investments, within five investment areas of the GT Business Plan, and the associated bill impacts (as summarised in Figure 2.10). As described in Section 2.2, respondents were asked to state whether each individual investment proposal was acceptable, in terms of: (a) agree with the proposed investment and its specific bill impact; (b) agree with the proposed investment but not the bill impact; (c) do not agree with the proposed investment; or (d) don’t know. Overall results are presented in Figure 4.31, which shows a consistent pattern of responses for both household and business respondents:

- The majority stated that the proposed investments and the bill impact was acceptable – on average around 60% for household respondents and 61% for business respondents;
- A small, but consistent proportion of respondents stated their support for the investment proposals but challenged the individual bill impacts (on average 27% household respondents, and 30% business respondents); and
- Very few respondents outright rejected the proposed investments and the need for action by National Grid (on average 5% household respondents; 4% business respondents).

Figure 4.31: Acceptability of individual investments – gas transmission (% of respondents)



Household pooled: n=1,270 (online: n=1,058; In-person n=212); Business n=163.

4.3.1 Reasons for agreeing with the proposed investments

Questions in the survey probed consumers’ views on the acceptability of the individual investments, including the priorities for these investments and other characteristics that defined their responses.

Investment priorities

Respondents were asked to rank the four investment areas and two additional bill changes from most important (1) to least important (6). There was a consistent pattern across both household and business respondents (Table 4.6), with the most important area being ‘Ensuring a safe and reliable network’ and the least important ‘Providing information to allow the gas transmission system to run smoothly and efficiently’. ‘Improving the environment and supporting local communities’ was normally towards the bottom of the ranking, with ‘Protecting the energy system of the future’ slightly higher up in the ranking and the remaining areas were largely interchangeable.

Table 4.6: Ranking of gas transmission investment areas

Rank	Investment
1	Ensuring a safe and reliable network
2 =	Planning the energy system of the future; Returning efficiency savings to our customers
-	
4	Protecting the network from external hazards
5	Improving the environment and supporting local communities
6	Providing information to allow the gas transmission system to run smoothly and efficiently

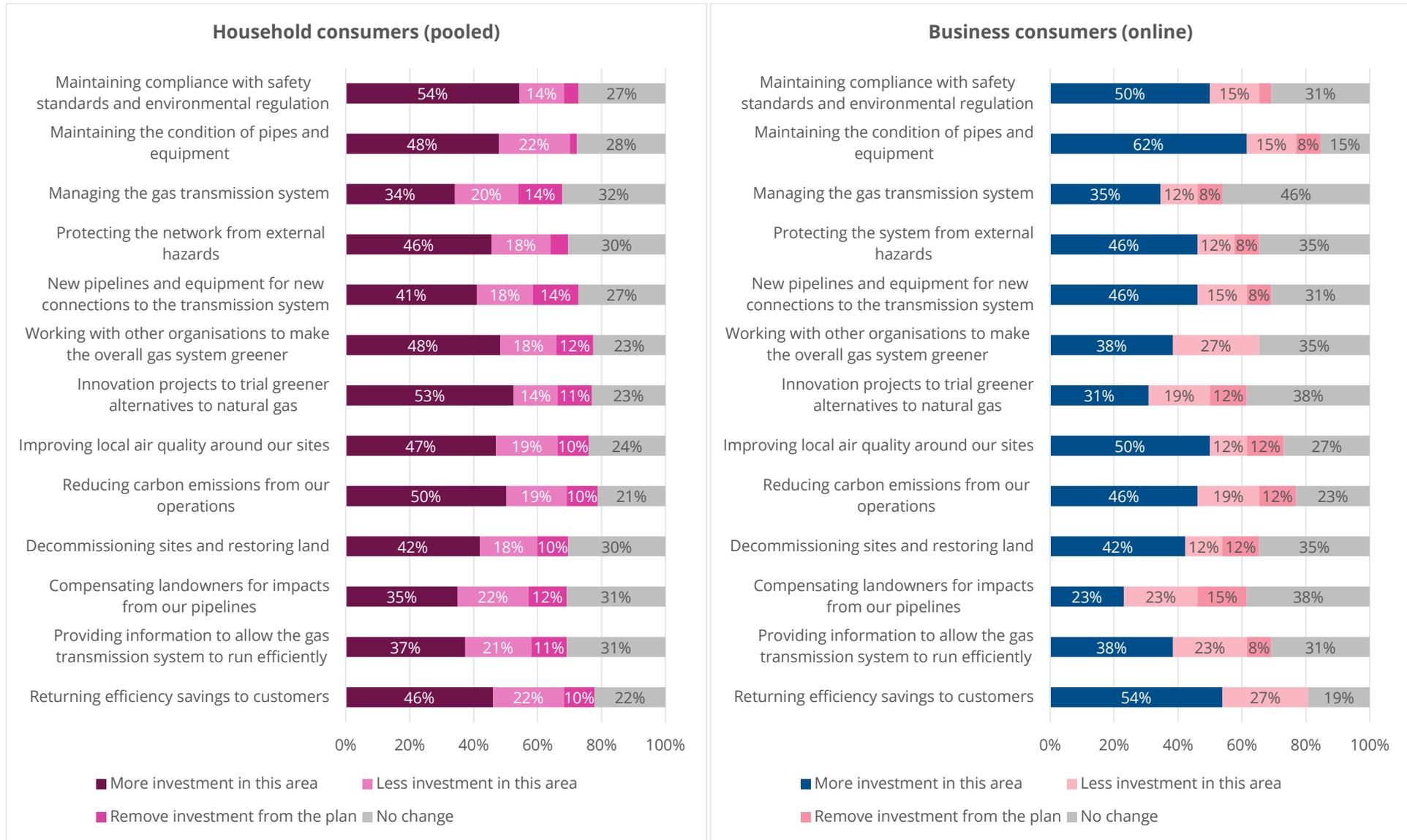
Household pooled: n=1,270 (online: n=1,058; In-person n=212); Business n=163.

Respondents were also asked whether they would make any changes to the proposed plan. A total of 217 household respondents (17% of the household sample) and 26 business respondents (16% of the business sample) stated that some changes would make the plan more acceptable. Figure 4.32 summarises the changes that these respondents would make to the individual investments. The observations are:

- The majority of respondents supported the proposed investments, indicating they wanted either ‘more’ investment (approximately 45% of household respondents and 40% of business respondents) or ‘no change’ (approximately 25% of household respondents and 30% of business respondents). These equate to approximately 12% of the overall household pooled and overall business samples.
- A minority indicated a preference for ‘less’ investment (approx. 20% of respondents; 3% of the household pooled and business samples) or that the investment should be removed from the plan (approx. 10% of respondents; or less than 2% of the household pooled and business samples). This corresponds with the low proportions overall that indicated that the GT Business Plan was not acceptable.

There is also some variation between the individual investments. In line with consumers’ ranking of investment areas, ‘Maintaining compliance with safety standards and environmental regulation’ (one of the investments within ‘Ensuring a safe and reliable network’) had high levels of support and ‘Compensating landowners for impacts from our pipelines’ (an investment within ‘Improving the environment and supporting local communities’) and ‘Providing information to allow the gas transmission system to run efficiently’ had lower levels of support.

Figure 4.32: Changes to investments (% of respondents)

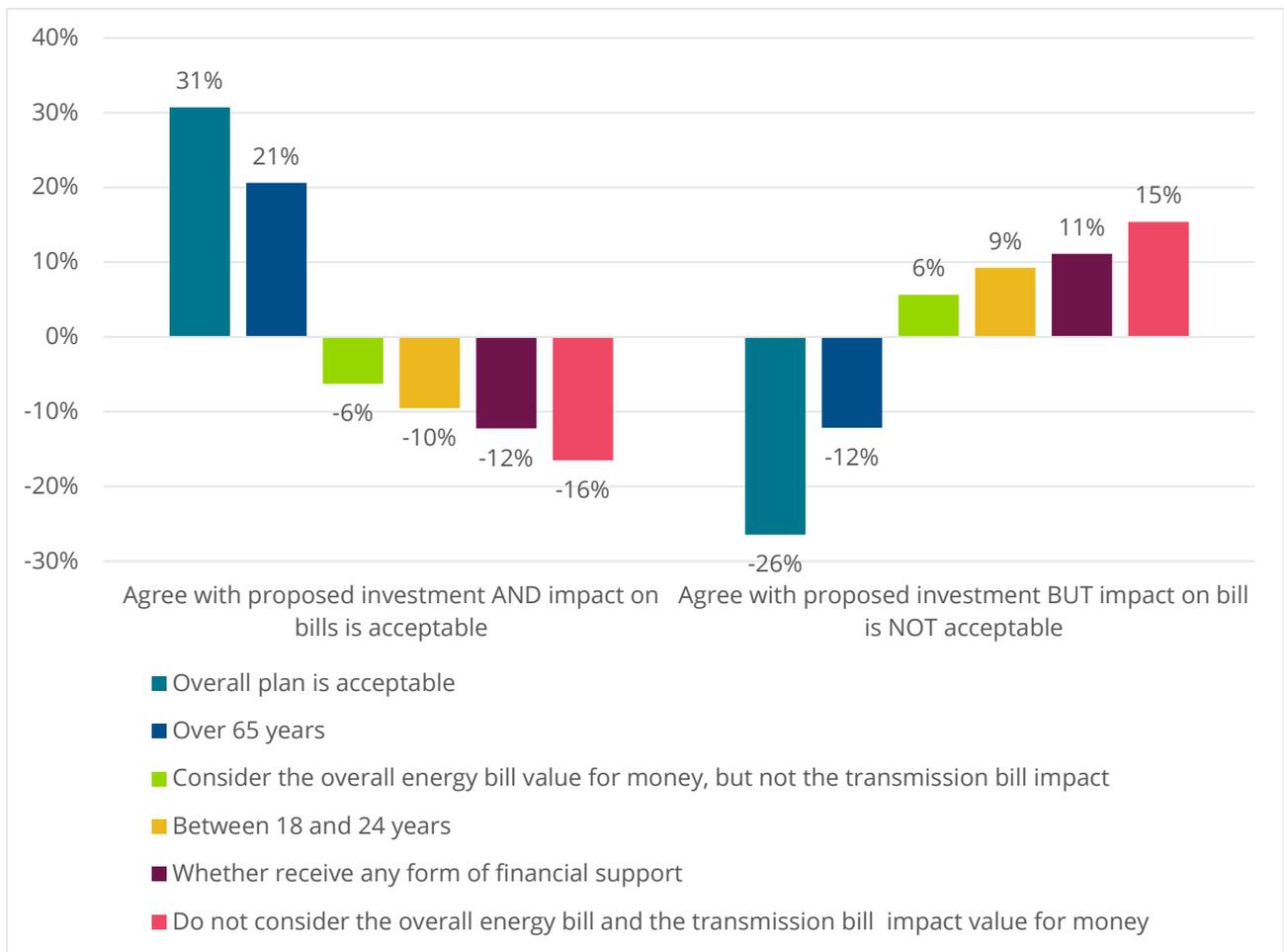


Household pooled: n=187; Business n=26. Only respondents that indicated they would make changes to the investment plan.

Respondent profiles

Figure 4.33 reports results from an analysis of the likelihood of household respondents stating either: (a) agree with the proposed investment and the bill impact; or (b) agree with the proposed investment but not the bill impact. This shows the average probability (in %) of selecting either response by a selection of respondent characteristics, including their answers to other survey questions (overall acceptability of the plan, value for money of transmission bills and energy bills), indicators of vulnerable circumstances, and socio-economic and demographic factors. The results shown are the average results over all 13 investments. The full model specification tested for the likelihood of respondents stating: (a) agree with the proposed investment and its specific bill impact; (b) agree with the proposed investment but not the bill impact; or (c) do not agree with the proposed investment. Annex 6 provides the full set of results^{41,42}.

Figure 4.33: Household respondents - average likelihood of agreeing with the proposed investment by different respondent characteristics



Household Pooled (GT - online + in-person): average sample size across 13 models - n=1,104. Given that this is an average of 10 models, commentary is included in the text on statistical significance.

⁴¹ Results with respect to 'Do not agree that proposed investment is needed' were mostly not significant, due to the small number of respondents that selected this option for each investment.

⁴² Note, equivalent analysis was not conducted for the business sample (163 respondents) due to the sample size.

The main observations are:

- Overall acceptability of the Business Plan: this factor has the strongest correlation with the likelihood of a respondent stating the individual investment and the bill impact are acceptable. In line with expectations, if the respondent stated that the Business Plan was acceptable ('acceptable' or 'very acceptable') they were 31% more likely to agree with the investment and bill impact than those who stated the overall plan was 'unacceptable' (all else equal). Similarly, they were 26% less likely to agree with investment but not the bill impact, than those who stated the overall plan was 'unacceptable' (all else equal).
- Value for money of both the transmission bill impact and energy bill: consistent with previous findings on overall plan acceptability, respondents who did not consider the transmission bill impact and their overall energy bill value for money were 16% less likely to find an investment and its bill impact acceptable - compared to those who thought otherwise (all else equal). The respondents in this group were also 15% more likely to agree with the plan, but not the bill impact, than those who did not have the same on value for money of the bills (all else equal).
- Oldest age group: respondents over the age of 65 years were 21% more likely to agree with an investment and the bill impact, compared to those below the age of 65 (all else equal). This group was also 12% less likely to agree with the investment but not the bill impact, compared to younger cohorts (all else equal). Note, however, this result was not statistically significant for 3 out of 13 of the investments.
- Financial support on energy bills: respondents who stated they received any form of support on energy bills were 12% less likely to find a proposed investment and the bill impact acceptable, compared to those that do not receive any form of financial support (all else equal). These respondents were also 11% more likely to agree with the investment and not the bill, compared to those that do not (all else equal).
- Youngest age group: respondents between the age of 18 and 24 years were 10% less likely to agree with a proposed investment and bill impact than those over the age of 24 years (all else equal). Similarly, respondents in the youngest cohort were 9% more likely to agree with the proposed investments, but not the bill impact, than those over the age of 24 years (all else equal). Note, however, this result was not statistically significant for 3 out of 13 of the investments.
- Value for money of the overall energy bill, not the transmission bill: respondents who consider the overall energy bill to be value for money, but did not consider the transmission bill to be value for money were 6% less likely to find both the investment and bill impact acceptable compared to those who thought otherwise (all else equal). The respondents in this group were also 6% more likely to agree with the proposed investments but not the bill impacts, compared to others (all else equal). Note, however, this result was not statistically significant in 4 of the 13 models.

These findings are further illustrated by an analysis of the profile of consumers who tended to agree with the proposed investments. Three groups of household respondents were identified:

- First, the majority (80%) of respondents that indicated that the investment and the bill impact were acceptable;

- Then two types that agreed with the investment but did not find the bill impact acceptable:
 - A relatively small group (approx. 7% of the overall sample) that indicated concerns around affordability (labelled 'Group 1'); and
 - A larger group (approx. 13% of the overall sample) who typically saw overall bills and the investment as poor value for money (labelled 'Group 2').

A comparison of the Group 1 and 2 profiles in terms of age cohort, employment, dependants in the household, household income and education is shown in Figure 4.34⁴³. Annex 7 provides further detail. Compared to the nationally-representative overall sample, the main findings are:

- Age: Respondents in Group 1 ('affordability concerns') were more likely to be in either the youngest age group (18-24) or the oldest (65+) compared to the overall sample. In comparison, respondents in Group 2 ('value for money concerns') were more likely to be aged between 25-64 years.
- Employment: Group 2 respondents were more likely to be employed than the overall sample, and Group 1 was equivalently more likely to be unemployed, retired etc.
- Dependants (children or elderly) in the household: Group 1 respondents were more likely to have one or more dependants living in the household compared to the overall sample, while Group 2 respondents are more likely to have no dependants in the household.
- Household income: Respondents in Group 1 were more likely to earn gross annual household income less than the UK median (approx. £32k), compared to the overall sample. In contrast, Group 2 respondents were more likely to earn gross annual household income greater than UK median (approx. £32k).

⁴³ As comparison of Socioeconomic group (SEG) conflates multiple dimensions of respondent socio-economic characteristics, including income and employment, these dimensions are assessed separately. It was also observed that Group 1 respondents tended to a higher proportion of households with no university education or no qualifications compared to Group 2 – although the distinction was less strong than the results shown in Figure 4.34.

Figure 4.34: Household respondent profiles for acceptability of individual investments and bill impacts - overall versus Group 1 and 2 respondents

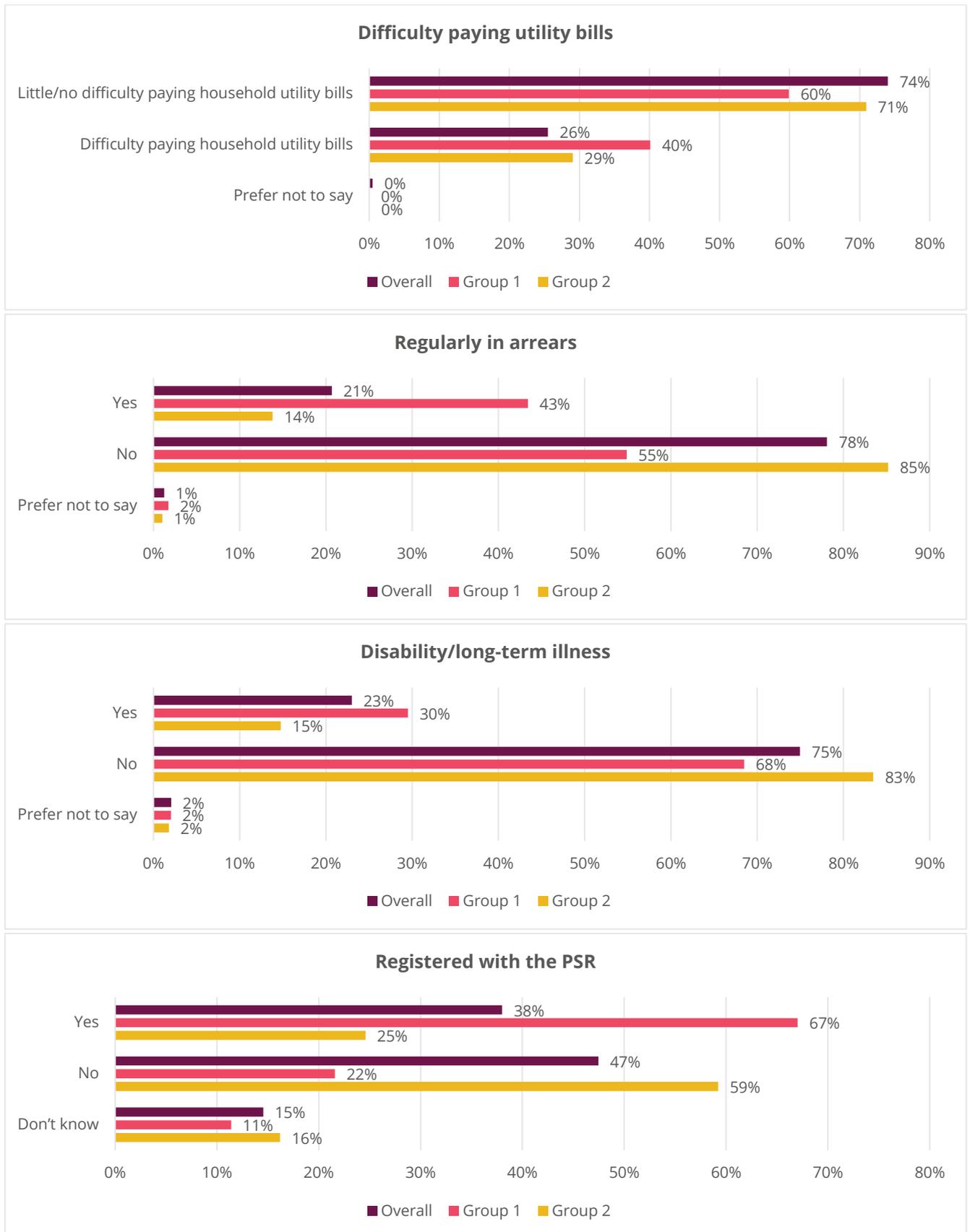


Household pooled (online + in-person): n=1,270.

Another dimension distinguishing the Group 1 and 2 profiles are indicators of households that are potentially in vulnerable circumstances (as per Section 4.1). The key criterion for identifying the Group 1 respondents was that all of these respondents receive some form of financial support for energy bills (e.g. Cold Weather payments). Furthermore, as Figure 4.35 shows, this group has higher proportions of respondents that stated they encountered difficulty in paying household utility bills, a household member with a disability, registered with the PSR, and more likely to be in arrears⁴⁴.

⁴⁴ It was also observed that Group 1 respondents tended to have a higher proportion of households on a prepayment card/meter compared to Group 2 – although the distinction was less strong than the results shown in Figure 4.35.

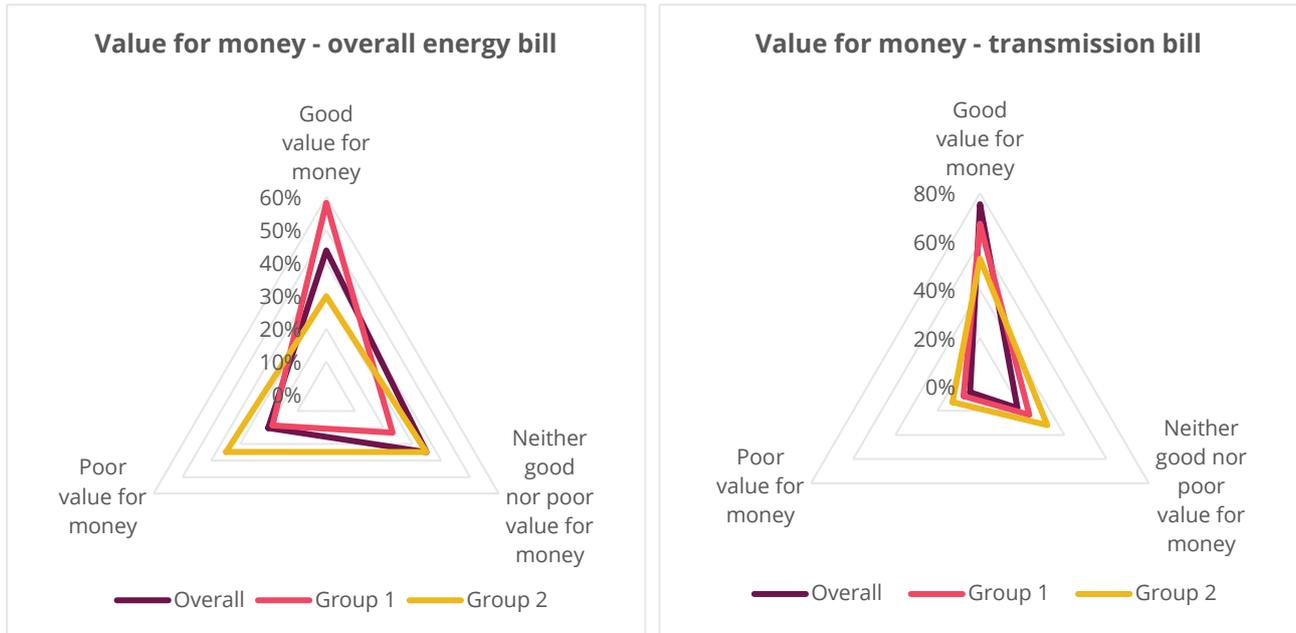
Figure 4.35: Indicators of vulnerable circumstances - overall versus Group 1 and 2 respondents



Household pooled (online + in-person): n=1,270.

