Attachment 2.11

IPSOS Research - Willingness to pay for network services

January 2015

Ausgrid revised regulatory proposal attachment

Willingness to pay for network services

Prepared for Ausgrid

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Contents

1. Executive Summary

The overall objective of this research was to develop a robust model of customers' willingness to pay for electricity network services in Ausgrid's network area.

The following report outlines the results of research involving a total of n=988 Ausgrid customers.

1.1 Network service experience

- The vast majority (83%) of participants were satisfied with Ausgrid's supply of electricity to their household.

- On average, consumers estimated that they had experience 1.2 unplanned blackouts in the preceding twelve months. Their average length was estimated to be 144 minutes.

- Consumers' average estimate for planned blackouts was 0.3 in the previous year. Their average length was estimated at 216 minutes.

1.2 Willingness to pay for network services

- The choice experiment used to investigate customers' willingness to pay for network services revealed that while price is a driver of participants' selection of potential service offerings, the majority of customers are not prepared to sacrifice reliability and safety for lower charges.

- While price had the largest effect on likelihood to choose a potential service offering, service restoration times and pole maintenance were also key drivers. Specifically, as the time taken to restore power increased and pole maintenance decreased, participants were <u>less</u> likely to select potential service scenarios.

- Participants were much less likely to select scenarios in which the restoration of electricity took longer than the status quo.

- Decreases in pole maintenance also had a negative impact on consumers' consideration of service offerings.

- These results were reinforced by the high unacceptability rating of scenario five (which had the lowest quarterly price at $141, but a reduction in the quality of all other service attributes from the status quo). Less than half the consumers surveyed found this scenario to be acceptable, and it was also deemed the most unacceptable statement of all presented, reinforcing that customers are unwilling to sacrifice quality of service for a large reduction in quarterly network charge.

2. Background

2.1   Ausgrid and Networks NSW

Ausgrid is an electricity network service provider, supplying energy to customers in Sydney, the Hunter and Central Coast regions. The map below shows Ausgrid's network area. The network provides energy to 1.6 million homes and businesses.

Networks NSW was formed on July 1st 2012 under an umbrella agreement to manage NSW's three electricity network service providers, Ausgrid, Endeavour Energy and Essential Energy.[1] Under the agreement the three companies are managed separately, with a common CEO and senior management team. Each of the three companies submitted individual regulatory proposals to the AER for the 2014-2019 regulatory period.

2.2   Need for choice modelling

The Australian Energy Regulator (AER) is responsible for regulating energy markets and networks under national energy market legislation and rules. Setting the prices charged for using energy networks is one of the key roles within its remit. The AER is required to determine the revenue allowance for Ausgrid under the National Electricity Rules, and is currently assessing Ausgrid's regulatory proposal for the period from 1 July 2014 to 30 June 2019.

Ausgrid undertook willingness to pay research with customers during 2013 in order to provide insights into customer priorities and needs for its regulatory proposal.[2] Following feedback from the AER, Ausgrid commissioned further research into customers' willingness to pay as an additional source of information to consider in finalising its revised proposal.

2.3   Project objectives

The overall objective of this research was to further test customers' priorities by developing a robust model of customers' willingness to pay for electricity network services in Ausgrid's network area.

The specific objectives of the research were to understand:

- Customer preferences for a range of network service attributes, including:
  – Network charge
  – Reliability (unplanned blackouts)
  – Response times during blackouts
  – Street light repairs
  – Vegetation management
  – Pole maintenance
- Customers' willingness to pay varying levels of service for each of the attributes assessed.
- The acceptability to customers of a range of service offerings.

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[1] Customer and Stakeholder Engagement Strategy, Networks NSW, 22 November 2013. Accessed via:
https://www.ausgrid.com.au/~/media/Files/Network/Planning%20for%20the%20future/Presentations/131122%20Presentation%20to%20NSW%20Cust%20Ref%20Group%20%20%20AER%20V2.pdf

[2] Woolcott's Willingness to pay research 2013.