Figure 4.36 shows that – compared to the overall sample - both Group 1 and 2 respondents were more likely to consider the GT Business Plan to be either poor value for money or indifferent. However, Group 1 respondents were more likely to consider the overall energy bill to be good value for money, while Group 2 respondents were more likely to consider the energy bill poor value for money.

Figure 4.36: Value for money – overall versus Group 1 and 2 respondents

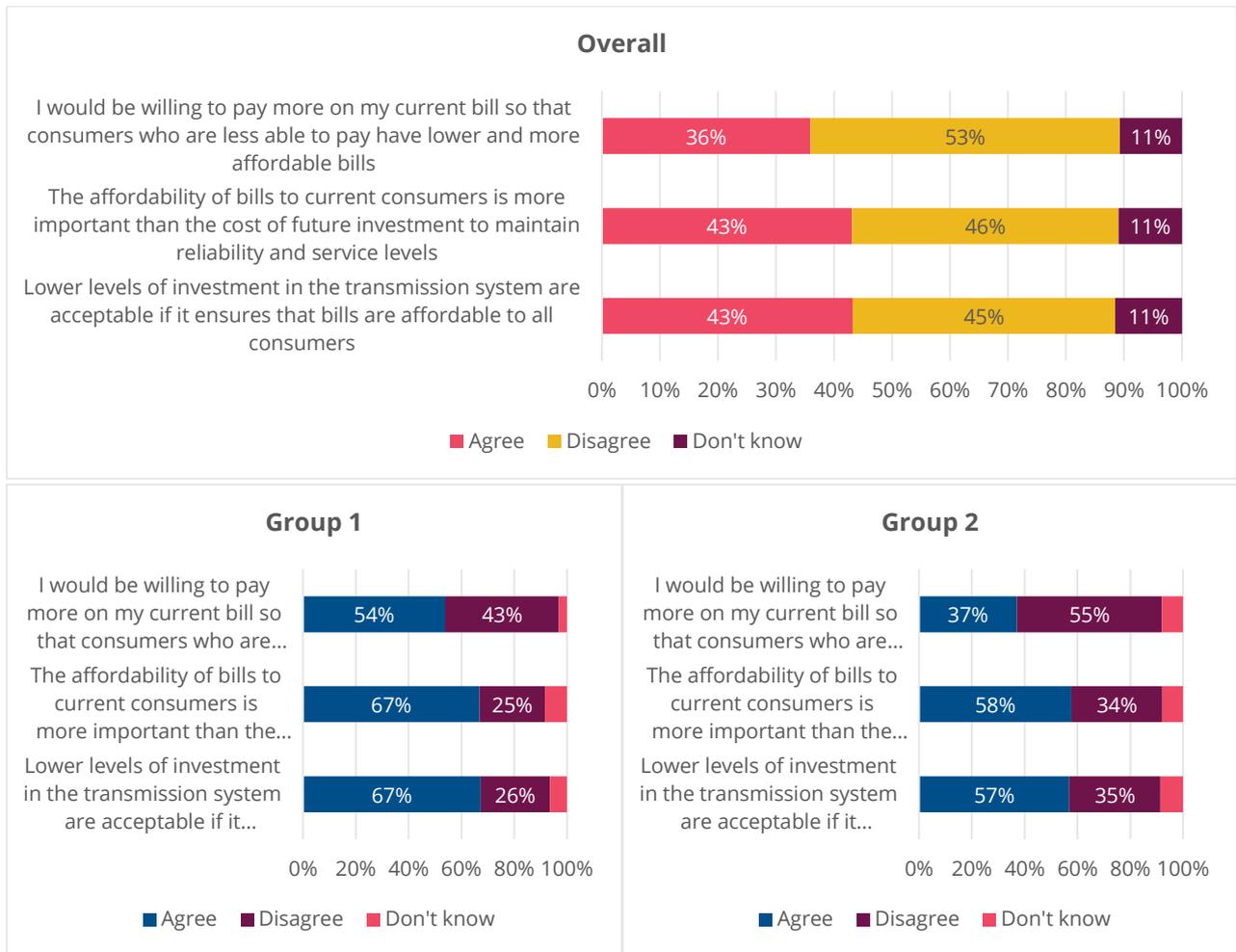


Household pooled (online + in-person): n=1,270.

Also observed in the data, was that Group 1 respondents tended to pay a higher annual dual fuel bill (approx. £1,820 per year) compared to Group 2 (approx. £1,250 per year) and the overall sample (approx. 1,280/year). To put this in perspective, the Group 2 and overall sample result is comparable to the national average energy bill of £1,120, while the Group 1 average bill is over 60% higher.

The Group 1 and 2 respondents also differed from the overall sample in terms of their responses to attitudinal questions in the survey. Figure 4.37 compares the respective responses on attitudes towards affordability. Overall, Group 1 and 2 respondents were more likely to agree to the statements concerning the affordability of current bills versus the costs of future investment, and that lower levels of investment are acceptable if it ensures that bills are affordable to all consumers. Indeed, these were the majority views for the Group 1 and 2 respondents, whereas the overall sample response was more evenly balanced.

Figure 4.37: Attitudinal responses on affordability – overall versus Group 1 and 2 respondents

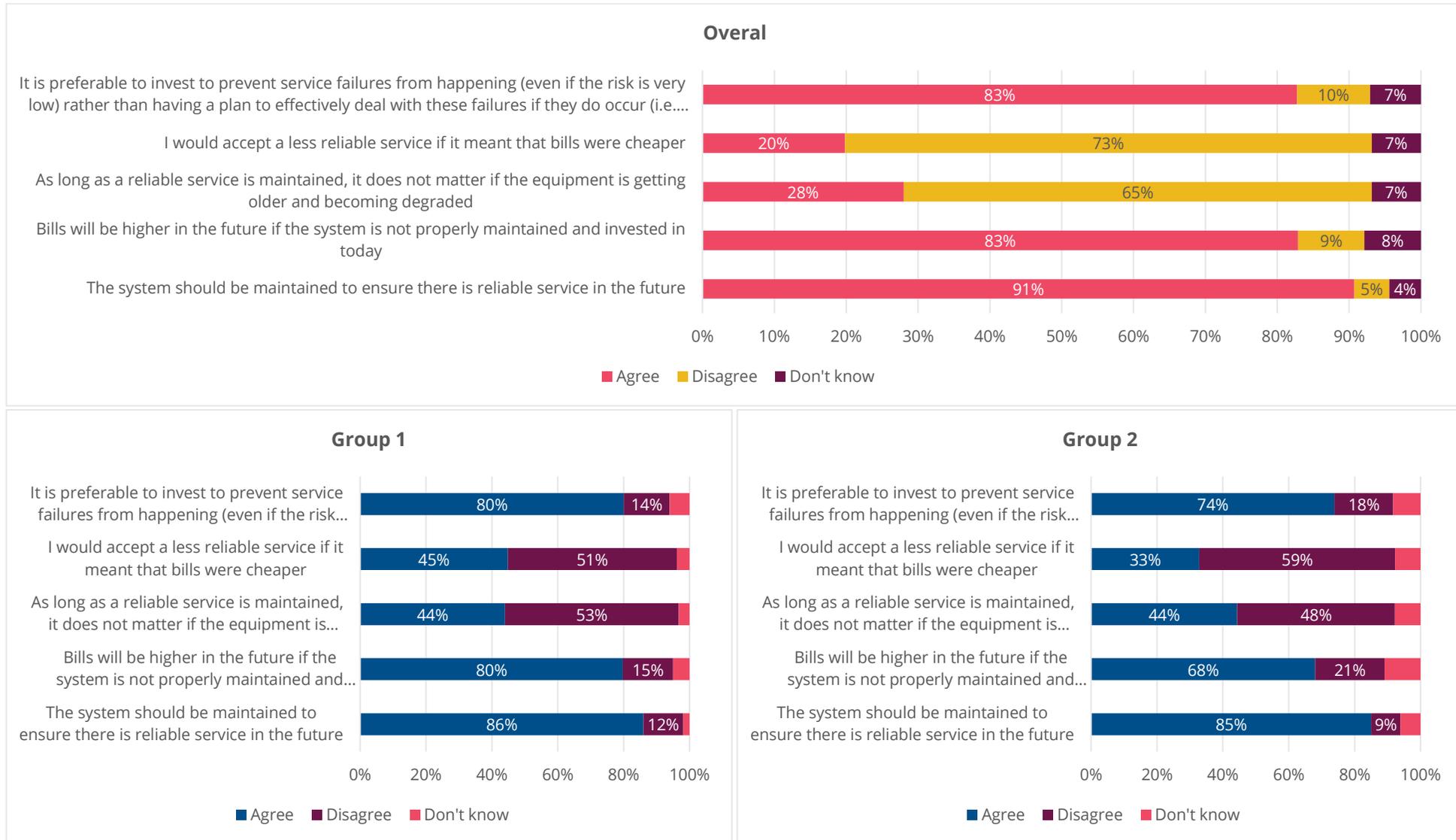


Household pooled (online + in-person): n=1,270.

Figure 4.38 compares responses from the overall sample on attitudes on asset health (Figure 4.29) with those from respondents in Group 1 and 2. Overall, both Group 1 and 2 respondents are less likely to agree with statements that emphasise the need to ensure long-term reliability within the energy system, compared to the overall sample. They are also more likely to agree with the statement that suggests a compromise between lower bills and lower reliability, compared to the overall sample. In addition, Group 1 respondents are more likely (than Group 2) to agree with the statements that ensure long-term reliability within the energy system, but these respondents are also more likely to agree with the statement that suggests a compromise between lower bills and lower reliability would be acceptable⁴⁵.

⁴⁵ Given the larger proportion of respondents that have indicated 'Don't know' among Group 2 (compared to Group 1), it is not possible to conclude on patterns in respondents to the statement that gas transmission equipment does not need to be maintained, as long as service levels are maintained.

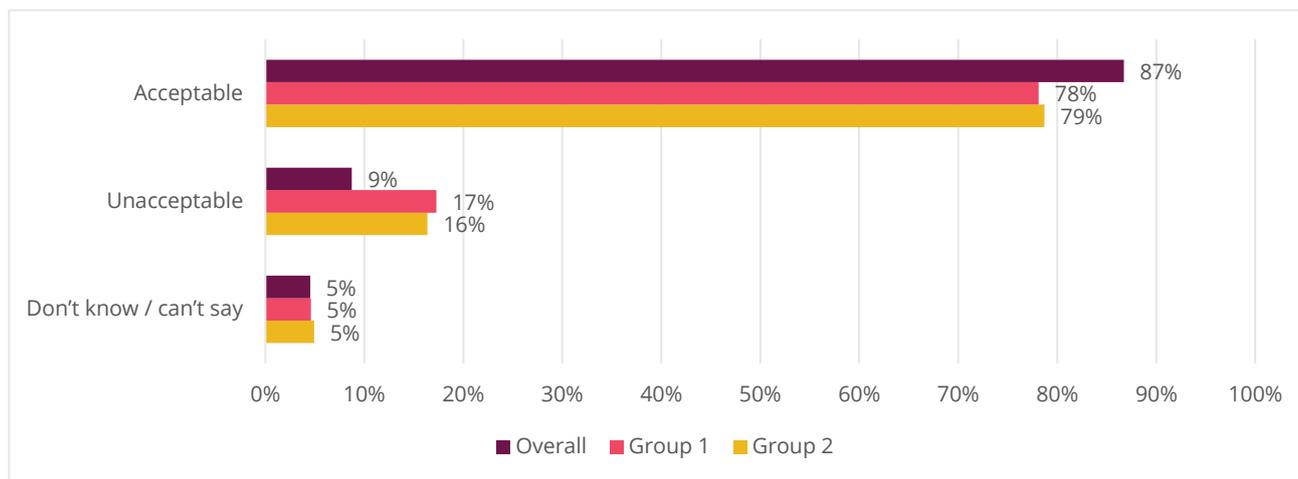
Figure 4.38: Attitudinal responses on reliability – Overall versus Group 1 and 2



Household pooled (online + in-person): n=1,270.

Despite the diverging views of the Group 1 and 2 respondents on the acceptability of the individual investment proposals and aspects around value for money and affordability, the level of acceptability for the overall GT Business Plan was still high. Almost 80% indicated that the plan is acceptable (“very acceptable” or “acceptable”) (Figure 4.39); hence whilst the bill impact of the individual investments was challenged, the overall plan was still viewed as acceptable – potentially because this was the ‘net’ change factoring in the efficiency savings component⁴⁶.

Figure 4.39: Acceptability of overall business plan – overall versus Group 1 and 2 respondents



Household pooled (online + in-person): n=1,270.

4.3.2 Reasons for not agreeing with proposed investments

A very small number of respondents indicated that they did not agree with the proposed investments (on average 2% of household and business respondents). These respondents were asked why the investments were not acceptable. Given the limited sample size, it is not possible to make any strong inferences from the results, but broadly – and for completeness – they tended to reflect the following:

- The high cost of the bill impact;
- Current service levels are sufficient, so there is no need for more investment;
- Principles-based responses about paying for National Grid’s activities – for example National Grid (in particular) should be paying for the investment or it will just increase profits/be paid to top staff;
- Environmental reasons - especially disagreeing with the need to invest to reduce environmental/climate change impacts, with a few indicating that country should be reducing its reliance on gas as a whole (rather than investing in securing it); and
- The investments are not necessary – for example as they do not consider the investment to be within the remit of National Grid or they believe the measures should already be in place and do not require further investment.

These findings are in line with the reasons given for the unacceptability of the plan overall (Figure 4.23)⁴⁷.

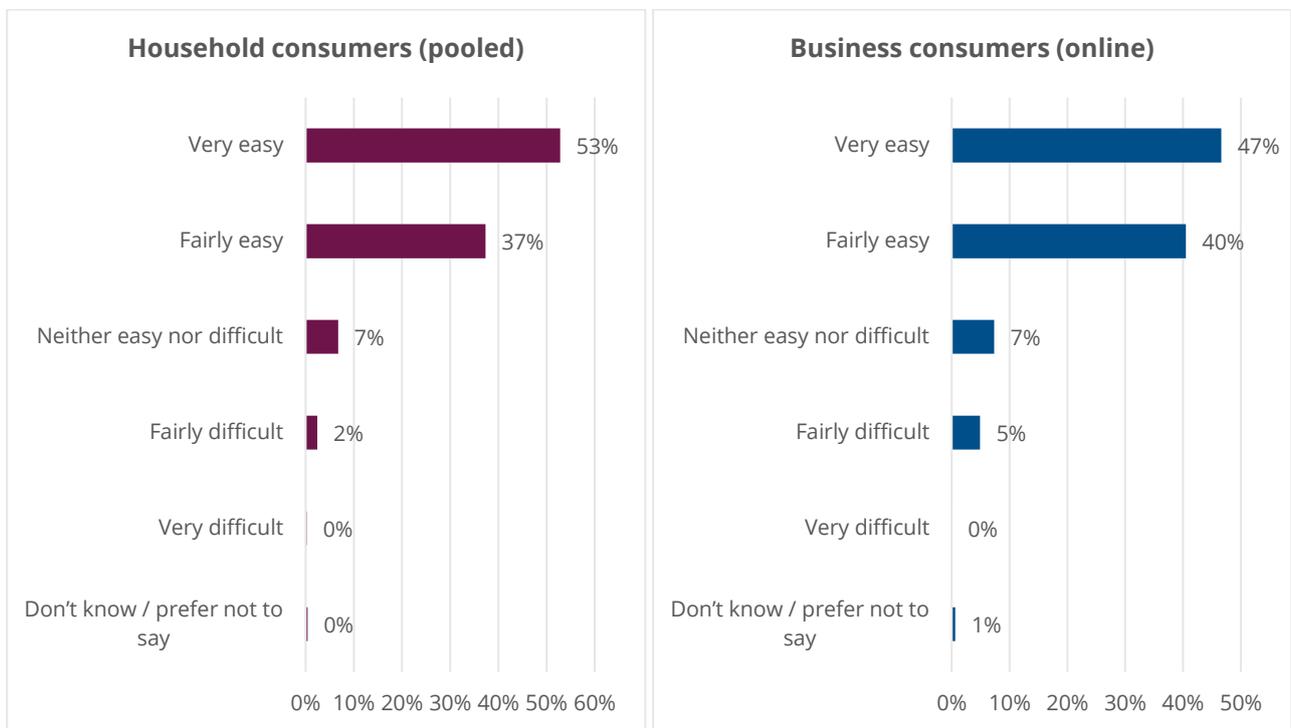
⁴⁶ The stated reasons why the Business Plan was acceptable/unacceptable to group 1 and 2 respondents are in line with the overall sample, but the samples are too small to indicate stronger patterns. See Annex 7 for the full set of results.

⁴⁷ The only investment with distinct feedback were ‘Compensating landowners for impacts from our pipelines’, where respondents that did not agree with the investment were driven largely by a view that the landowners should not be compensated.

4.4 Respondent feedback

The survey design and testing stage provided the first opportunity to gauge the level of understanding and respondent engagement with the survey. As set out in the Stage 1 Qualitative Research Report, the participants in the testing stage found the survey interesting and educational, and overall felt that it provides enough information about the proposals for the GT Business Plan to give an informed view on its acceptability. Subsequent feedback in the survey from respondents was consistent with this finding. As set out in Figure 4.40, the majority of household and business respondents (approx. 90%) stated that the survey was easy to complete (either “very easy” or “fairly easy”).

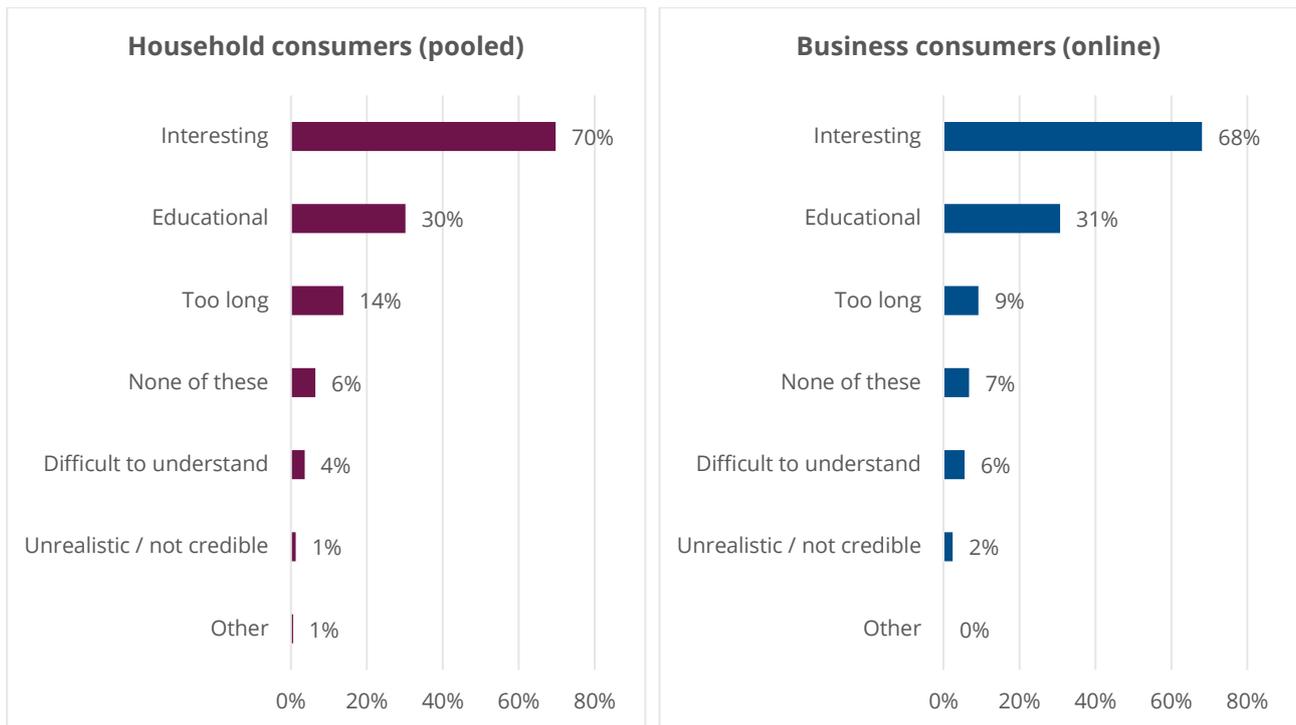
Figure 4.40: Ease of answering questions in the survey (% of respondents)



Household pooled: n=1,270 (online: n=1,058; In-person n=212); Business n=163.

Furthermore, as set out in Figure 4.41, respondents’ views on the survey overall indicated that most found it interesting (70% households; 68% business) and a significant proportion also reported that it was educational (30% households; 31% business sample). A relatively small proportion did state that it was too long (14% households; 9% business). Very few, however, respondents indicated that it was ‘unrealistic/not credible’ (16 household respondents; 4 business respondents). Overall, then, the positive view of the survey and high level of engagement from consumers observed in the qualitative testing stage held through the main survey implementation.

Figure 4.41: Feedback on the survey (% of respondents)



Household pooled: n=1,270 (online: n=1,058; In-person n=212); Business n=163. Respondents were allowed to select more than one option in their response.

5. Conclusions

5.1 Summary

The nationally representative acceptability testing survey was part of a three-stage research process that used a combination of quantitative and qualitative methods to understand consumers' views on National Grid's RIIO-T2 Electricity Transmission (ET) and Gas Transmission (GT) Business Plans.

The survey was developed and iteratively tested as part of the Stage 1 qualitative research, which featured a combination of four focus groups (90-minute sessions) with 31 respondents and one-to-one interviews with household and business consumers (45-minute sessions) with 14 respondents. The 'final' survey material was pilot tested through a 'soft' launch (200 respondents total; 100 each ET and GT). The survey results have subsequently been tested and 'validated' in the Stage 3 qualitative research through 6 focus groups with household consumers (in 120-minute sessions), with 48 household consumers covering both the ET and GT plans.

The survey questionnaire and material was developed as a single survey with household and business consumer variants featuring: (i) a common introductory section (including respondent screening); (ii) alternative main content in terms of the acceptability of the ET or GT business plan; and (iii) common follow-up and closing sections. Respondents were randomly allocated to and routed through either the ET or GT sections.

The main survey was implemented through a sampling approach aligned to National Grid's operational areas for electricity transmission (England and Wales) and gas transmission (England, Scotland and Wales). Sampling quotas were specified based on ONS Census data for household consumers and ONS business activity data for business consumers. A total of 2,528 household consumers and 324 business consumers participated in the survey, via online (for household and business consumers) and in-person (for household only) interviews. The main survey implementation featured six sub-samples of consumers, based on splits between household consumers and business end-users; the electricity transmission Business Plan vs. the gas transmission Business Plan; and the online vs. in-person survey modes for household consumers.

In parallel a sample of ET and GT direct customers were invited to participate in the survey. Five ET direct customers completed the ET version of the survey and seven GT direct customers started the GT version of the survey, but none completed the survey. These responses are excluded from the main set of results since the main purpose was to engage with direct customers on the contents of the respective Business Plan proposals, rather than provide representative results for this segment of customers.

5.2 Main findings – electricity transmission

The main findings from the research show that there is a high level of support for National Grid's proposals for the electricity transmission network. Almost 90% of household and business consumers stated that the overall plan and bill impact (approximately a 4% increase on current transmission bill) was either "acceptable" or "very acceptable".

The high levels of acceptability are subject to limited changes in overall energy bills. The 'limit' within which the Business Plan proposals were acceptable is around a 2.5% change in the overall energy bill. For a dual fuel household consumer with an average bill (approx. £1,100 per year), this is approximately +£28 on the annual current bill. The 'switching-point' from "acceptable" to "unacceptable" for the transmission component of the bill for household consumers was about +£11 on top of the current amount paid. The ET Business Plan proposal (+£0.98 per year for household consumers) is well within this constraint.

Similarly, for business consumers the equivalent 'switching-point' on the overall bill was +7 percentage points on top of the transmission bill amount. The ET Business Plan proposal (+4 percentage points change in the electricity transmission bill amount) is also within this constraint for business consumers.

In addition to the high level of overall acceptability, there is also limited variation in the levels of acceptability between different household consumer segments, in terms of socio-economic and demographic characteristics. The greatest difference for household consumers was observed for the lowest income group (less than £6k per year). Lower levels of acceptability were also observed for households that reported difficulty paying utility bills or were behind with payments. For this segment the level of acceptability was around 80% of consumers.

Similarly, there is limited variation in the levels of acceptability between different business end-user segments, in terms of profile characteristics (company size, sector etc.) and consumption. The greatest difference was observed for the businesses that were 'not reliant' on electricity. This finding, however, is based on a small number of responses for these businesses.

For the most part, consumers also viewed the individual investments in the ET Business Plan as value for money. Typically, high levels of support (60% consumers) were stated for both the proposed investment and the associated bill impact. Moreover, very few outright rejected the investment proposals (typically less than 5%). A significant proportion of respondents did, however, challenge the bill impacts for the individual investments (around 30%), stating that they supported the investment proposal, but its bill impact was not acceptable. For the most part, these respondents can be classified either as those with concerns over the affordability of bills, or the value for money of the proposed investments. The former group (around 10%) tended to have higher representation of households on the lowest incomes and/or higher than average bills and/or consumers in particularly vulnerable circumstances. The latter group (around 20%) was primarily characterised by respondents with higher than average household incomes but viewed overall energy bills as poor value for money.

Overall, investments in safety and reliability were viewed as the top priority by both household and business consumers. This was followed by investments that are intended to meet the changing future needs for the electricity transmission network, although within this, there tended to be lower levels of outright support for investments to develop the (re)charging infrastructure for electric vehicles. Resilience investments tended to be mid-ranked, with lower priority in the survey responses placed on the specific environment and local community investments, and investment in innovation projects.

5.3 Main findings – gas transmission

The main findings from the research show that there is a high level of support for National Grid's proposals for the gas transmission system. Over 80% of business consumers and almost 90% of household consumers stated that the overall plan and bill impact (approximately a 6% increase on current transmission bill) was either "acceptable" or "very acceptable".

The high levels of acceptability are subject to limited changes in overall energy bills. The 'limit' within which the Business Plan proposals were acceptable is around a 2.2% change in the overall energy bill. For a dual fuel household consumer with an average bill (approx. £1,100 per year), this is approximately +£25 on the annual current bill. The 'switching-point' from "acceptable" to "unacceptable" for the transmission component of the bill for household consumers was about +£11 on top of the current amount paid. The GT Business Plan proposal (+£0.54 per year for household consumers) is well within this constraint.

Similarly, for business consumers, the equivalent 'switching-point' on the overall bill was +7 percentage points on top of the transmission bill amount. The GT Business Plan (+6 percentage points change in the gas transmission bill amount) is within the constraint for business consumers.

In addition to the high level of overall acceptability, there is also limited variation in the levels of acceptability between different household consumer segments, in terms of socio-economic and demographic characteristics. The greatest difference for household consumers was observed for the lowest income group (less than £6k per year), however, these respondents tended not to outright reject National Grid's proposals, but rather, were unsure if the plan was acceptable or not.

Similarly, there is limited variation in the levels of acceptability between different business end-user segments, in terms of profile characteristics (company size, sector etc.) and consumption. The greatest difference was observed for the businesses that used an estimated 10,000kWh–15,000kWh/year. This finding, however, is based on a small number of responses for these businesses.

For the most part, consumers also viewed the individual investments in the GT Business Plan as value for money. Typically, high levels of support (around 69% of household consumers and 59% of business consumers) were stated for both the proposed investment and the associated bill impact. Moreover, very few outright rejected the investment proposals (typically 2% or fewer). A significant proportion of respondents did, however, challenge the bill impacts for the individual investments (around 30%), stating that they supported the investment proposal, but its bill impact was not acceptable. For the most part, these respondents can be classified either as those with concerns over the affordability of bills, or the value for money of the proposed investments. The former group (around 10%) tended to have higher representation of households on the lowest incomes and/or higher than average bills and/or consumers in particularly vulnerable circumstances. The latter group (around 20%) was primarily characterised by respondents with higher than average household incomes but viewed overall energy bills as poor value for money.

Overall, investments in safety and reliability were viewed as the top priority by both household and business consumers. This was followed by investments that are intended to meet the changing future

needs for the gas transmission system. Resilience investments tended to be mid-ranked, with lower priority in the survey responses placed on the specific environment and local community investments, and investment in National Grid role as a System's Operator. Within these areas, there is some variation in the priorities for individual investments.

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Acceptability Testing- National Grid Gas & Electricity Transmission

Final Report – Stage 3 Qualitative Research

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Summary

Introduction

As part of developing its plans for RIIO-T2, National Grid has undertaken a programme of consumer research to test the acceptability of the Electricity Transmission (ET) and Gas Transmission (GT) Business Plans. At the heart of this research is a quantitative survey that has measured the acceptability of the business plans; supported by qualitative research to ensure National Grid has a rich and detailed understanding of its consumers' views on its proposals.

The research consists of three key stages:

- Stage 1** Qualitative research to understand consumer views in general on the energy industry, energy bills and National Grid; and to support the design and development of the quantitative survey of Stage 2;
- Stage 2** Quantitative research to understand acceptability across a representative sample of consumers, including a pilot and main study; and
- Stage 3** Qualitative research to drill down into the acceptability findings of Stage 2, and to explore in depth the key issues around acceptability and affordability.

This report summarises Stage 3 of the programme, which has tested and validated the quantitative survey findings from Stage 2, giving a deeper understanding of consumer views on National Grid's business plans.

Research scope

Overall, the research has considered:

- How familiar household consumers are with National Grid and the structure of the energy sector, particularly the transmission component; and how well they see the energy industry working;
- What factors and motivations are taken into account by consumers when considering the acceptability of National Grid's plans, including the overall bill impact for transmission, the proposed investments and their individual bill impact, as well as wider considerations – such as the total amount paid for energy, and other household expenses; and
- How consumers view the affordability of proposals and whether they represent value for money, and what role National Grid should play (if any) in addressing affordability challenges.

Research activities

The Stage 3 research was implemented via six focus group sessions with household consumers across England, Scotland and Wales. The draft focus group topic guide and supporting materials were developed following the completion of Stage 2, incorporating the findings from the quantitative survey. The topic guide and materials were then finalised with input from National Grid before the Stage 3 fieldwork began.

Key findings

The key findings from Stage 3 are:

- **Overall awareness.** General knowledge of the structure of the energy industry is low, but higher amongst older consumers. Awareness of National Grid and its role has increased following the August 2019 power cuts. Consumers see the service as highly reliable, with recent events being considered a one-off.
- **Acceptability of bill changes.** Consumers consider the plans to be acceptable, and they understand why high percentages of consumers in the Stage 2 survey agreed that the gas and electricity plans are acceptable. The general view is that no one would notice the proposed change to the transmission prices, even with inflation added. This did not change when plans were combined. The presence of targeted efficiencies boosted support for the overall plan and specific investments.
- **Affordability and value for money.** Consumers identify serious challenges regarding the affordability of overall energy bills but see the transmission element as being highly affordable and good value for money. Views were mixed when it came to National Grid's role in ensuring affordable bills. Whilst all felt that affordability issues are not caused by National Grid, consumers had conflicting views on whether National Grid has a responsibility to help with energy bill affordability. On balance this was favoured by consumers, with some preferring signposting to debt charities or seeking to influence government and other stakeholders, whereas others prefer a funding role under the administration of an independent stakeholder panel. Given the importance of this topic area to consumers and the range of views on how National Grid should act, further research may be appropriate. For example, a representative survey to provide quantitative evidence on the strength of consumer preference for alternative strategies and options.
- **Justification for specific investment options.** National Grid's electricity and gas transmission plans were presented to consumers as five key investment areas or themes. Consumers agree with the relative priorities for the themes and the high levels of acceptability for individual investment areas. Consumers suggested that support of more than 70-75% would give National Grid a strong mandate to proceed – which is considerably below the actual support for initiatives in the Stage 2 research. The overall efficiency savings offered in the plans are more than sufficient to address consumers' concerns for with some of the bill impacts of the proposed investments.

- **Reliability and maintenance.** Reliability and maintenance are a high priority for consumers. Moreover, consumers accepted that prices may need to go up periodically to maintain current levels of reliability, especially when assets are ageing or expected to meet increasing standards or demands. Consumers see safety as the number one priority, with reliability nearly on a par given the risks of supply outages to elderly and vulnerable consumers (e.g. during cold weather). Consumers expected budgets to be balanced and prioritised, although this is not an area that should be 'squeezed' during this process.
- **Spending more on urban areas.** An additional aspect of the electricity transmission plans discussed at the request of National Grid and its stakeholders related to urban areas - i.e. improving National Grid's assets and/or public space in deprived urban areas. Examples are screening substation or public areas and providing community facilities such as skate parks. Most consumers liked this concept in principle, with a view that a mix of landscaping and community facilities would be welcome. Landscaping (e.g. substations) is important as people should be able to be proud of where they live. There was considerable discussion about the less well-off not having much choice on where they live, which is why this had high levels of support. Community facilities were also supported, but these need to have low ongoing costs in order to be sustainable.

Consumers felt unable to fully assess the required budget in this area without more details but based on the information provided thought a budget of 15p per consumers (i.e. £50m) was preferable to the lower alternative amount of 6p (i.e. £20m). A small minority, though, strongly objected to any role, seeing it as a form of forced donations to charity. Overall, urban area investments were viewed as being on par with some other parts of the plan – e.g. infrastructure for electric vehicle charging – but of less importance than affordability support.

Conclusions

The final stage of the research programme successfully tested the outcomes of the quantitative survey through a diverse set of extended focus group sessions with household consumers in September 2019. It also provided opportunities to explore key issues in greater depth and understand the role of National Grid in providing and ensuring safe, reliable and affordable energy now and in the future.

The feedback from consumers was generally very positive, with high levels of support for National Grid's plan and endorsement of the quantitative survey findings. There were, however, some areas where views were more mixed, such as: (a) whether energy bills are too high and represent good value for money; and (b) National Grid's role in providing affordability support to consumers and the urban deprivation fund.

Overall, participants found the sessions interesting and informative. Consumers were overwhelmingly supportive of National Grid's engagement with them and valued the opportunity to shape the Electricity Transmission and Gas Transmission Business Plans.

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1. Introduction

1.1 Research objectives

As part of developing its plans for RIIO-T2, National Grid has undertaken a programme of consumer research to test the acceptability of the Electricity Transmission (ET) and Gas Transmission (GT) Business Plans. At the heart of this research is a quantitative survey that has measured the acceptability of the business plans, supported by qualitative research to ensure National Grid has a rich and detailed understanding of consumers' views on its proposals.

The research programme consisted of three key stages:

- Stage 1** Qualitative research to understand consumer views in general on the energy industry, energy bills and National Grid; and to support the design and development of the quantitative survey of Stage 2;
- Stage 2** Quantitative research to understand acceptability across a representative sample of consumers, including a pilot and main study; and
- Stage 3** Qualitative research to drill down into the acceptability findings of Stage 2, and to explore in depth the key issues around acceptability.

This report summarises Stage 3 of the programme, which tested and validated the quantitative survey findings from Stage 2, giving a deeper understanding of consumer views on National Grid's business plans. This is a key part of making certain the research is complete and provides a comprehensive assessment of the acceptability of National Grid's proposals. Overall, the research has considered:

- How familiar household consumers are with National Grid and the structure of the energy sector, particularly the transmission component; and how well they see the energy industry working.
- What factors and motivations are taken into account by consumers when considering the acceptability of National Grid's plans, including the overall bill impact for transmission, the proposed investments and their individual bill impact, as well as wider considerations – such as the total amount paid for energy, and other household expenses.
- How consumers feel about the affordability of proposals and whether they represent value for money; and what role National Grid should play (if any) in addressing affordability challenges.

1.2 Research activities

The Stage 3 research with consumers was implemented via 2-hour focus group sessions with household consumers across England, Scotland and Wales. The draft focus group topic guide and supporting materials were developed following the completion of Stage 2, incorporating the findings from the quantitative survey. The topic guide and materials were then finalised with input from National Grid before the Stage 3 fieldwork began. Annex 1 presents the topic guide and explanatory material shared with participants.

There were six groups in total. In all sessions, consumers were presented with information on both the ET and GT plans, although one plan was the primary topic area for discussion. The primary topic was alternated across locations meaning that all three locations had one group each for electricity and gas transmission. All focus groups sessions took place in September 2019. The participant profile for all groups is shown in Table 1.1. A total of 48 customers participated in the focus groups.

Table 1.1: Focus group participant profile (September 2019)

Location	Primary topic	SEG	Age	No. participants	Date
Edinburgh	GT	C2DE	18-45	8	05/09/19
Edinburgh	ET	ABC1	46+	8	05/09/19
Newport	ET	C2DE	46+	8	09/09/19
Newport	GT	ABC1	18-45	8	09/09/19
Guildford	GT	ABC1	46+	8	18/09/19
Guildford	ET	C2DE	18-45	8	18/09/19

A good mix of consumers were included across the groups with vulnerable consumers / consumers with a disability participating (including two consumers on priority services registers). The focus group sample also included BME representation.

Participants had a range of occupations, including youth workers, disability support workers, debt support workers, who helped to bring important perspectives to discussions. One person had worked in a British Gas call centre for a number of years and shared experiences of how the supply side worked at that time.

The sample also included a mix of consumers with standard and smart meters, consumers in lower income groups, and some with pre-payment meters.

Levels of engagement

Throughout the groups, participants were highly engaged and indicated they enjoyed learning about the energy industry, National Grid, and the details of proposed plans:

“I feel much more confident about understanding my bill and where my money goes. I feel positive about monopolies.” (Edinburgh, C2DE 18-45)

“Really insightful and interesting discussion. Great insight into National Grid and how the chain works.” (Newport, ABC1 18-45)

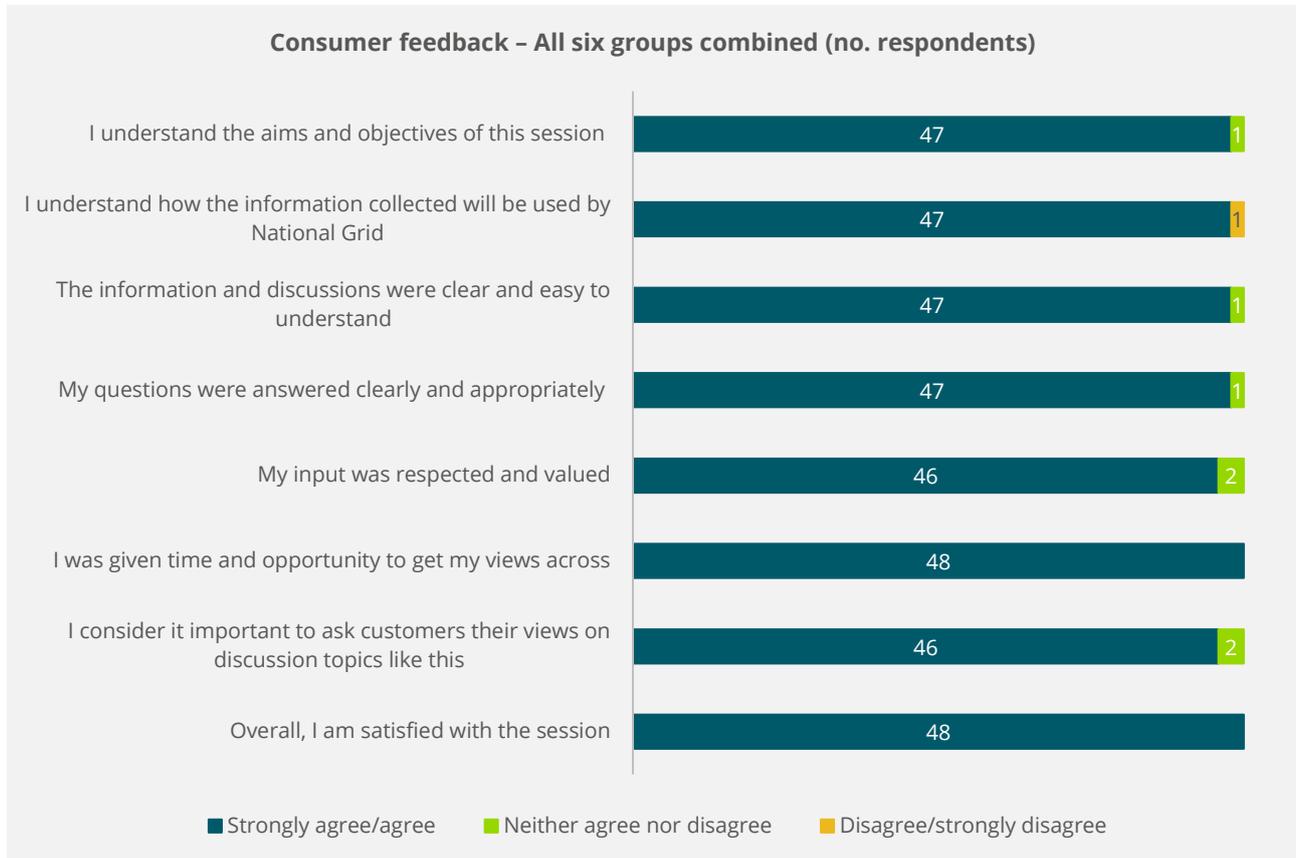
“Enjoyed opinions and the chat about energy; I learnt quite a lot” (Edinburgh, ABC1 46+)

“Very interesting and I have learnt a lot” (Guildford ABC1 46+)

“Very interesting and informative” (Newport, C2DE 46+)

Figure 1.1 summarises consumer feedback collected across the six groups which shows the positive views of the sessions were widely held.

Figure 1.1: Participant evaluation of focus group sessions



Source: Focus group respondents, September 2019 (n = 48).

Consumers were asked to express their view on being engaged in this way – both during and at the end of the groups. The overwhelming view was that consumers welcomed and appreciated hearing about the plans and having their views listened to. They want the plan to reflect their views on the environment, reliability and other aspects of performance. They also want National Grid and the energy industry in general to be transparent around its plans and about where consumers’ money goes.

“I think it’s encouraging they are wanting to consult their consumers because a lot of people don’t even know they use their service. It’s encouraging that they want to hear from us and hopefully they’ll take our opinions to make positive changes that we want to see” (Edinburgh, C2DE 18-45)

“It gives an insight into what people actually think and feel about this. That can’t be wrong” (Edinburgh, ABC1 46+)

“It depends whether they take the information and do anything with it really. I think it’s worthwhile for us because before coming here I didn’t have a clue about National Grid” (Newport, ABC1 18-45)

However, some did enquire whether National Grid was being “made to ask” consumers and was doing this as a tick box exercise.

“I think it’s good but whether they’ll listen to us, I’m not sure. We’re just the little fish in a big pond, they’re not going to listen to us” (Newport, C2DE 46+)

“How do we know that our opinions are actually getting put into place?” (Edinburgh, C2DE 18-45)

Participants were also clear that they want National Grid to continue to engage and listen to consumers.