3. Research design

3.1 Research methodology

The research was conducted via an online methodology. Respondents were screened, with only those who met the screening criteria undertaking the survey. Respondents were required to be:

- 18 years of age or older;

- A resident in Ausgrid's network area; and

- Mainly or jointly responsible for making decisions about their household's energy bill.

Respondents were recruited from established online research panels. A total of n=869 customers were interviewed. Fieldwork was conducted between 12 and 23 December 2014.

3.1.1 Sample structure and weighting

Quotas for location were applied to each of the two network areas. The quotas reflect the population of each network area based on 2011 Census data. Location quotas were set via the operational areas of each network company, and are outlined in Table 1.

Table 1: Location quotas

Ausgrid	Proportion of sample
North	45%
South	55%
Total	**100%**

A maximum number of respondents were enforced on age and gender groups to ensure that the final sample was not heavily skewed towards a particular age group or gender. Weights were applied where location quotas were not met. These weights were small enough to ensure a sufficient effective sample size, and therefore robust analysis and outputs.

As depicted in Figure 1, six in ten participants (59%) were female, while four in ten (41%) were male.

Figure 1: Gender of participants

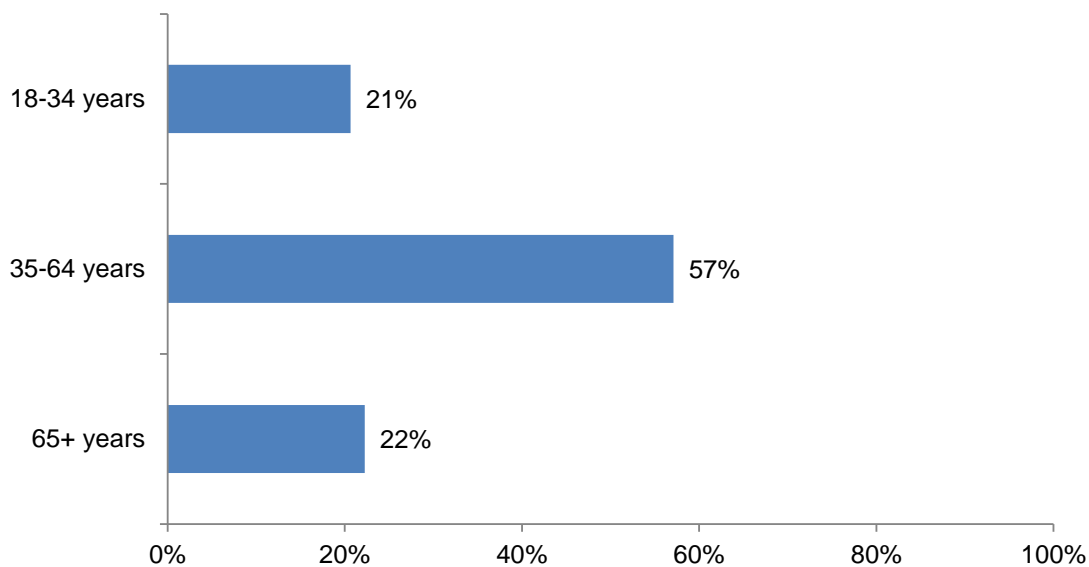|	
Female	59%
Male	41%
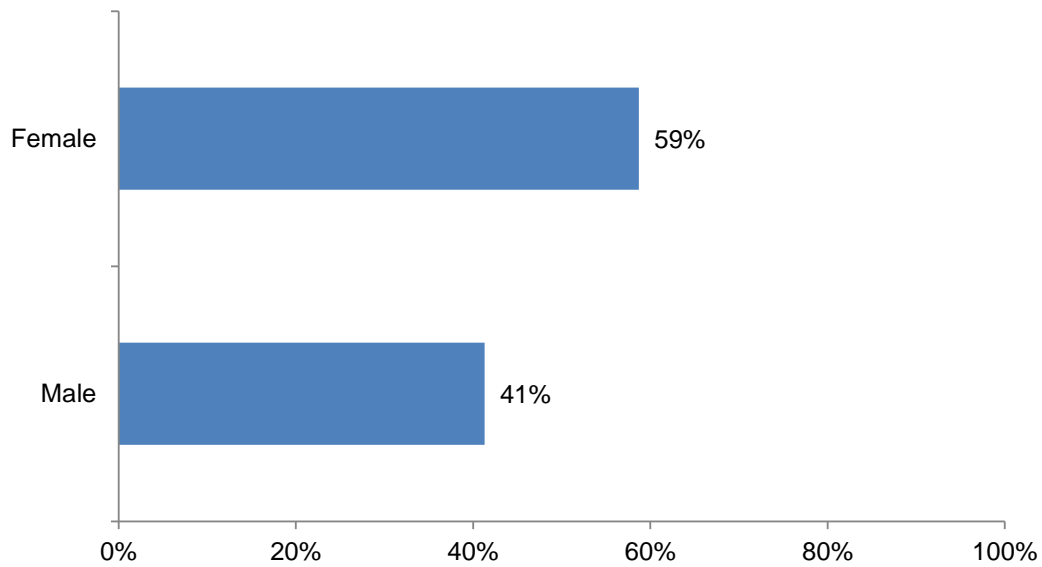
SQ2. *Are you...?*