“I think it’s good they are consulting customers” (Edinburgh, C2DE 18-45)

“If they are doing it off their own back, then I think it’s admirable” (Edinburgh, ABC1 46+)

Figure 1.2: Edinburgh focus groups



Figure 1.3: Newport focus groups



Figure 1.4: Guildford focus groups



2. Research findings

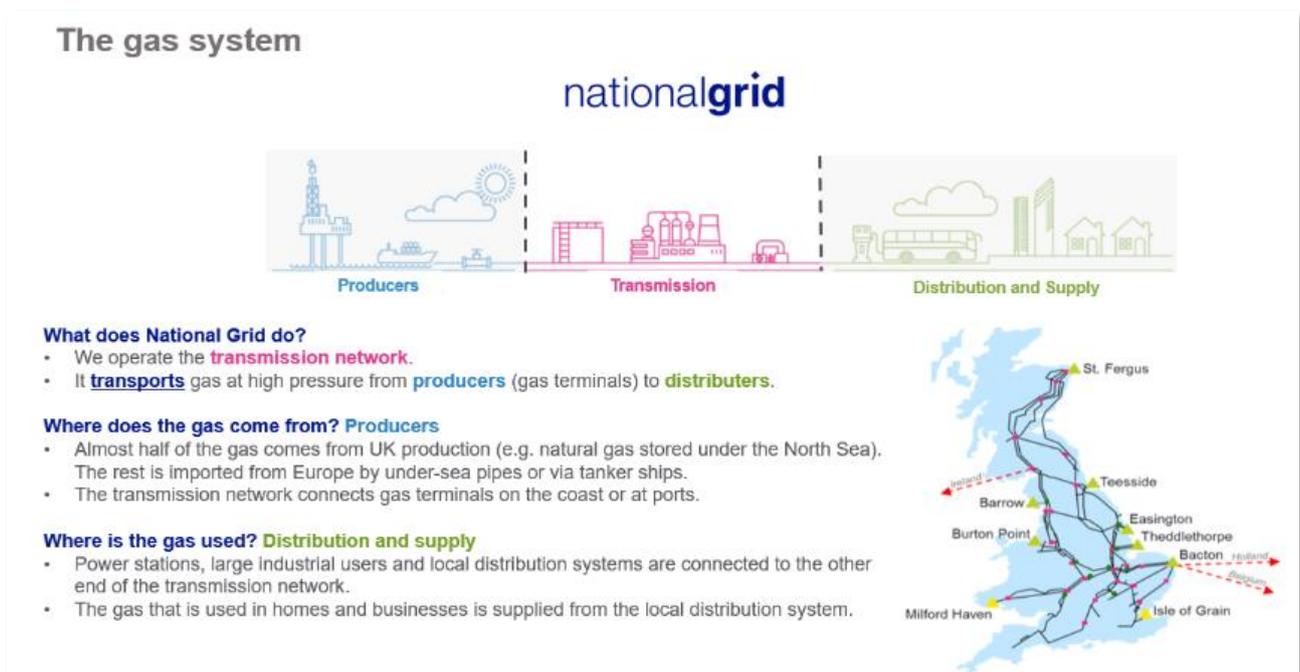
2.1 Familiarity with the energy industry

The discussions initially focused on consumer understanding of the energy industry, including how it is structured, organised and governed. The starting point was an open discussion on how familiar consumers are with the industry, the relevant stakeholders, and National Grid’s role and responsibilities.

Overall industry

The discussions showed that consumers have varying levels of understanding of National Grid and its role in the energy industry across the country. Figure 2.1 presents the transmission system showcard that was used to prompt participants (gas example).

Figure 2.1: National Grid transmission system (gas transmission example)



In general, the older, higher SEG consumers had a greater level of awareness of the structure of the energy industry compared to lower SEG and younger consumers. The latter participants had the lowest-level of understanding of how the energy market is structured and organised, and – for example - many were unaware of the August 2019 power cut. There was, however, across all consumers good understanding that power comes from a range of sources (e.g. gas, coal, nuclear, wind, and solar). The highest awareness of how the energy industry is structured was demonstrated by the Edinburgh groups, which had a good appreciation of Scotland’s energy exploration and renewables industries.

Awareness of Ofgem was high, but its specific roles and duties were not readily known. Consumers were very unaware of the Department for Business, Energy & Industrial Strategy (BEIS), with very few having heard of it and no one being familiar with its roles and duties.

***“The government has something in place: a regulator that can look after the energy industry”
(Edinburgh, C2DE 18-45)***

***“Ofgem are the regulator - so they are making sure everyone is doing their bit and fairly”
(Newport, C2DE 46+)***

“I wasn’t sure what they did but I had heard of them (Ofgem)” (Guildford, ABC1 46+)

Participants in the groups were customers of a varied mix of energy suppliers and many had moved away from the Big Six to more local or environmental suppliers, especially among younger groups. One consumer in Guildford was an Eversmart Energy customer, which had just ceased trading.

Awareness of National Grid

The older consumers in the Edinburgh groups had mostly heard of National Grid before and typically could explain its role, even prior to the August 2019 power cuts.

“They look after the infrastructure, join everything up like the power stations to the supply...its co-ordinated throughout the country” (Edinburgh, ABC1 46+)

“They provide the energy to whoever we buy energy from” (Edinburgh, ABC1 46+)

The older consumers in Newport and Guildford had mostly heard of National Grid but their understanding of roles and responsibilities was vague. In the Newport group, for example, only one participant could explain the role of the grid.

“Energy comes through the National Grid, it comes through at a certain voltage and when it gets to somewhere else it goes into a transformer and it cuts it down a little bit further and by the time it gets to your house, the voltage is down” (Newport, C2DE 46+)

“I thought the National Grid owned all the gas and electricity supply” (Newport, C2DE 46+)

“They are the infrastructure, aren’t they, behind all the providers. So, they provide the infrastructure to get the electricity, gas or both, so all the providers have to use them” (Guildford, ABC1 46+)

“Do they maintain the infrastructure to transmit all of the energy? So, if the pylons go down, they’ve got to fix it” (Guildford, C2DE 18-45)

The August 2019 power cut had raised awareness of National Grid somewhat. In most groups, some participants said that they now knew about National Grid or knew more about National Grid as a result of the power cuts and media coverage.

Even though some participants were not clear on the specifics of National Grid's role, the general view was that there is a high level of reliability in the electricity and gas transmission systems because problems with supply are uncommon. In fact, most had not heard of any issues with electricity before the August 2019 power cuts, and almost all could not think of any issues with gas; hence their assumption was these events must be rare.

***“There’s always going to be some element of risk and the fact that no one can remember the last time it happened, until it just happened recently, just goes to show that when it happens, it’s so rare”
(Guildford, C2DE 18-45)***

As well as raising awareness of National Grid, the August 2019 power cuts illustrated the importance of National Grid's role in the energy industry. Consumers thought these power cuts would have caused a range of impacts, from minor impacts such as melting freezer contents to major transport delays. They were aware that in some circumstances (e.g. if power cuts had occurred later in the year) this could have been particularly dangerous and even life-threatening for the elderly, ill and vulnerable because people might be unable to heat their homes.

“There was huge traffic disruption...like with the trains” (Guildford, C2DE 18-45)

“For old people it could actually be life threatening couldn’t it? If they’re relying on it to heat their home” (Guildford, ABC1 46+)

“No heating in the winter I think would be the worst thing, obviously for the elderly people. But do you know - it’s never happened, I don’t ever remember it happening” (Guildford, ABC1 46+)

On balance, the view was that preventing interruptions is more important on the gas side, as gas has a more essential role in heating homes. Nevertheless, some participants commented that they relied on electric heating and that any interruption to supplies on either the gas or electricity side could be serious.

“It depends on what kind of heating you’ve got, we’ve got a gas hob, an electric cooker, wood burning stove so we can get away with it” (Guildford, ABC1 46+)

“It depends on the time of year, if it was summer it wouldn’t be too bad” (Guildford, ABC1 46+)

2.2 Views on the energy industry

Consumers were asked for their views on the energy industry, including what they think the future challenges are, and how well the energy industry is working in general. Very consistent views were expressed across the groups on issues such as bills and affordability, climate and environment, energy security, ownership, competition, and threats such as cyber security.

Bills and affordability

The most common themes brought up by participants in the unprompted discussion were energy bills and affordability. Key perceptions were:

- Energy prices are high (too high) and only go up each year;
- Prices are volatile – when one supplier changes its prices, the rest follow suit; and
- Electricity prices are high relative to gas although, in part, this was due to the timing of the groups, with the recognition that in winter gas bills would be higher.

“The price is quite high on pay as you go for electricity. Gas isn’t too high right now but if you put the heating on it could be” (Edinburgh, C2DE 18-45)

“The thing about prices - they climb up every year” (Edinburgh, C2DE 18-45)

“To me it just seems like suppliers do their own thing, one minute you’re paying this and the next minute it’s gone up. It never seems to come down” (Edinburgh, ABC1 46+)

“It’s a lot less in summer, you don’t have the gas heating on and even electric I don’t seem to use as much but then in the winter, it eats everything up” (Newport, ABC1 18-45)

Energy security and the environment

The second biggest issues identified by participants across the groups were the environment and energy security. There was relatively high awareness of the increasing shift from fossils fuels to renewables, in order to protect the environment. Moreover, the shift to clean fuels was welcomed, with consumers in a couple of groups praising the recent news that there had been a whole month during which no coal generation of power had been used.

“We need more months like that” (Edinburgh, ABC1 46+)

There was also an appreciation that renewable prices have fallen and continue to become cheaper. Wind and solar were cited as examples.

“I think the cost of renewables like solar and wind have come down” (Newport, ABC1 18-45)

“Scotland does pretty well. I’m from Australia and I think Scotland is actually doing better than many other nations or states. They’re a big producer of clean energy.” (Edinburgh, C2DE 18-45)

“I’m frustrated at how slowly they’re bringing in renewables. I understand you have to constantly build more power stations, but I wish a larger percentage of them were cleaner.”
(Edinburgh, C2DE 18-45)

In some groups, the discussion around renewables did include discussions on the security of energy – raising questions about whether renewables can meet demand at all times.

“I think there’s a problem of more and more people want to have green energy, they want to feel like they’re not negatively impacting the planet - but everyone expects to still have laptops, to have internet work really fast...and we expect our homes to be hot whenever we want it”
(Edinburgh, C2DE 18-45)

There was also concern that demand for energy is growing and that this can only put a strain on resources and energy security in the future. The current level of resilience and reliability is seen as high, and consumers felt this needed to be maintained through future energy investment to keep supplies secure.

“I think the reason prices are increasing is due to the environmental strain that’s happening within the world and obviously the demand, so we’re constantly having to seek more oil, gas and natural resources...but demand is consistently getting higher” (Edinburgh, C2DE 18-45)

“There is such a strain on the system. We expect for things to be more and more efficient as the years go by and for things to be more ethical but there’s only a finite amount of resources” (Edinburgh, C2DE 18-45)

Some sources of energy were unpopular. Fracking and nuclear power were mentioned as particularly unwanted sources, with additional concerns relating to the funding of the nuclear industry. However, it was recognised that there are no easy choices around energy. People want green energy overall, but the view was this may be less reliable.

“Of oil and gas there is a limited supply and using measures say like fracking to get more out of it, has much more grievous impacts on the environment and I know that the UK - or at least Scotland - has a ban on it” (Edinburgh, C2DE 18-45)

“The environment is my concern. I know nuclear power is key, but I don’t really rate it as a cost-effective or safe form of energy” (Newport, ABC1 18-45)

Views on the environment also related to local impacts such as disamenity and pollution. In the younger Edinburgh group, this included pylons spoiling the landscape as this is an issue in the media. Despite this, it was not considered to be a huge issue by the group.

“Renewables is such a big thing, you’ve got people crying out for it and then you’ve got people against it because it spoils the landscape and it takes up views like on Donald Trump’s golf course” (Edinburgh, ABC1 46+)

In Edinburgh, there was also more recognition of the impact of the energy industry on the economy. Many saw renewable energy as providing opportunities (e.g. jobs) for the future, especially as North Sea oil and gas will run out.

***“If they were actually able to put money into more jobs to harness all these different things, I think that would be a good thing. So, I think they could do more, the potential is there”
(Edinburgh, ABC1 46+)***

The younger Edinburgh group was also familiar with local production of electricity, which is feeding back into the grid. They supported new houses having more of this, and to be greener and more (energy) secure in the future.

Ownership

Discussion of ownership issues featured in most groups. There was no aversion to the privatised energy model for network companies as long as returns are set at a fair rate and performance targets are stretching. In general, regulation was thought to be working well.

“I trust Ofgem” (Newport, C2DE 46+)

The younger Edinburgh group also questioned how future independence would impact the energy industry and energy security.

Competition

A key issue linked to prices, though, was whether competition was working. Asking consumers who their supplier was showed an array of companies but there were mixed views on the benefits of switching. Some refused to do so as they found it too confusing or were too scared. For others, it was apparent the ability to choose was working with participants saying they had switched to a lower price, but some thought there were too many suppliers and energy bills have never been higher.

“Now we’ve got the variety of suppliers you can move on if you’re not happy with one and go somewhere else” (Newport, C2DE 46+)

“After 12-15 months they say they’re going to put the prices up, and we say no we’re not having that and move onto the next. So, at the moment it’s working for us 100% because we’re not worried about changing” (Newport, C2DE 46+)

Many had not switched at all or for years, especially older consumers in Wales who were mainly still with SSE/Swalec. Confusion over the process and concerns over what could go wrong have made some reluctant to switch.

“I stick to ScottishPower. I’ve had no problems with that” (Edinburgh, ABC1 46+)

***“If I understood more, I would switch but I’m too scared because I don’t know enough about it”
(Newport, ABC1 18-45)***

“There’s existing customers, new customers, then a deal for loyal customers and in the end, you just don’t know how much you’re supposed to be paying” (Newport, ABC1 18-45)

For those that had not switched, there was considerable frustration that consumers are being exploited. Participants felt those that are not IT savvy, and struggle to switch in practice were most at risk, which could include the elderly and those in vulnerable circumstances.

“You have all these old age pensioners who have been with the same company for years paying astronomical bills, whereas someone who is a bit computer literate is paying next to nothing for the same thing” (Newport, C2DE 46+)

There were mixed views on the benefits of smart meters in relation to making bills cheaper. Typically, they were considered too unreliable, and only one person in the younger Edinburgh group said that they had benefitted. The older Newport group said they wished they were more useful than they are.

Cyber security

External threats, most notably cyber security, were covered through a prompted discussion as this was not spontaneously mentioned in any of the groups. It was generally recognised that cyber threats are a growing problem for all companies. Few thought, however, that National Grid would be a high priority target – mainly as they do not hold consumer details, so are less attractive for hacking (e.g. compared to banks, financial institutions and retailers). However, once discussed, it was recognised that cyber issues are on the increase and that networks need to be protected.

“There are a lot of complex systems involved in running this so someone could hack it and cause a lot of havoc” (Edinburgh, C2DE 18-45)

“If I was thinking cyber attack, I probably wouldn’t think National Grid as the primary target. You say it, and it makes sense but I’m not worried that my power is going to be disrupted” (Edinburgh, C2DE 18-45)

“When you look at the security in the National Grid, that’s got to be pretty high tech, so I’m not sure about the chance of someone getting through that, but the disruption it would cause would be awful” (Edinburgh, ABC1 46+)

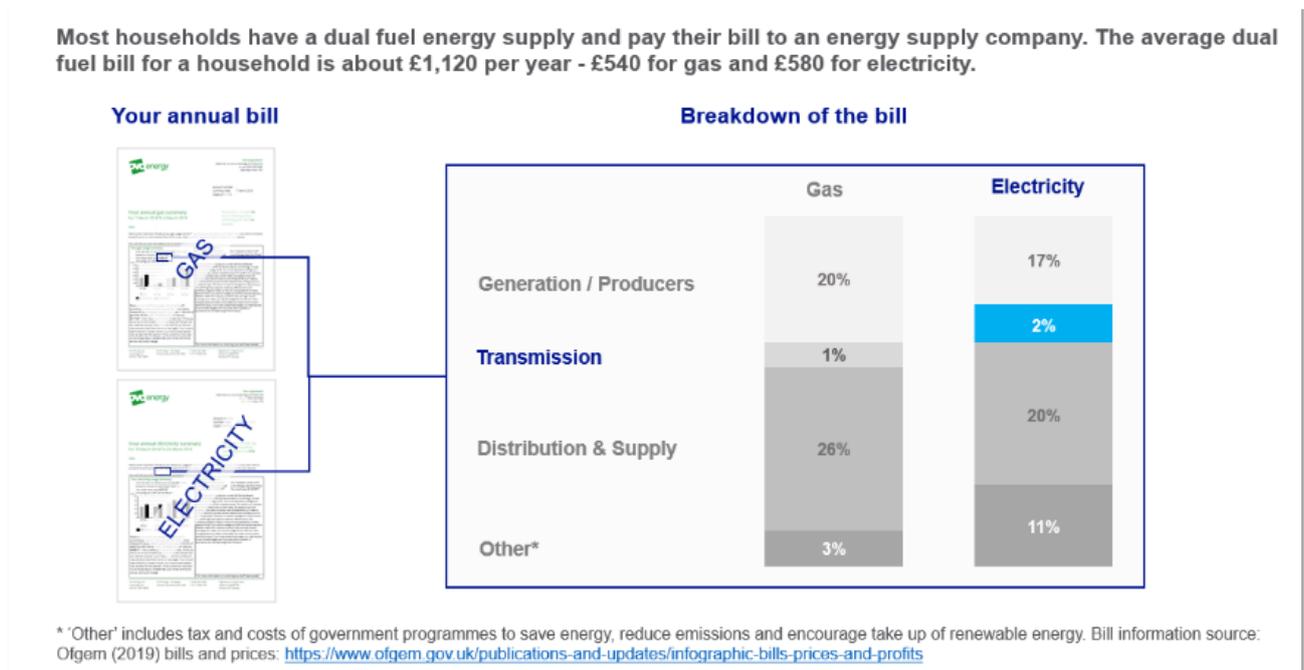
“I probably wouldn’t attribute it as a risk to energy as I would to hacking the financial side” (Newport, ABC1 18-45)

I think that’s the way it’s going...there are now whole departments dedicated to that kind of warfare” (Newport, C2DE 46+)

2.3 Understanding energy bills

Prior to discussing the electricity and gas transmission business plans, participants were given information about the make-up of the energy bill to ensure that they understood the contribution of the transmission amount to the overall bill. Figure 2.2 shows the information presented to participants (electricity transmission example). The initial responses across the groups revealed a lack of understanding of what is contributing to the bill, such as renewables subsidies. Very few participants in the groups indicated that their bill was lower than average. Most said their overall bill was at the average level or higher. The stated range was between £80 to £200 a month for dual gas and electricity.

Figure 2.2: Annual bill breakdown showcard (electricity transmission example)



The consensus across the groups was that transmission costs seem reasonable, and actually quite low given the size and scale of the infrastructure they rely on, whereas everything else seems high. One person commented that it would be sensible for it to be one of the lowest cost elements of the bill, and another commented there was nothing to compare it to. The view of most participants is that they expected it to be higher.

***“I think that’s quite low, in comparison to what the producers and suppliers are getting from it. It’s all the same, it’s like the people at the front line doing the hard work and getting paid the least”
(Edinburgh, ABC1 46+)***

“It seems low but at the same time they also have a monopoly on it so that’s everyone. Whereas with supply you have so many choices, as is evident by the people here, so 1% seems low but that’s 1% from everyone” (Edinburgh, C2DE 18-45)

***“I’m surprised because looking at the rest of the bill you would have thought they would have been in the 8-9% because they are the ones who are actually putting the infrastructure down”
(Newport, C2DE 46+)***

***“I’m surprised it’s so low, I thought it would be a lot higher from all the infrastructure they source”
(Guildford, ABC1 46+)***

“I would expect it to be higher because of all the infrastructure that National Grid has, but then I suppose if they are supplying every home, that does add up” (Guildford, C2DE 18-45)

Some thought that suppliers were charging too much in comparison. The subsidies for renewables were also commented to be high.

***“I was surprised by how much you pay the suppliers, those percentages just for the supply of energy”
(Edinburgh, C2DE 18-45)***

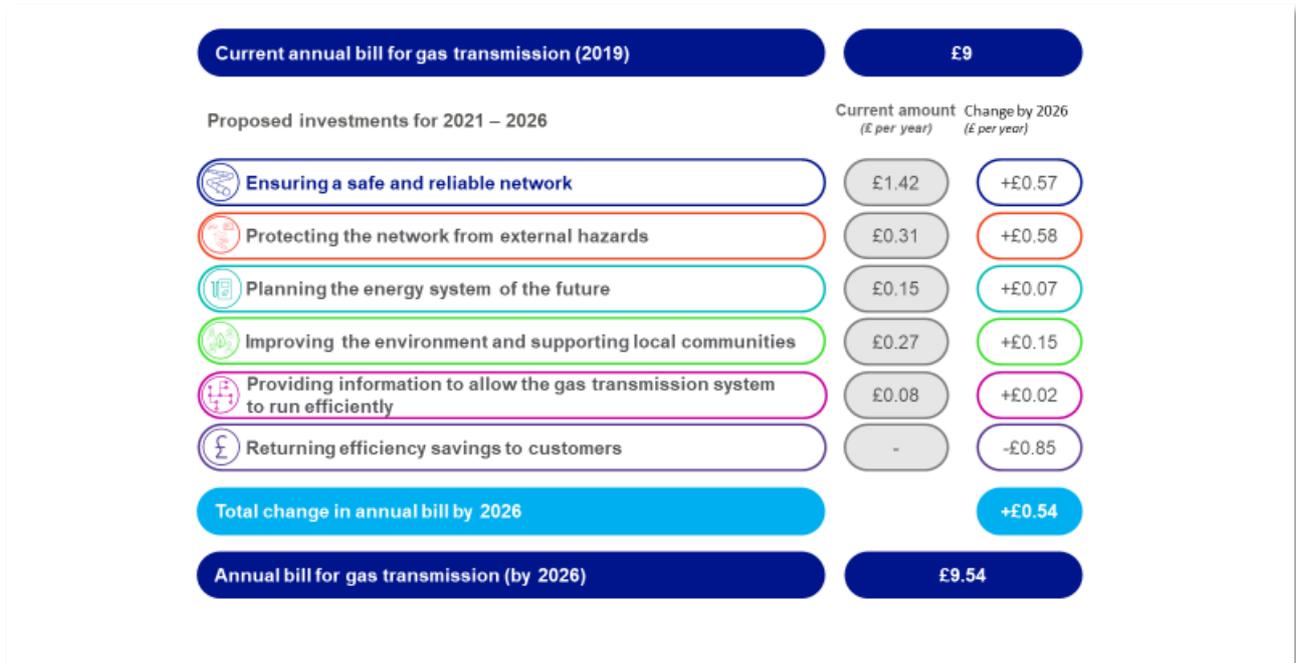
Tariffs were mentioned as confusing and complex with some feeling that this was deliberate.

“You ring them up and they say you’re on the standard tariff and then you can get into an argument really” (Edinburgh, ABC1 46+)

2.4 Acceptability of business plan – gas transmission

One group from each location considered National Grid’s gas transmission proposals in detail. They were shown summary details of the plan and the impact on gas transmission bills (Figure 2.3) along with more detailed information on individual investments (see Appendix 1).

Figure 2.3: Business Plan summary showcard – gas transmission



Overall views

Overall, participants in the groups said they considered the gas transmission plan to be acceptable, and they understood why a high percentage of survey respondents agreed with the plan being acceptable in the Stage 2 quantitative research. The general view was that no one would notice the proposed change to the transmission prices, even accounting for the effect of inflation, as this is dwarfed by changes to other bills and other parts of the energy bill.

“It’s negligible really isn’t it? 54p a year” (Guildford, ABC1 46+)

“I think that’s pretty affordable, in 5 years I don’t think that’s a big amount for it to increase by, so I think that’s pretty good” (Edinburgh, C2DE 18-45)

The consensus was that the level of support for the plans found in Stage 2 was well above the threshold that needs to be met to be sure that the plan is acceptable. When asked if the support needed to be 90% or more to be accepted, this was viewed as not necessary. Some participants commented that it might be impossible to get to that level as not everyone can be pleased, especially as it is a monopoly business that makes profits.

***"I'd say they've got a very strong case to go ahead with whatever they want to do"
(Newport, ABC1 18-45)***

"There are always going to be people who don't agree, so if you wait for it to be higher you might be waiting forever" (Edinburgh, C2DE 18-45)

When asked to consider why a small number of respondents said the plan was "unacceptable" or "don't know", the view was that these people would have been thinking primarily around other parts of the bill, as energy prices overall are too high. In Edinburgh one person commented that some people in the survey may not have liked the spread of investments. Whilst others agreed, overall the view was that people were more likely thinking about wider energy and utility bill affordability. This was a view shared in other groups when asked if they thought the "don't know/unacceptable" response was due to the spread of investment (i.e. they also thought this would not be the reason).

"I think they would just be fixated on the price" (Newport, ABC1 18-45)

"I think they're just thinking about the end price...and if you're a pensioner you want to keep everything as minimal as possible" (Guildford, ABC1 46+)

"They might be thinking about the other parties involved, like all the actual suppliers and thinking that they could put their part of the bill up" (Edinburgh, C2DE 18-45)

When asked if it would be more acceptable to keep bills flat, the consensus was that it would be less acceptable than the proposed plans if it meant that some of the investments could not be delivered.

Investment areas

Participants were presented with information about the investment areas in the gas transmission business plan (Figure 2.4) and the levels of support found in the quantitative survey (Figure 2.5). The overall view from participants across all groups was that the results made sense.

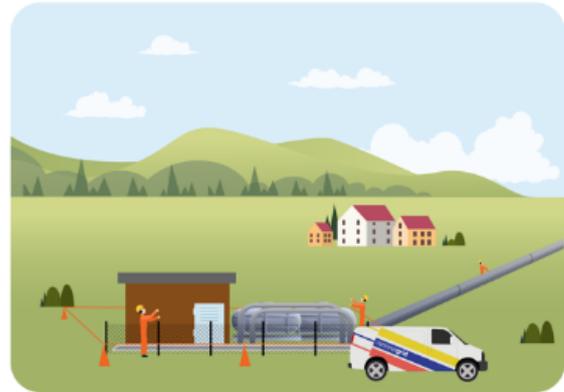
Figure 2.4: Business Plan investment areas – gas transmission (example showcards)



Ensuring a safe and reliable network

To make sure the transmission system is operating safely and in line with all regulations, our equipment is maintained in a healthy state and is replaced as it reaches the end of its life.

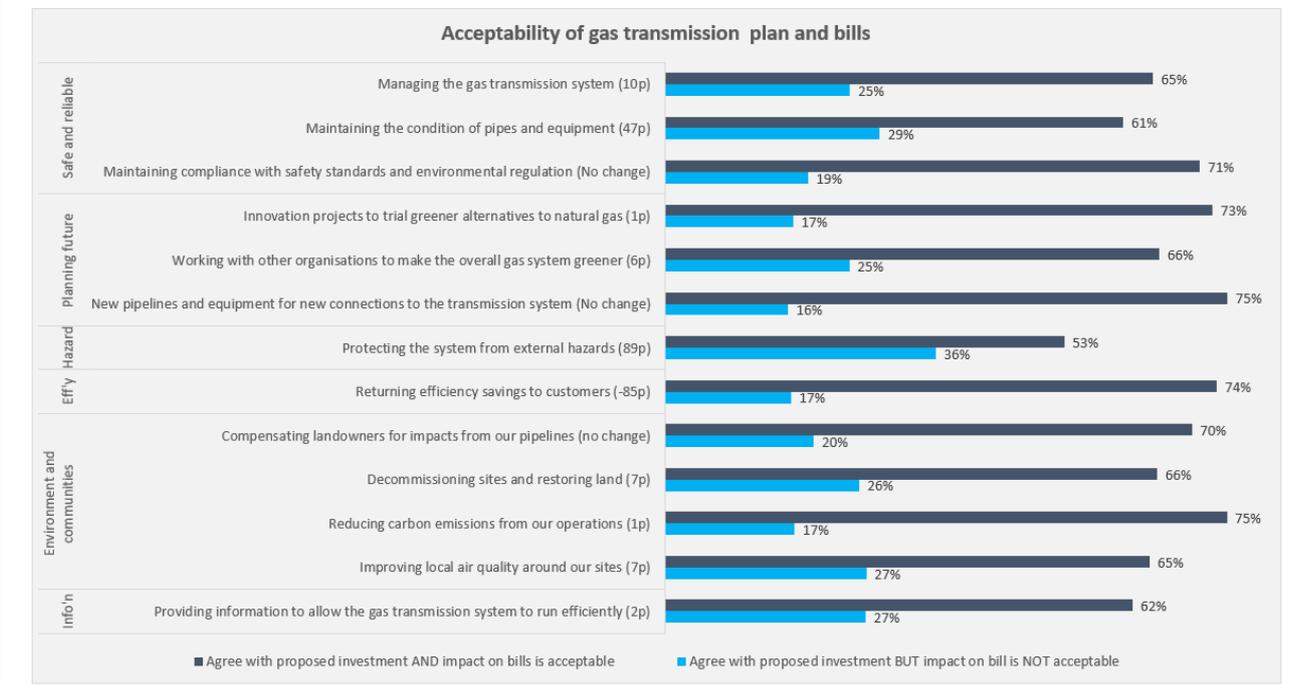
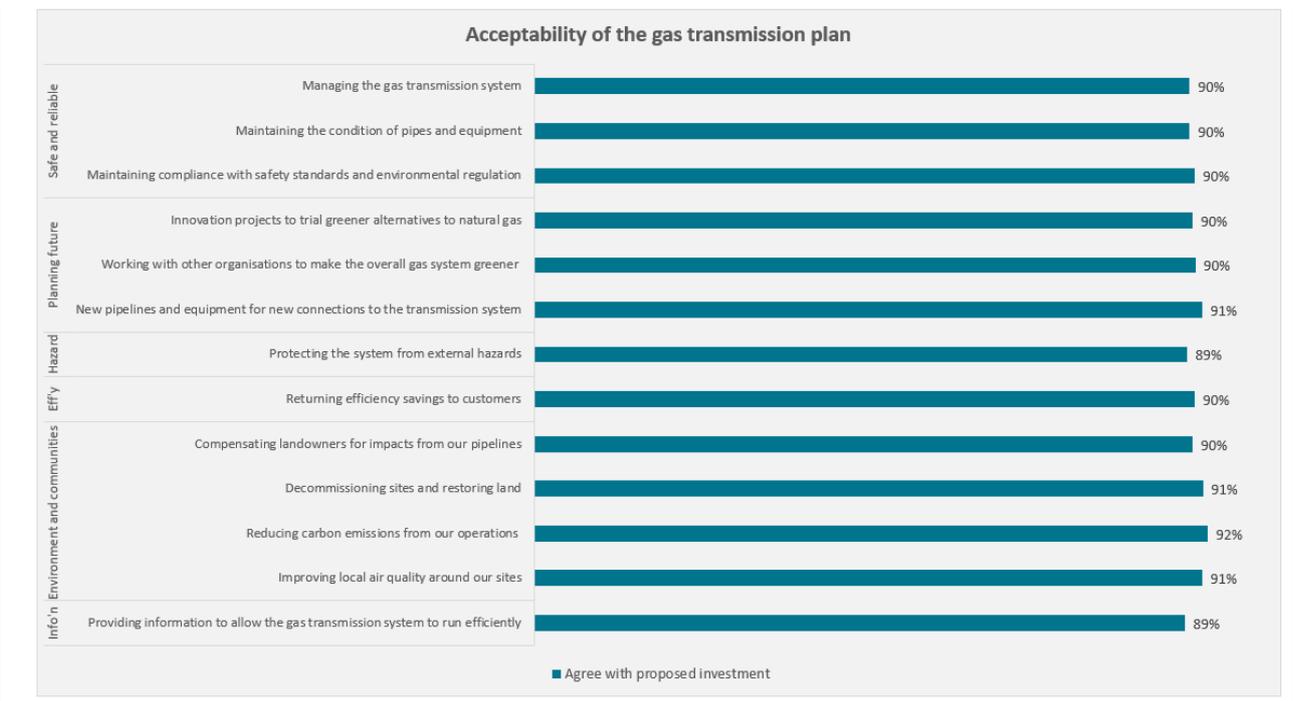
- Overall we manage the system to make sure the gas gets from where it arrives in the country to where its eventually used.
- We check, repair and replace our gas pipelines and equipment. Our investments meets all legal requirements for health and safety, and the environment
- Ultimately this protects against significant health and safety risks, and interruptions to gas supplies that can affect thousands of homes and business. Gas interruptions may still occur, but this will most likely be due to local distribution problems and not the transmission network that we operate.



Returning efficiency savings to customers

- We are continually working to improve how we work, by reviewing how we operate the gas system and reinvesting into the business. This means that we can identify ways to save costs in our investments, whilst still making sure the gas system works efficiently.
- We pass these savings back to all consumers, reducing the bills that they pay.

Figure 2.5: Quantitative survey results - acceptability of gas transmission investments showcards



Given the similar levels of support observed in the survey across all the investments, participants were asked if this suggested any issues with the survey. However, this was dismissed in the groups, with the view that the similar levels of support stems from the need for all aspects of the plan.

“It’s overwhelming support” (Guildford, ABC1 46+)

***“I’m thinking that it is all relevant and of similar importance, nothing stands out more to me”
(Guildford, ABC1 46+)***

Some initiatives drew more discussions than others – most notably efficiency savings, cyber and innovation projects:

- Cyber security (resilience/external threats): participants considered the bill impact high relative to the other areas of spend but recognised this could be a real threat although the magnitude of risk faced is uncertain. For many, it was reassuring to see investment proposed and no one called for less to be spent in this area.
- Providing information: this investment area was the least readily understood aspect of the plan, with participants questioning what they got for the money (as opposed to production, supply and distribution companies). Nevertheless, overall support was high since the bill impact was seen as minimal.
- Efficiency savings: focus groups participants were very supportive of the efficiency pass back, with the view that it was more than enough to offset concerns that some individual bill impacts were a bit high. It was apparent, however, that participants want National Grid to ensure costs are efficient.

“I like it, most companies would just get extra profit usually” (Edinburgh, C2DE 18-45)

“I think they should show that they’ve gone back and looked at the bits where people were saying surely you can do it for less and actually prove to Ofgem they’ve tried on those areas...to do it cheaper without compromising the overall impact/aspect of the plan” (Edinburgh, C2DE 18-45)

Support for the efficiency was lower than some other investment area and in some of the groups this was partly attributed to it being such small amounts. Several participants pointed out the amounts were too small at the individual consumer level and that reinvestment was preferable. This was more the view in the Edinburgh group than the other groups.

“I would forfeit efficiency savings to customers to look after the environment” (Newport, ABC1 18-45)

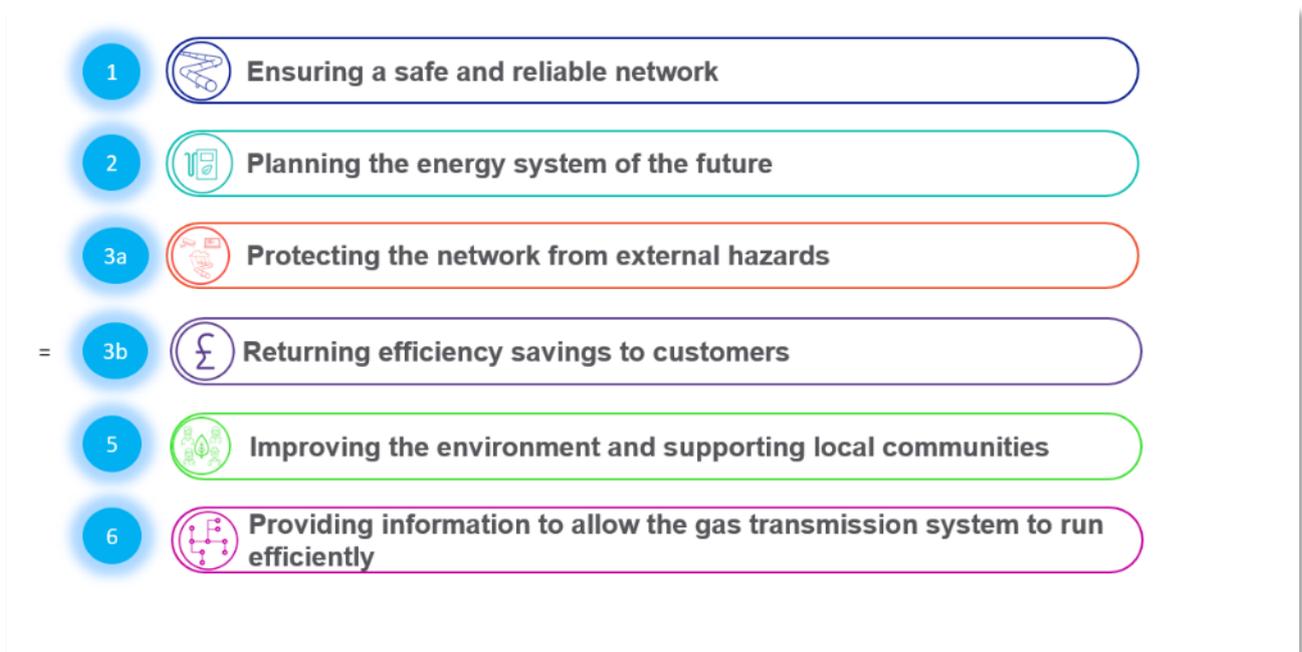
“It’s great if you’re being efficient and you can pass that back to customers but if it’s such a small amount, then it could stay there and do more for planning for the future” (Edinburgh, C2DE 18-45)

“If it means you’re reducing it by 18p but you’re risking so much more, you know you’ve got to weigh out the pros and cons on that and I think people would be willing to pay that little bit extra” (Edinburgh, C2DE 18-45)

Ranking investment areas

Participants were shown the ranking of the investment areas from the survey (Figure 2.6).

Figure 2.6: Ranking of investment areas – gas transmission



Overall, the survey results were seen as sensible. There was consensus across all the groups that safety and reliability is the top priority for the gas transmission system. Views on the ranking of the remaining priorities were more mixed.

“Safe and reliable is up there for most people...I’m not surprised to see that as number one” (Guildford, ABC1 46+)

“Ensuring that is just their job at the end of the day” (Edinburgh, C2DE 18-45)

One group (Edinburgh) said the investments ranked 2nd (planning for the future), 3rd (resilience) and 4th (efficiency savings) could be in any order and it would make sense. Similarly, the group in Guildford said 2nd, 3rd, 4th and 5th (environment and local communities) could be in any order and it would make sense. Newport groups said they thought environment and planning hugely overlapped so it made sense to them as well.

Changes to the Business Plan – more/less investment

Participants were also shown survey respondents' views on how the plan could be modified, particularly in terms of additional levels of investment.

Figure 2.7: Consumer views on other elements



Whilst focus group participants could understand why these suggestions – i.e. more investment in safety and environmental outcomes – were made, the level of support for doing more in these areas was weak. Some suggested the survey results might give a steer for the next plan. Only one person (Guildford) thought 50% was enough of an endorsement to do more, with the rest saying a threshold of over 70%-80% was needed to drive further investment.

“I think 80% is a good threshold” (Guildford, ABC1 46+)

Some participants questioned, though, if it was enough for the plan to maintain the current level of reliability. Indeed, a number of participants indicated that they were willing to pay more for further improvements. The Guildford group, in particular, indicated its willingness to pay a small additional amount for improvements in reliability, given the potential seriousness of gas supply failures for homes and businesses.

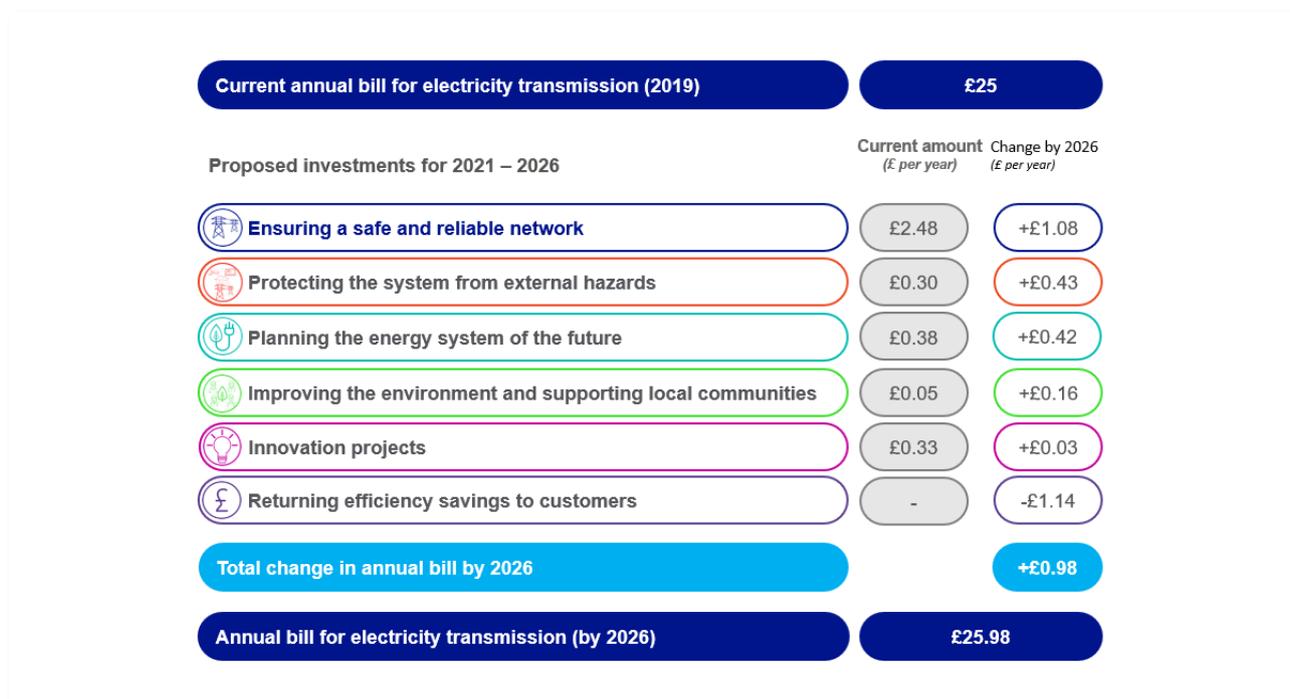
“I personally would want it to be higher for the future rather than just maintaining the same level. Because that could then be stacking up problems in the longer term which could be more expensive” (Guildford, ABC1 46+)

Some minor comments about what individuals would want to see more of were made. These comments mostly centred around planning and the environment. However, nothing was demanded with very strong feelings.

2.5 Acceptability of business plan – electricity transmission

One group from each location considered National Grid’s electricity transmission proposals in detail. As with those focussing on gas transmission, they were provided with summary details of the plan and its impact on electricity transmission bills (Figure 2.3) along with more detailed information on individual investments (see Appendix 1).

Figure 2.8: Business Plan summary showcard – electricity transmission



Overall views

Overall, participants in the groups said they considered the electricity transmission plan to be acceptable, and they understood why a high percentage of survey respondents agreed with the plan being acceptable. The levels of support for the electricity transmission plan were considered a huge endorsement.

“It’s a strong mandate” (Newport, C2DE 46+)

“Why would anyone argue over 98 pence?” (Guildford, C2DE 18-45)

In the younger Edinburgh group, one respondent stated that the plan would deliver balanced outcomes and would be good for the country. Others agreed with this statement. The overall view was that the bill increase is small – and whilst no one wants to pay more on any bill - the plan covers a good range of improvements.

When asked if it is acceptable for bills to go up by a small amount if its efficient, the groups generally thought that it was not worth the risk to keep bills flat.

***“No, I want to be able to get up in the morning, put the kettle on and have a coffee”
(Newport, C2DE 46+)***

As a result, the general consensus was that keeping bills flat would be less acceptable than the proposed plan for electricity transmission.

When asked to consider why a small number of respondents said the plan was “unacceptable” or “don’t know”, the view was that these people would likely be struggling with or be aware of others struggling with their household bills. On the whole, participants did not think that plan would be seen as unacceptable for the reason that the spread of investments was not right. This possibility was dismissed by all groups, although some participants commented that the lack of familiarity with National Grid and the small bill prices may have resulted in some consumers giving less scrutiny to the plans in the survey.

“A part of me says the figures are high because no one has direct contact with National Grid so they’re just thinking – yeah, yeah they can do whatever” (Guildford C2DE 46+)

In the Newport group, participants said the increase was a small amount on a small bill, meaning that National Grid should implement these plans and not worry about those that disagreed with it being acceptable as the level of support for the plan is very high.

***“It’s not as if you’re talking pounds, its pence, I don’t think they would even notice it”
(Newport, C2DE 46+)***

***“It’s pence, so you don’t need to worry about these (vulnerable) people”
(Newport, C2DE 46+)***

Investment areas

Participants were presented with information about the investment areas in the electricity transmission business plan (Figure 2.9) and the levels of support found in the quantitative survey (Figure 2.10). Across all groups, participants felt the levels of support made sense, adding that whilst not everyone would be happy with every investment that is proposed, overall there is something for everyone.

“These are all things you would expect them to do...these are things that are intuitive and things I’m pleased to see, like infrastructure and electric vehicles” (Edinburgh, ABC1 46+)

Participants took the view that the good levels of support meant the electricity transmission plan had the right balance. In this regard, the Guildford group noted that everyone would move the money around a little bit to meet their particular needs (e.g. more on the environment, more on community, etc.), but that the balance seemed right overall.

Figure 2.9: Business Plan investment areas – electricity transmission (example showcards)



Protecting the network from external hazards

We protect the transmission network and our employees from criminal activity and severe weather.

- We protect our sites from all external hazards.
- Vandalism and theft are an ongoing concern for the network.
- Cyber attacks and changing weather patterns are growing threats.
- Some hazards can cause power cuts and blackouts that affect large parts of the country and it could take up to a week to restore power to everyone.
- As well as trying to prevent these things from happening, we also plan and put in place arrangements to recover from these events as quickly as possible.



Planning the energy system of the future

We invest to make sure that the transmission network can meet changing needs in the future.

- Upgrading the network to allow new developments and new power sources to connect easily.
- Upgrades so the system can cope with variable energy production from renewables (e.g. wind energy depends on unpredictable wind levels each day).
- Installing new infrastructure for fast charging of electric vehicles – aiming for 95% of electric vehicle drivers to be within 50 miles of an ultra-rapid charging station (e.g. at motorway service areas).
- Additional investments to manage the supply and demand of electricity to meet the growing demands of the energy system and reduce the costs of operating the system.

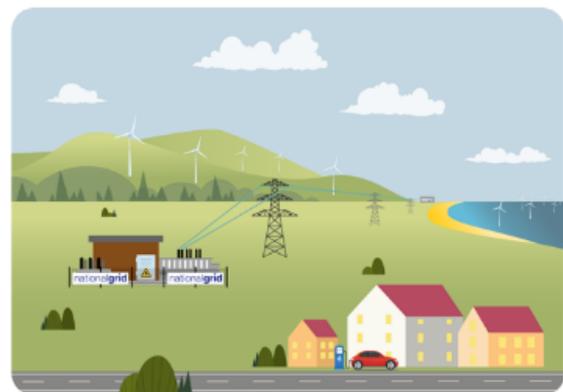
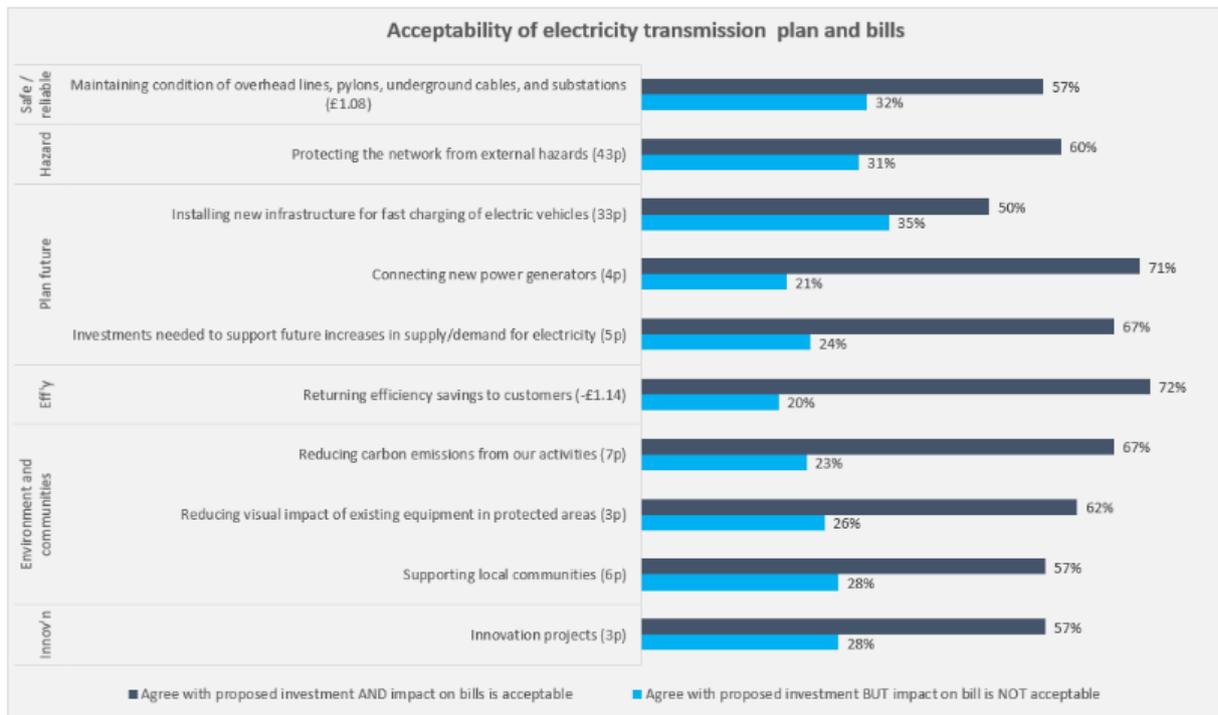
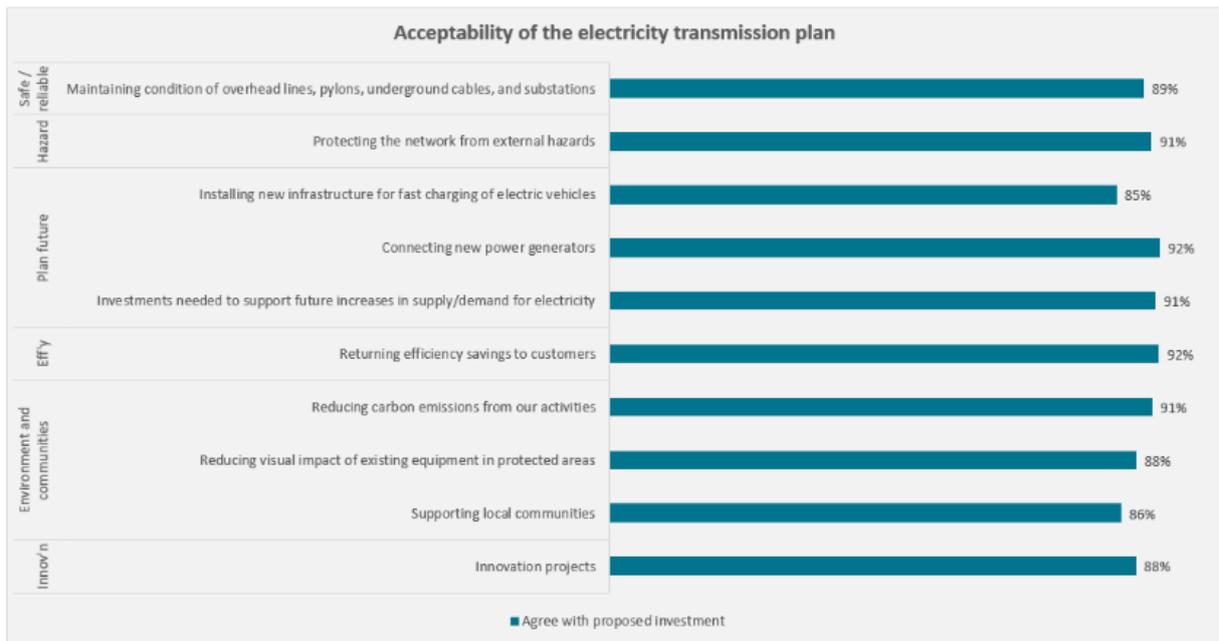


Figure 2.10: Quantitative survey results - acceptability of electricity transmission investments showcard



Some investments were subject to more discussion than others – most notably infrastructure for electric vehicle charging, efficiency savings, cyber security, and innovation projects:

- Electric vehicle charging infrastructure: all participants could see why this investment area had the lowest level of support, but regardless still thought that 85% of consumers supporting it was enough. The Edinburgh and Guildford groups also questioned who else would be able to provide the necessary infrastructure.

***“If not them, then who? If they want the infrastructure, who else is going to do it?”
(Edinburgh, ABC1 46+)***

***“They could be a pioneer in it, it could be a good market for them to get in to”
(Guildford, C2DE 18-45)***

As such, National Grid were seen as best placed to help facilitate the development of charging points and participants thought it could be a catalyst for positive changes, increasing the likelihood people will choose to buy electric vehicles. The level of support from the survey results was well beyond the reasonable threshold needed, where around 75% was suggested as the threshold for support in Newport; 70% in Guildford.

***“I think 85% is overwhelmingly positive, and I don’t know why people wouldn’t want these things”
(Edinburgh, ABC1 46+)***

“I tend to go more with the infrastructure for electric cars because at the moment they’re trying to give you the cars to do it but there’s not enough charging points. So, you might moan...its costing us more, but once it’s in, I don’t think anybody will be moaning” (Newport, C2DE 46+)

- Cyber security (resilience/external threats): In the main, respondents were unsure of the risk faced by National Grid and the bill increase seemed relatively high compared to other areas. However, the overall view was that security of the grid is hugely important and National Grid should not be taking any risks in terms of cyber threats.
- Innovation projects: in general, the view of participants was that National Grid could do more here, as energy innovation would present a big opportunity for the economy/country. This was particularly the case for participants in Edinburgh.

***“I wish more money was spent on innovation because that’s more saving in the future”
(Edinburgh, ABC1 46+)***

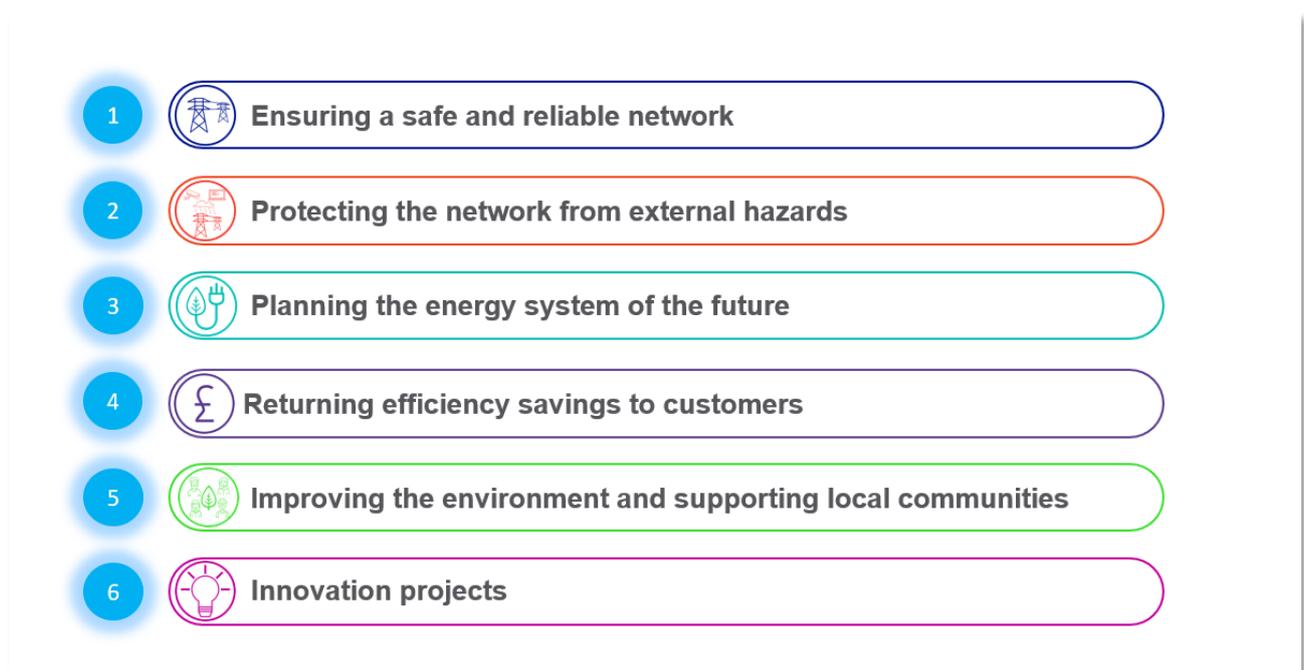
- Undergrounding electricity lines in National Parks and Areas of Outstanding Natural Beauty (reducing visual impact of pylons): this investment area was only discussed in more detail in the Edinburgh group, where it was viewed as acceptable but not necessarily a critical issue that should be prioritised over other areas in the plan.

- Efficiency savings: these were welcomed by participants in the groups. Some thought the level of support for efficiency would have been higher but recognised that the bill amounts are small at the individual household level. It was felt that some people may want the saving and bill reduction to be higher, whilst other may want it to be reinvested. As with the gas transmission plan, the level of efficiency savings and pass-back was more than enough to offset the concerns of those that some individual bill impacts were too high.

Ranking investment areas

Participants were shown the ranking of the investment areas from the survey (Figure 2.11).

Figure 2.11: Ranking investment areas – electricity transmission



Overall, the ranking of the investment areas by survey respondents was viewed as sensible. Safety and reliability were clearly seen as the number one priority by focus group participants.

“I want safe and reliable network to be above environment by a long mile” (Newport, C2DE 46+)

“It’s got to be safe before you start planning energy systems for the future” (Edinburgh, ABC1 46+)

Some participants questioned, though, why efficiency was so low in the rankings and thought this may be due to the low bill impact. Investments in local environment quality was also questioned as possibly being lower down the ranking than initially expected. However, subsequent discussion recognised that positive environmental outcomes were also part of other investment areas (e.g. planning for the future), so this is not seen as an issue. Overall, the groups concluded there could be some small movements in the rankings, but nothing seemed wrong or too out of place.

“I would tweak it slightly, but I’ve got no overall problem with it, I would just increase some things on the environmental side” (Guildford, C2DE 18-45)

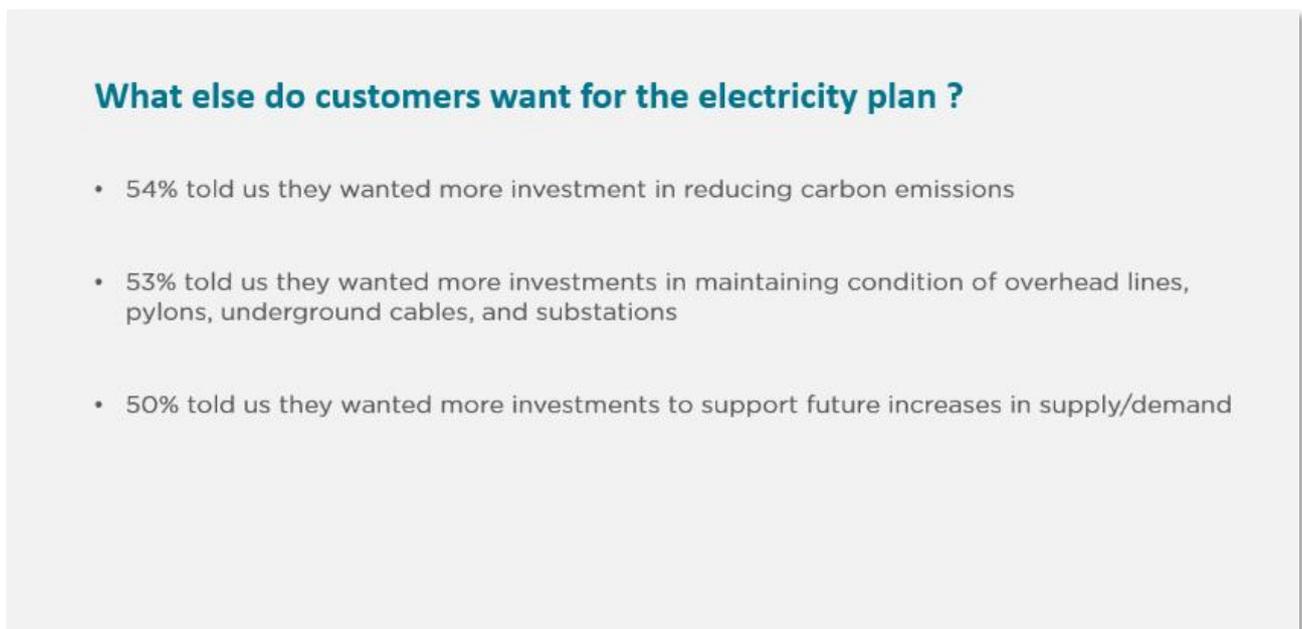
***“Improving the environment would be a by-product of number 3, so I agree with this”
(Newport, C2DE 46+)***

One respondent in Guildford wanted to understand more about the size difference in the rankings – to see if differences were material or not. However, there were no concerns about the figures provided from the quantitative research.

Changes to the Business Plan – more/less investment

Participants were also shown survey respondents’ views on how the plan could be modified, particularly in terms of additional levels of investment.

Figure 2.12: Consumer views on other elements



For the most part, participants in the groups did not think that approximately 50% of consumers was sufficient support for the additional investment levels indicated by survey respondents. However, the survey results did potentially highlight to National Grid where to focus for the next planning period.

“I think it needs to be way over 50%, that’s too low” (Newport, C2DE 46+)

2.6 Reliability and maintenance

In the focus groups, participants expressed similar views on reliability and maintenance investment for gas and electricity transmission – the findings have consequently been combined in this section of the report.

The survey responses with regard to reliability and safety were shown to participants, and overall, they agreed with the findings. In all groups, participant stressed the importance of maintaining safety and reliability of equipment. They do not want National Grid to take risks, as the impacts on people now and in the future are too great.

There was a general recognition that from time to time things can go wrong because there are “unknown unknowns”. Participants were (for the most part) untroubled by the August 2019 power cuts, mainly because these did not occur during cold weather, and because such events were rare. The view was that as long as National Grid learnt from the event, and makes changes to prevent it reoccurring, consumers would be satisfied. However, despite this tolerance for the August 2019 power cuts, there were an overwhelming consensus that the likelihood of service failures in the future such as this should be close as possible to ‘never’.

“There’s always going to be an element of risk... every now and again something goes wrong. You need to try and mitigate that with as many things as possible, but nothing is perfect” (Guildford, C2DE 18-45)

Participants also accepted that prices may need to increase to keep current levels of reliability in response to factors such as ageing assets or to meet increasing regulatory standards or demands.

“If it gets old and degraded then you’ve got to spend more money on it to upgrade it again” (Newport, C2DE 46+)

As noted in Section 0, some consumers did suggest that National Grid could invest more to improve the level of reliability – and they would pay more for further improvements, as this was their top priority.

“I personally would want it to be higher, for the future, rather than just maintaining the same level because that could then be stacking up problems in the longer term which could be more expensive” (Guildford ABC1 46+)

Balancing drivers

The discussions with participants covered the ‘risk drivers’ that underlie National Grid’s investment planning: environment, safety, reliability, financial and transport disruption. These were covered in general terms, as the factors National Grid should be taking into account in its investment prioritisation. It was explained to participants that National Grid needs to balance these drivers in developing its plans – i.e. choices need to be made about what to invest in (just like any other organisation or home). Consumers understood and appreciated this.

***“Health and safety is always at the top, even if this means less somewhere else”
(Newport, ABC1 18-45)***

“If you’re trying to deliver a national infrastructure as important as gas, it’s very difficult to compromise on any of those things and you have to pay whatever it is to do it properly” (Newport, ABC1 18-45)

In the groups, participants were asked to rank the drivers. Overwhelmingly, it was felt safety should be at the top but there was recognition they are all tied together, as assets will impact on more than one driver.

In some discussions, reliability was considered to be ranked on a par with safety - given it can have very serious consequences for the elderly, vulnerable and ill when there are power and gas cuts, especially if these mean you cannot heat homes when needed. In one Newport group and both Guildford groups participants mentioned that without energy some people could be put at risk if the weather was cold.

“I would say health and safety...you have to invest into it, it’s prevention rather than cure. If you take the risk... and it goes wrong, there’s all hell to play with and loss of life etc” (Guildford, ABC1 46+)

In all discussions, (minimal) financial impacts were the least important consideration (or near the bottom) along with transport disruption. Consumers said small changes to the bill to ensure that other drivers are delivered would be their preference.

“Ultimately I would rather reliability and have my costs go up, then have my costs down here and not be able to turn the heating on when I come home” (Newport, ABC1 18-45)

Participants also wanted performance and efficiency targets to be stretching and challenging, without putting the investment and the business plan outcomes at risk. The main view was that consumers want to be confident that National Grid can deliver the gas and electricity transmission plans.

In the Edinburgh younger group, participants noted that small efficiency returns are not that important to receive. They stated that they would rather see a mechanism that drives reinvestment. In Newport, the older group said they trust Ofgem to work in consumer interests and want them to ensure targets are stretching yet achievable. They also agreed that if bills need to go up to ensure the same level of reliability, then it is acceptable for them to go up.

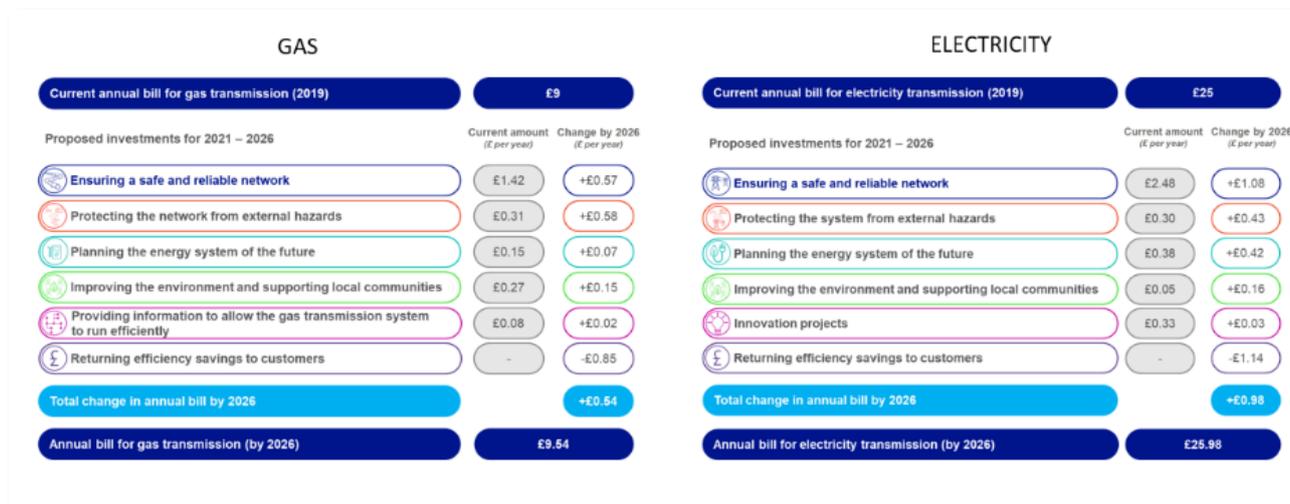
“If they [Ofgem] are asking for them to lower the amount they have suggested and that comes at the cost of the efficiency suffering or just the general reliability of the system, which everyone in the survey has put as their highest thing, that would be an issue” (Edinburgh, C2DE 18-45)

“In my experience of regulators, I would trust Ofgem to do the right thing because so far it’s been pretty well sorted out” (Newport, C2DE 46+)

2.7 Acceptability of the combined plans

In all groups, participants were presented with a summary of the combination of the gas and electricity transmission plans to gauge the joint level of acceptability. This aspect of the qualitative research went beyond the survey where respondents only considered one plan (either electricity or gas).

Figure 2.13: Combined summary for gas and electricity transmission plans



When considering both the gas and electricity plans together, participants across the focus groups found the combined £1.52 bill increase acceptable, although the preference would be for flat bills.

“It’s a very small increase over a period of 5 years” (Edinburgh, ABC1 46+)

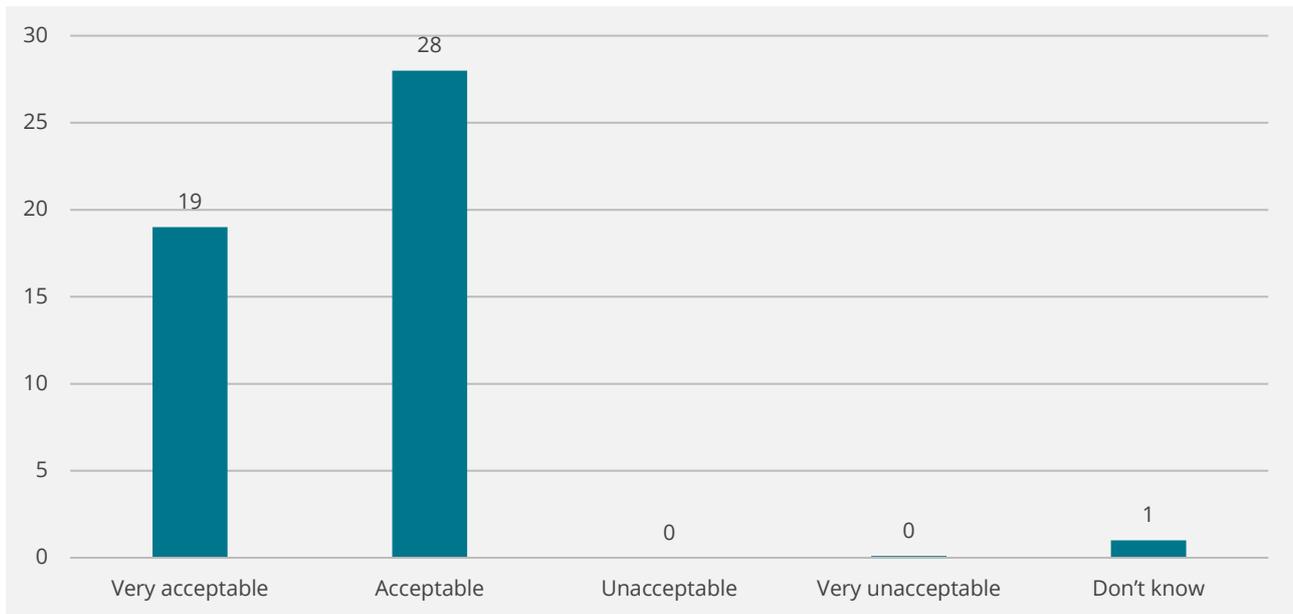
“It doesn’t seem like a big increase to me, I’m not looking to pay more but in terms of justifying innovation and new technologies I think that’s fine” (Edinburgh, ABC1 46+)

“Well, obviously we would like it to be flat, but we’re realistic” (Guildford ABC1 46+)

A voting question was introduced to capture the views of participants on the acceptability of the plans in combination. Results are summarised in Figure 2.14, where all stated that it was either “acceptable” or “very acceptable” – bar one “don’t know”. This supports the preceding discussion that participants felt that National Grid has a strong mandate for its plans.

When asked, participants felt that a flat bill would not be more acceptable, and the combined plans as proposed would be preferable. This is consistent with the prior findings on the size of the bill increase and high demand for the proposed investments.

Figure 2.14: Acceptability of combined plans (no. respondents)



Notes: No. responses (participants) = 48.

However, when asked their views about the bill increase in percentage terms – approximately 4.5% increase on the combined amounts paid for gas and electricity transmission (currently approx. £34 per year) - most noted that it sounded less acceptable. In particular, they would not want that for other bills, especially ones that are hard to mitigate or avoid, such as fuel/petrol, council tax bill, and other parts of the energy bill to increase at a similar rate.

“When you’ve got Sky or Virgin putting it up by a couple of pounds every year or so, this looks pretty good” (Guildford, ABC1 46+)

“That’s only 4% of that £25 but the people who are making the money are the local suppliers, they are the ones making a profit out of the job” (Newport, C2DE 46+)

Financial and corporate responsibility

When discussing the acceptability of the individual plans and combined plans, a number of caveats were raised by participants. These generally centred on director pay, profits and dividends being ‘fair’. The Edinburgh younger group said that the CEO and shareholders need to make a fair and reasonable return, prices need to be efficient and the company cannot be taking financial risks.

“I’d be happy to pay that money if it meant it was going to be safe, reliable and invested in the future... but I don’t know what the bonus structure is like, I don’t know whether that’s accountable to Ofgem or not.” (Edinburgh, ABC1 46+)

Additionally, some participants challenged whether National Grid would be incentivised to state higher costs than it would need – in anticipation of a regulator giving them less. However, customers want costs to be efficient, and the general view was that Ofgem could be trusted to apply a robust efficiency challenge.

“As long as we’re getting value for money...we don’t know what the costings are but we rely on people like Ofgem to say this is what it costs us to supply, this is what you should be asking for” (Newport, C2DE 46+)

“We don’t know enough to say how much does stuff cost - but they should be able to go back and prove that they’ve at least tried to take on board what people have said.” (Edinburgh, C2DE 18-45)

2.8 Value for money and affordability

The focus group participants were also asked their views on value for money and affordability of household bills, including the proposals for gas and electricity transmission. These were generally seen as distinct considerations. Affordability was the ability of consumers to pay given their incomes. Value for money was more of a context-dependent issue.

“We can afford our bills but it’s not good value for money” (Guildford, ABC1 46+)

“Value for money would be getting a good service. Affordability would be exactly that, whether you’re able to afford it” (Guildford, C2DE 18-45)

Value for money

Value for money was seen by participants as a combination of fair prices and service reliability. This was expanded on for the energy sector to be a reliable, efficient, well organised, transparent industry, where competition is working and consumers are not exploited, issues are dealt with quickly and effectively, and the price paid compares favourably to other bills.

“In terms of the energy supply, it’s about you turning the gas on and it coming on: it works” (Newport, CD2E 46+)

“I think it’s about reliability as well as the cost, so it’s about things working properly...whether you think the amount you’re paying is a fair amount for what you’re getting” (Guildford, C2DE 18-45)

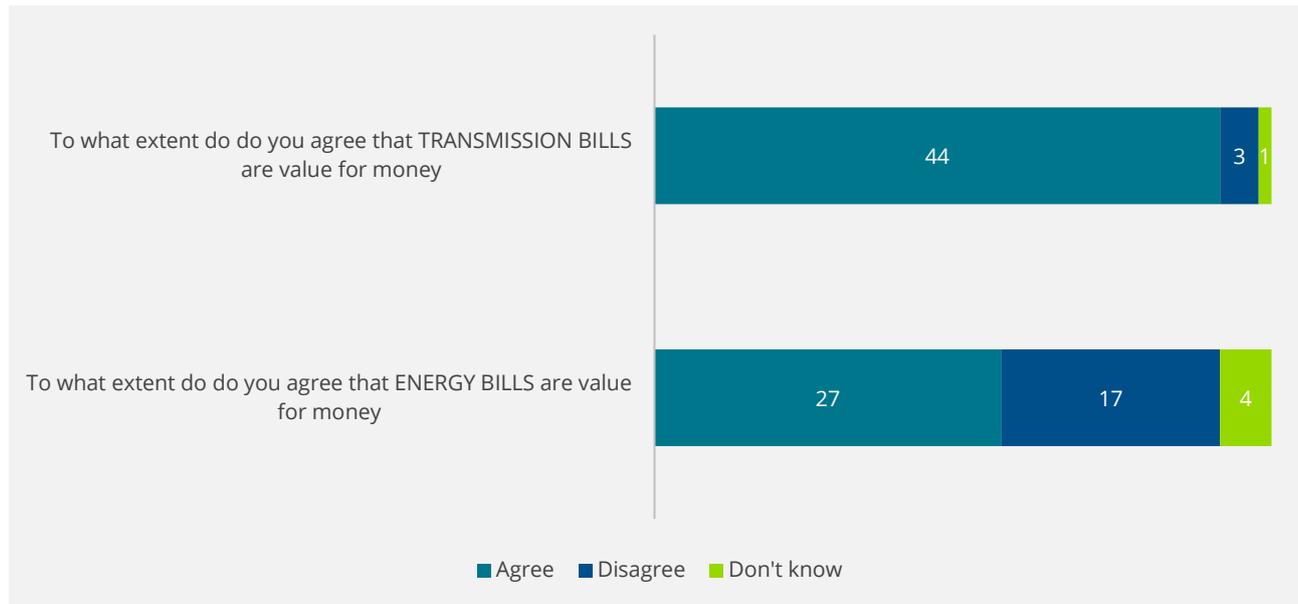
A voting question was used to gain further understanding of participants' views on value for money. The results presented in Figure 2.15 show a notable difference in views on value for money of transmission bills versus overall energy bills. Nearly all respondents agree transmission bills were value for money, but only half agreed energy bills were value for money.

“I think the transmission part of the bill is good value for money, but the overall energy bill is not necessarily good” (Guildford, ABC1 46+)

“The point of having all these suppliers is to drive down competition and you don’t know whether that’s happened or not, or whether they’ve actually ended up as cartels” (Newport, ABC1 18-45)

“I think suppliers could have more transparency in their pricing, they could have better visibility in how you compare the market prices” (Newport, ABC1 18-45)

Figure 2.15: Value-for-money of energy bills – voting question (no. respondents)



Notes: No. responses (participants) = 48.

Overall, the energy bill is considered a major bill for households, with only the council tax bill being a larger outgoing (for most households). Many participants discussed the high bills associated with Sky TV, mobiles and broadband, and that these bills are often not good value for money. However, it was recognised that households able to avoid these costs, in a way that they cannot avoid their energy bills.

“You wouldn’t say you get value for money with Sky, but that’s a luxury, this is a must have” (Newport, ABC1 18-45)

“You can opt into your cable and other things, you can choose what package you have and it can cost you a fortune but you can’t really do that with gas and electricity” (Edinburgh, ABC1 46+)

Affordability

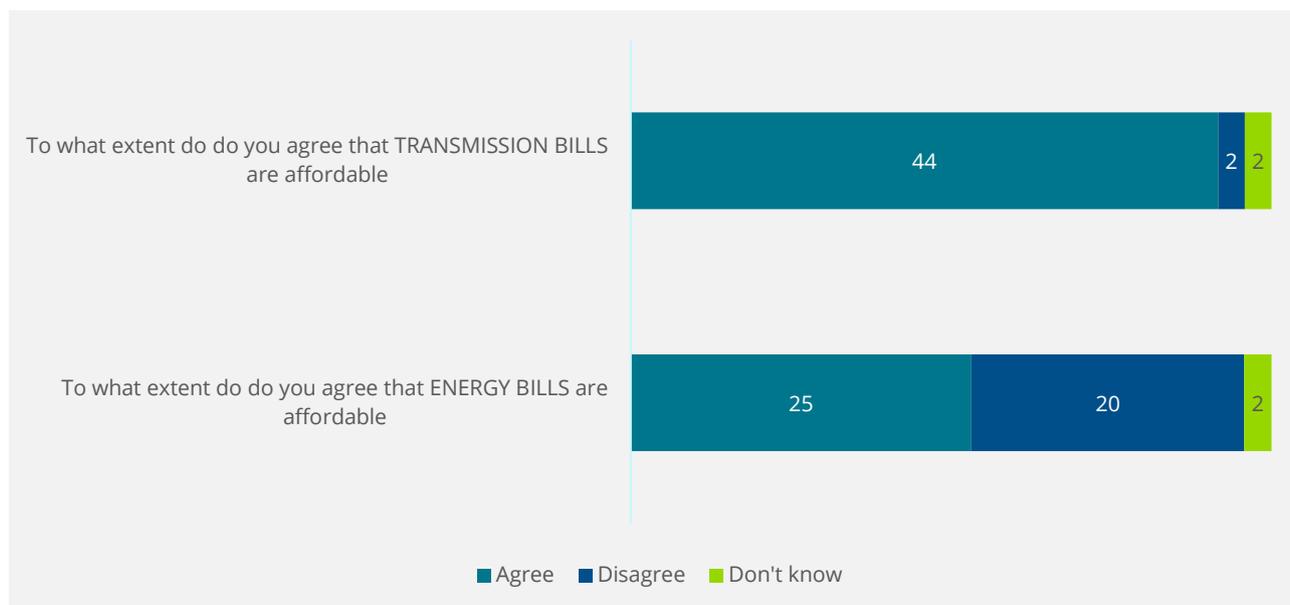
Across the groups, participants typically felt that affordability of energy bills was an important issue.

“There is a working poor” (Edinburgh, C2DE 18-45)

A voting question was used to capture the views on affordability (

Figure 2.16). Nearly all participants agreed that transmission bills were affordable, but only half agreed that energy bills were affordable.

Figure 2.16: Affordability of energy bills – voting question (no. respondents)



Notes: No. responses (participants) = 48.

Most participants in the groups said they could afford their energy bill but nevertheless consider it to be high. All agreed that affordability was an issue for some households, but lacked understanding on the levels of affordability. Most had heard of fuel poverty and thought it affected many households, meaning that people have the choice between going cold or cutting down on food and other purchases.

“I don’t think it’s affordable, but you just change other areas of your life to make your energy bills affordable....spend less on shopping, you wouldn’t go out and do the extra things you want to do”
(Newport, ABC1 18-45)

“I don’t want my children to be cold, I don’t like to think of other children being cold”
(Newport, ABC1 18-45)

Some shared experiences of growing up in fuel poverty – such as going to bed early to turn electrics off, going to bed in clothes, and going to bed to get warm.

“It’s heat or eat”. (Newport, ABC1 18-45)

And some shared experiences of working with those in fuel poverty.

“I would say it’s a challenge for you regardless. I mean we talk about fuel poverty a lot up here. I work for a community interest group and we’re looking at how people could pay less on their bills”
(Edinburgh, ABC1 46+).

Some in the Newport group thought fuel poverty to be as high as one third of households in certain parts of their local areas. And across the groups no one was surprised it was over 10% nationally – although it was considered completely unacceptable, especially as some of those affected may be ill, elderly, vulnerable, etc.

There was some familiarity with schemes such as the Warm Home Discount, but also a view that these are not helping enough people or providing enough support. Such schemes are thought to be inflexible.

“A lot of people don’t know you can get the Warm Homes Discount, so I think it’s about communities doing more, with community interest companies, to try help themselves” (Edinburgh, C2DE 18-45)

Younger consumers said that they considered energy efficiency to be poor.

“Home energy Scotland have funding where they can replace boilers, insulation, all that sort of stuff so it’s not just about helping people save money, it’s about making it all more efficient as well” (Edinburgh, ABC1 46+)

The consensus view across the groups was that the Government was failing to address this issue. There was some outrage at the view that those least able to pay (e.g. elderly and struggle to switch, those on prepayment meters) pay the highest tariffs.

“I think it’s the government’s responsibility but we’re never going to get anywhere with the government are we” (Guildford, C2DE 18-45)

“I think bills are too high for old age pensioners and young families, people who have to stay in all day...they’re going to need to have the heating on and they’re not going to be able to pay their bills” (Newport, CD2E 46+)

“The ones that worry me the most are the kids and the elderly because they struggle the most” (Newport, ABC1 18-45)

National Grid was not considered to be instrumental in causing affordability issues. Rather, participants saw suppliers and the Government as being mostly responsible and stated that they should carry most of the burden in fixing these issues. For example, the Government should ensure the suppliers collectively provide additional help. The younger Scottish group wanted to see more local schemes to produce local energy and sell it at an affordable rate.

“The energy companies need to be doing energy efficiency schemes or lower tariffs” (Edinburgh, ABC1 46+)

“The companies they [NG] supply to, what is their policy for people who can’t afford to pay their bills...because they should be saying we can help you, give you a lower tariff” (Newport, CD2E 46+)

“I think given that their part of their bill is such a small amount, the majority goes to suppliers - so I think it’s their role to help” (Edinburgh C2DE 18-45)

“I get my energy from a company called Peoples Energy and that’s just a company who set up their own energy company because they were sick of other energy companies taking so much of the profits” (Edinburgh, ABC1 46+)

Participants had mixed views on National Grid having a role in helping with affordability. In the main, the view was that National Grid does not have a large part of the bill, so it has less of a responsibility. However, many also supported the view that it can influence and help. Some participants felt that National Grid has a duty to help because it is a privatised national monopoly with an influential role in the energy industry and should be corporately responsible; i.e. anything they do has got to be a good thing.

“I know they’re not the supplier and I know they’re not responsible for the debt... but it’s part of their role to ensure people have access to help” (Newport, CD2E 46+)

“It should be the Government and they’ve got a lot of money but a thousand things to spend it on...whereas National Grid have got a pot of money and not as many things to spend it on so they can look at different ways to help” (Guildford, C2DE 18-45)

But for others, it was not seen as National Grid’s place to help. These views were in the minority but strongly felt by those expressing them. For example, in the Guildford older group all but one thought National Grid had a role, but the person who disagreed felt very strongly about it.

“I don’t want National Grid doing any of this. I want maybe Ofgem and the department of BEIS to become more involved, it’s more their remit than National Grid” (Guildford, ABC1 46+)

“People in poverty - they would say that’s not the problem: I can afford £34 a year, I cannot afford £1,200 a year. So, it’s not National Grid’s remit.” (Guildford ABC1 46+)

If National Grid was to be involved, participants thought that this could be through signposting where to get help (e.g. charities such as Age Concern). These agencies can help consumers understand the energy and benefits system and make sure they receive the maximum help that they are entitled to. This reflects the view that the system is hard to use and it’s hard for people to claim all the help and support they are entitled to; hence National Grid can help with information about energy discounts, energy efficiency and means tested benefits. One respondent commented that people can be proud and not apply for what they are entitled to, so this is not going to capture and help everyone.

“I’ve found with any kind of support with my utility bills, I’ve had to go look for it. So, it would be good if there was somewhere you could get the information readily” (Guildford, C2DE 18-45)

“Supply information, either through hard copy or on the internet to all these people and give guidance around what they can actually claim for” (Guildford, ABC1 46+)

“I think it’s more about signposting because they haven’t got that knowledge” (Guildford, ABC1 46+)

Some participants also thought that National Grid could provide funds, and that, overall, this is preferable to helping directly with efficiency (e.g. providing appliances). However, National Grid providing funds should not lead to the Government reducing its support – that would be the risk and is a worry. If provided, these funds should be administered through a stakeholder panel.

“They should contribute towards funds, there’s no point having an energy saving washing machine if you can’t afford to switch it on” (Edinburgh, ABC1 46+)

“I think people know how to use less energy, that’s not really the issue” (Guildford, ABC1 46+)

The younger Guildford group concluded that this issue needed to be looked at in more detail to ensure that National Grid does the right thing given the differing views on what the organisation can and should do.

2.9 Investments in urban areas

A separate topic was introduced into the acceptability testing research in the focus groups based on questions raised by stakeholders on supporting urban deprived areas. This was not covered in the Stage 2 research. Specifically, the National Grid stakeholder group queried whether the visual amenity investment could be extended to disadvantaged urban areas. The proposal to test was an investment pot of £20m-50m, managed by an external stakeholder panel, to improve National Grid’s assets and/or public space in deprived urban areas where assets are located. Examples given were screening substations to improve visual amenity, and/or building community facilities such as skate parks for the local teenagers.

The purpose of the discussion in the focus groups was to understand if this was an initiative that consumers would support, and if so, how big should the investment pot be. Participants were told that £20m would be roughly 6p per year on the average household bill; £50m would be 15p per year.

The proposal was first discussed in the Newport groups and, in principle, all participants stated that they would support helping deprived areas, although some questioned whether this is National Grid’s role. A mix of landscaping and community facilities would be welcome. Landscaping (e.g. substations) was appealing as people should be able to be proud of where they live. There was considerable discussion about the less well-off households not having much choice on where they live – so this had high levels of support.

***“To put in a couple of places where kids could actually get out and do something”
(Guildford, C2DE 18-45)***

“You can think it looks okay - I’m proud of where I live” (Newport, C2DE, 46+)

“Is it really their responsibility to be building skate parks?” (Newport, C2DE, 46+)

“If stakeholders are asking for it... why don’t they pay for it?” (Newport, C2DE, 46+)

However, in the Newport groups participants were not able to say what the optimal amount of money to invest was, as they wanted to know more details:

- How many areas would receive investment and where - i.e. near them?
- What they can be delivered for the money - i.e. what exactly does £20m or £50m buy?
- Who else is helping – e.g. other energy companies?
- Will local councils and Government do less as a result – so what is the net gain?
- Who will decide and administer the monies (participants recommended a stakeholder panel)?
- How will it be communicated to people in the community?

Without this detail, participants felt that it was difficult to say what level of investment they would support. The topic area was further discussed in the Guildford group that focused on electricity transmission. In the absence of further details participants were asked to assume that:

- The scheme would be overseen by stakeholders (which in turn meant the areas selected and projects identified would align with consumer and community views);
- Ofgem would ensure costs are efficient;
- There would be engagement with local communities on what they want in their local area; and
- Landscaping improvements would be on National Grid land if appropriate and available, and otherwise may involve public land. Deprived areas would be the main priority.

On this basis, six of the eight participants in the Guildford group supported the proposal and thought there should be further discussions with consumers once the specific details have been considered further.

“It’s got legs” (Guildford, C2DE 18-45)

In terms of the amount (an extra 6p or 15p), those that supported the scheme opted for 15p over 6p.

“I’d happily pay more to help people in deprived areas” (Newport, C2DE, 46+)

“I think it’s a really good idea, I don’t have a problem with either 6p or 15p. I’d happily pay 15p, that’s not a problem to me” (Guildford, C2DE 18-45)

“I think it would be cheaper for us if we go through the National Grid to do it, because if the council did it, they’d probably put up the council tax by £30” (Guildford, C2DE 18-45)

The Guildford group noted that this would be more important to them than the electric vehicle charging infrastructure investment in the electricity transmission plan. Participants in both the Newport and Guildford groups pointed out that whilst they supported it in principle – this was a lower priority than affordability and that ideally, some of the £20m or £50m should be directed to that.

Two people in Guildford felt that the investment proposal was, in effect, a ‘forced’ donation to charity and that this was a wrong principle. One of those that disagreed said they would change their mind if National Grid contributed to the funds; the other disagreed in all situations.

***“It feels a bit like a forced donation as in, alright it’s a small amount but we’re being charged to fund this when there are community projects that I would prefer to donate to rather than this”
(Guildford, C2DE 18-45)***

“I still disagree, it’s just the same as giving a donation with GiftAid” (Guildford, C2DE 18-45)

Across the groups there were concerns that any projects need to be thought through properly – e.g. skateboard parks may be more susceptible to being vandalised – and that any facilities need to be appropriate, easy to maintain and robust.

***“I think investment in deprived areas is really important, part of the problem you find is that when a park is built its vandalised within a week and you look at it and think what’s the point almost”
(Newport, C2DE 46+)***

Participants were asked why if this is a priority, it did not feature in the “what else do consumers want” section in the Stage 2 survey. The general view was that since it was not a core part of National Grid’s business, it would not be front and centre of people’s mind. However, this should not be the reason that National Grid does not explore this further.

3. Conclusions

The final stage of the Business Plan acceptability testing research has successfully tested the outcomes of the Stage 2 quantitative survey through a set of extended-focus group sessions with a diverse mix of household consumers in September 2019. It also explored key issues in greater depth to help understand the role of National Grid in ensuring safe, reliable and affordable energy now and in the future. Participants found the sessions interesting and informative and were overwhelmingly supportive of National Grid engaging with them and valued a chance to shape the electricity and gas transmission business plans.

Key findings

The feedback from consumers was generally very positive, with high levels of support for National Grid's electricity transmission Business Plan and gas transmission Business Plan, and endorsement of the quantitative survey findings. There were, however, some areas where views were more mixed, such as: (a) whether energy bills are too high and represent good value for money; and (b) National Grid's role in providing affordability support to consumers and the urban deprivation fund.

The key findings from Stage 3 are summarised as:

- **Overall awareness.** General knowledge of the structure of the energy industry is low, but higher amongst older consumers. Awareness of National Grid and its role has increased following the August 2019 power cuts. Consumers see the service as highly reliable, with recent events being considered a one-off.
- **Acceptability of bill changes.** Consumers consider the plans to be acceptable, and they understand why a high percentage of consumers in the Stage 2 survey agreed that the gas and electricity plans are acceptable. The general view is that no one would notice the proposed change to the transmission prices, even with inflation added. This did not change when plans were combined. The presence of targeted efficiencies boosted support for the overall plan and specific investments.
- **Affordability and value for money.** Consumers identify serious challenges regarding the affordability of overall energy bills but see the transmission element as being highly affordable and good value for money. Views were mixed when it came to National Grid's role in ensuring affordable bills. Whilst all felt that affordability issues are not caused by National Grid, consumers had conflicting views on whether National Grid has a responsibility to help with energy bill affordability. On balance, this was favoured by consumers, with some preferring signposting to debt charities or seeking to influence government and other stakeholders, whereas others prefer a funding role under the administration of an independent stakeholder panel. Given the importance of this topic area to consumers and the range of views on how National Grid should act, further research may be appropriate. For example, a representative survey to provide quantitative evidence on the strength of consumer preference for alternative strategies and options.
- **Justification for specific investment options.** National Grid's electricity and gas transmission plans were presented to consumers as five key investment areas or themes. Consumers agree with the relative priorities for the themes and the high levels of acceptability for individual investment areas. Consumers

suggested that support of more than 70-75% would give National Grid a strong mandate to proceed – which is considerably below the actual support for initiatives in the Stage 2 research. The overall efficiency savings offered in the plans are more than sufficient to address consumers' concerns with some of the bill impacts of the proposed investments.

- **Reliability and maintenance.** Reliability and maintenance are a high priority for consumers. Moreover, consumers accepted that prices may need to go up periodically to maintain current levels of reliability, especially when assets are ageing or expected to meet increasing standards or demands. Consumers see safety as the number one priority, with reliability nearly on a par, given the risks of supply outages to elderly and vulnerable consumers (e.g. during cold weather). Consumers expected budgets to be balanced and prioritised, although this is not an area that should be 'squeezed' during this process.
- **Spending more on urban areas.** An additional aspect of the electricity transmission plans discussed at the request of National Grid and its stakeholders related to urban areas - i.e. improving National Grid's assets and/or public space in deprived urban areas. Examples are screening substation or public areas and providing community facilities such as skate parks. Most consumers liked this concept in principle, with a view that a mix of landscaping and community facilities would be welcome. Landscaping (e.g. substations) is important as people should be able to be proud of where they live. There was considerable discussion about the less well-off not having much choice on where they live, which is why this had high levels of support. Community facilities were also supported, but these need to have low ongoing costs in order to be sustainable.

Consumers felt unable to fully assess the required budget in this area without more details but based on the information provided thought a budget of 15p per consumers (i.e. £50m) was preferable to the lower alternative amount of 6p (i.e. £20m). A small minority, though, strongly objected to any role, seeing it as a form of forced donations to charity. Overall, urban area investments were viewed as on par with some other parts of the plan – e.g. infrastructure for electric vehicle charging - but of less importance than affordability support.

Appendix 1: Focus group material

A1.1 Topic guide

Introduction	10 mins
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- Administration and organisation
 - Facilitator to introduce themselves and set out objectives of the discussion: set the scene; reason for discussion; and format.
 - Introduce any observers that are present (if any).
 - Explain MRS code of conduct and rights to anonymity. Explain discussions are being voice recorded for internal use only. Confirm consent for photographs to be used by National Grid.
- Purpose of the sessions
 - Explain National Grid is one the companies involved in getting energy to homes and businesses, and these discussions are to help National Grid ensure its plans reflect the needs of end users of electricity and gas (i.e. households).
 - Explain that there has already been a survey with a large sample of consumers, so some of the findings from that will be discussed.
- Respondents to introduce themselves – names and family circumstances.

1. General views on the industry	25 mins
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- Let’s start with thinking about energy in general
 - How do you think the energy industry is structured/organised? How does energy get to your home? **Focus on both gas and electricity – but with more focus on gas in the gas sessions, and electricity in the electricity sessions**
 - Who are the main parties in the industry?
 - Has anyone heard of Ofgem, the energy regulator – what do you think their role is?
 - What about government dept: BEIS - Department for Business, Energy & Industrial Strategy (formerly Department of Energy and Climate Change) – what do you think their role is?
 - Do you know who your local supplier is? What do you think your local supplier is responsible for?
 - **SHOWCARD G1/E1 that summarises key parties**
- What about National Grid.
 - Have you heard of National Grid? What do you think they are responsible for?
 - Had you heard of National Grid before the power cuts that occurred last month?
 - Were you or your household affected by those cuts? How?
- National Grid runs and manages the electricity transmission network in England and Wales, and the gas transmission network in England, Scotland and Wales. **SHOWCARD G2/E2.**

- What do you think are the key issues affecting the energy industry? What is your overall impression of how well the energy industry is working?
 - Probe the basis for their views e.g. personal experience – e.g. recent power cuts, what they hear in the news, what they think when they get their bills etc.
 - If need be, nudge on topics such as energy security, energy prices and affordability, vulnerable consumers, carbon and climate change, reliability, risk of cyber attacks etc.
 - Say that we will come back to some of these issues later in the session, but briefly discuss what consumers see as the key issues and how strongly they feel about the issues – and who do they see as responsible for causing and solving any issues.
- We are going to be talking about National Grid's plans, and how much this costs households, as well as energy prices overall later on in the session – but it is useful to explain where your money goes before we go any further.
 - **SHOWCARD G3/E3 ON ENERGY PRICES.** What are your impressions of the energy bill breakdown? What do you think about the amount of money you pay for the transmission network versus overall energy?

>> Check before moving to the next section that people are comfortable with the energy structure and the role of NG in it, and indicate the focus is on transmission for the next part of the group.

2. National Grid's plans – Gas transmission groups	45 mins
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- National Grid is working with Ofgem to develop a five-year plan for 2021 to 2026. An important part of the process is to understand consumer priorities for the gas and electricity transmission systems. Ofgem reviews the plan and decides the amount that National Grid can charge to its direct customers, which is your local distribution network. Ofgem then sets the amount the distribution networks charge to you. **Probe understanding.**
- How do you feel about being engaged about developing the plan? What do you think consumer role in the process should be?
- Before we look at National Grid's plans – briefly, what sorts of investment do you think National Grid should be making in the transmission network?
 - Probe ensuring its reliable, reducing carbon (their own use and helping other parts of the economy), safety, cyber-crime.
 - Probe gas and electricity
- National Grid has completed a large survey with a representative sample of consumers to understand their views on their business plans. This involved presenting the key investments in the proposed business plan with their bill impact, and the overall bill impact – and asking consumers if they think what National Grid is proposing is acceptable or not, and what further changes, if any, they would like to see.

- In this session I would like to look at National Grid's **gas** plan.
- **SHOWCARD G4 – ONE PAGE SUMMARY OF THE PLAN AND BILL IMPACT**. Here is an overall summary of the plan – we will look at the detail in a moment. In the representative survey 88% of households found the gas transmission plan to be acceptable or very acceptable. Does that make sense? What are your thoughts on these findings?
- Looking at the efficiencies in the plan – the regulatory framework is set up so that any efficiencies made are passed back to consumers when prices are reset. But also companies have to agree to future efficiencies and pass these onto consumers at the same time. What do you think about that?
- Let's look at some of the investment that National Grid is proposing in more detail.
 - **SHOWCARD G5 – These summarise the information on each proposal briefly, into the five investment themes – allow them a few minutes to look at these.**
 - **SHOWCARD G6 – BAR CHART WITH PROPOSALS SPLIT INTO AGREE/DO NOT AGREE/DON'T KNOW**. What do you think of these results? Pick out those that are the most and least popular and ask views on these. Let them pick others and discuss. Ask if the results make sense?
 - **SHOWCARD G7 – BAR CHART AS ABOVE BUT AGREE IS SPLIT INTO BILL IMPACT ACCEPTABLE/NOT ACCEPTABLE**. What do you think of these results? Pick out those with the most and least acceptable bill impacts and ask views on these. Let them pick others and discuss. Do you think the results align with the overall acceptability findings results?
 - One aspect of the survey involved asking consumers to rank the five investment areas you have seen:
 - **SHOWCARD G8 - showing the ranking of Ensuring a safe and reliable network, Protecting the network from external hazards, Planning the energy system of the future, Improving the environment and supporting local communities, Providing information to allow the gas transmission system to run efficiently, Returning efficiency savings to our consumers**
 - What do you think about these rankings? Why do you think consumers ranked in this way?
 - **SHOWCARD G9** Summary of consumers feedback on changes consumers want to see. What do you think about these views? Why do you think consumers said this?
- Overall – what do you think about the balance of the plan? What do you think the outcomes of the plan are?
- **SHOWCARD G10 – this is the summary of the questions in the survey on reliability. What do you think about these findings?**
- Ask if any questions or further comments on the investment areas or specific proposals

<< Allow 5 mins for people to refresh drinks, very short time to pause >>

- Let's focus a bit more on the part of the plan around maintaining a safe and reliable network ([this it to support asset health investment justification](#))
 - National Grid estimate that to keep the current level of service and risk – they need to spend more in the next 5 years than they are currently spending. This is to make sure they meet their legal requirements, and that older equipment on their network is replaced before it fails (some assets are 60 years old or more) and to keep the network safe and reliable. Some assets are used constantly, and some intermittently – when there is high demand, when there are issues in the system or in extreme weather. But they want to maintain the current capability – and be able to provide gas at all times (e.g. when there is high demand, cold weather, etc).
 - What do you think about that? Does that make sense?
 - Would you rather they take a bit more risk if it meant lower bills? What is the balance between bills/efficiency and risk/resilience?
 - National Grid prioritise assets based on four key aspects: safety, environment, reliability and financial impacts (which can impact on bills).
 - Do you think they are all equal?
 - In practice, safety is given the biggest weight – does that feel right? What would you prioritise after that?

- Finally, we have looked at the gas plan so far. Let's quickly look at a summary of the gas and electricity plans together. [SHOWCARD G11/E11 \(summary of the electricity plans and acceptability findings\)](#)
 - What do you think about the acceptability of the combined plans?
 - **Voting form – Q1 vote on whether combined plan is acceptable/not**
 - How do you feel about the bill change compared to your overall energy bill and other utility bills?
 - How would you feel if other utility bills increased by the same percentage amount?
 - Are there any other conditions or thoughts you have for you to agree that the plans are acceptable?

3. National Grid's plans – Electricity transmission groups	35 mins
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- National Grid is working with its stakeholders to develop a five-year plan for 2021 to 2026. An important part of the process is to understand consumer priorities for the gas/electricity transmission networks. Ofgem reviews the plan and decides the amount that National Grid can charge its direct customers, which includes your energy supplier. [Probe understanding](#).

- How do you feel about being engaged about developing the plan? What do you think consumers role in the process should be?

- Before we look at National Grid's plans – briefly, what sorts of investment do you think National Grid should be making in the transmission network?
 - Probe ensuring its reliable, reducing carbon (their own use and helping other parts of the economy), safety, cyber-crime.
 - Probe gas and electricity
- National Grid has completed a large survey with a representative sample of consumers to understand their views on their business plans. This involved presenting the key investments in the proposed business plan with their bill impact, and the overall bill impact – and asking consumers if they think what National Grid is proposing is acceptable or not, and what further changes, if any, they would like to see.
- In this session I would like to look at the **electricity** plan.
- **SHOWCARD E4 – ONE PAGE SUMMARY OF THE PLAN AND BILL IMPACT.** Here is an overall summary of the plan – we will look at the detail in a moment. In the representative survey 87% of households found the electricity transmission plan to be acceptable or very acceptable. Does that make sense? What are your thoughts on these findings?
- Looking at the efficiencies in the plan – the regulatory framework is set up so that any efficiencies made are shared with consumers when prices are reset. But also companies have to agree to future efficiencies and pass these onto consumers as well. What do you think about that?
- Let's look at some of the investment that National Grid is proposing in more detail.
 - **SHOWCARD E5 – These summarise the information on each proposal briefly, into the five investment themes – allow them a few minutes to look at these.**
 - **SHOWCARD E6 – BAR CHART WITH PROPOSALS SPLIT INTO AGREE/DO NOT AGREE/DON'T KNOW.** What do you think of these results? Pick out those that are the most and least popular and ask views on these. Let them pick others and discuss. Ask if the results make sense?
 - **SHOWCARD E7 – BAR CHART AS ABOVE BUT AGREE IS SPLIT INTO BILL IMPACT ACCEPTABLE/NOT ACCEPTABLE.** What do you think of these results? Pick out those with the most and least acceptable bill impacts and ask views on these. Let them pick others and discuss. Do you think the results align with the overall acceptability findings results?
 - One aspect of the survey involved asking consumers to rank the five investment areas you have seen:
 - **SHOWCARD E8 - showing the ranking of Ensuring a safe and reliable network, Protecting the network from external hazards, Planning the energy system of the future, Improving the environment and supporting local communities, Innovation projects, Returning efficiency savings to our consumers**
 - What do you think about these rankings? Why do you think consumers ranked in this way?
 - **SHOWCARD E9** Summary of consumer feedback on changes consumers want to see. What do you think about these views? Why do you think consumers said this?

- Overall – what do you think about the balance of the plan? What do you think the outcomes of the plan are?
- [SHOWCARD E10 – present summary of the](#) questions in the survey on reliability. What do you think about these findings?
- Ask if any questions or further comments on the investment areas or specific proposals

<< Allow 5 mins for people to refresh drinks, very short time to pause>>

- Let's focus a bit more on the part of the plan around maintaining a safe and reliable network ([this is to support asset health investment justification](#))
 - National Grid estimate that to keep the current level of service and risk – they need to spend more in the next 5 years than they are currently spending. This is to make sure they meet their legal requirements, and that older equipment on their network is replaced before it fails (some assets are 60 years old or more) and to keep the network safe and reliable. Older equipment also needs to be replaced to meet the changing way renewable electricity is supplied – in bursts with changes in wind or sunlight – rather than at a constant output from a power station. They keep enough spare capacity in the network so they can take assets offline to maintain them, and can still have some faults without consumers being affected. They are proposing to maintain the current capability – and be able to have a resilient supply of electricity at all times, even in the most extreme conditions.
 - What do you think about that? Does that make sense?
 - Would you rather they take a bit more risk if it meant lower bills? What is the balance between bills/efficiency and risk/resilience?
 - They prioritise assets based on four key aspects: safety, environment, reliability and financial impacts (which can impact on bills).
 - Do you think they are all equal?
 - In practice, safety is given the biggest weight – does that feel right? What would you prioritise after that?
- Finally, we have looked at the gas plan so far. Let me quickly show you the summary of the gas and electricity plans together. [SHOWCARD G11/E11 \(summary of the electricity plans and acceptability findings\)](#)
 - What do you think about the acceptability of the combined plans?
 - **Voting form – Q1 vote on whether combined plan is acceptable/not**
 - How do you feel about the bill change compared to your overall energy bill and other utility bills?
 - How would you feel if other utility bills increased by the same percentage amount?
 - Are there any other conditions or thoughts you have for you to agree that the plans are acceptable?

4. Bills and Affordability	30 mins
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- Let's think about energy bills in more detail now.
- Let's start with the concept of value for money
 - Before we discuss this – can you fill in Q2 on the voting form
 - **Voting form – Q2 vote on whether you consider energy/transmission bills to be value for money**
 - What do you think - are energy bills value for money?
 - What does value for money mean? i.e., How do you judge if bills are value for money – and therefore how can a company demonstrate if its bills are value for money to stakeholders and regulators? Is this important to understand for energy bills?
- Let's think about affordability now
 - A slightly different issue is whether bills are affordable. Before we discuss this – can you fill in Q3 on the voting form
 - **Voting form – Q3 vote on whether you consider energy/transmission bills to be affordable**
 - What does an affordable bill mean? Probe for ability to pay, % energy bill as household income – e.g. fuel poverty.
 - How can a company demonstrate bills how affordable its bills are to stakeholders and regulators?
 - Have you heard of the term – fuel poverty? What do you think that means. Explain a household is considered to be in fuel poverty if it were to spend what it needed on fuel and would then have a residual income below the poverty line.
 - Do you think fuel poverty is an issue? Explain in 2017 over 10% of households were estimated to be in fuel poverty (2019 annual fuel poverty figures from BEIS – 2017 was 10.9%). What do you think about that?
 - How do you think unaffordable bills or fuel poverty affects behaviours? (e.g. reducing heating use or setting the thermostat lower – not charging phones overnight, turning lights off etc.) How – and why?
- SHOWCARD G12/E12 – this showcard presents some of the findings from the survey around affordability.
 - What do you think about these findings?
 - If National Grid implements the plans presented today – would this impact on value for money and affordability?
- National Grid
 - Have you heard of any govt measures to help with unaffordability – probe winter fuel allowance, warm home discount, cold weather payments.
 - How can NG help with affordability? Does it have a role – if so what?
 - Probe if they think National Grid can and should help – e.g. supporting energy efficiency.
 - What else do you think is needed – and by whom?

Feedback and close	10 mins
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ASK PARTICIPANTS TO FILL IN THE SESSION EVALUATION FORM – same form as in Stage 1

- Facilitator to be explain next steps – i.e. how the findings will be used by National Grid and stakeholders
- Check with participants
 - Has there been anything that has surprised or concerned you?
 - Is there anything that we have missed from the discussion that we need to consider or clarify?
 - Are there any other comments?
- Thank and close.

A1.2 Explanatory material

Table below includes the explanatory material given to focus group participants.

Focus groups		
Showcards	 Stage 3 FG Showcards.pptx	
Voting and evaluation forms	 Voting Form - Gas and Electricity V1.0.docx	 NG Acceptability_Focus Gr

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