Base: All Ausgrid participants; n=988.

Figure 2 illustrates the distribution of the approximate age of participants. Around six in ten (57%) participants were between 35-64 years, while one in five were between 18-34 years (21%) or were 65 or more years (22%).

Figure 2: Approximate age of participants

18-34 years	21%
35-64 years	57%
65+ years	22%

SQ3. *Can you please tell me your approximate age?*

Base: All Ausgrid participants; n=988.

3.1.2 Choice modelling methodology

Discrete Choice Experiments (DCE) or stated choice/preference experiments are an important contingent valuation method (CVM) in environmental and resource economics as well as other areas where valuation (contingent to a specific scenario presented) of a public or commercial good or

service is required (such as health or transport economics or marketing). One advantage of DCEs is that they enable respondents to provide their stated choice or preference for multiple scenarios and the exposure to multiple options in each scenario provides a richer source of information to determine which aspects of a good or service people trade-off and what they value.

The method used to determine the willingness to pay (WTP) of residential customers for network services in this research varied from that used for example by Western Power Distribution in the UK[3]. The Western Power Distribution research estimated WTP in two stages:

- A DCE was designed to determine the relative impact on preference of various service aspects (e.g. frequency of power cuts, duration of power cuts, communication improvements, numbers of customer affected by outage, etc.). The modalities of each service aspect were varied according to a factorial design.

- A contingent value question was subsequently asked directly to provide a monetary valuation of each service modality.

The DCE method used for this research advocates a slightly different route: contingent valuation is not conducted externally to the DCE but is built into the DCE through the use of scenarios that vary both the network charge and the modalities of the services provided by the network so that the analysis of the stated preference reveals the trade-offs that people make and the valuation of different service delivery combinations in terms of network charge variation.

Design of the choice experiment

Market context

Respondents were first provided with information explaining the contribution Ausgrid makes in the supply of electricity to households compared to that of generators and retailers. Information was also provided about the operation and maintenance of the network through the network charge. This framing is important to ensure respondents' understanding of the context of the scenarios presented during the experiment, hence ensuring reasonable estimates of WTP.

Information provided to participants can be seen in Figure 3 and Figure 4 below.

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[3] Accent, 2012.

Figure 3: Information on electricity network provider services

Figure 4: Information on network charge and the AER

Service attributes

In order to operationalise the experiment, six attributes of Ausgrid's service were selected for inclusion in the model. Before beginning the experiment, respondents were provided with information about each attribute, so that they understood the content of the paired scenarios when presented in the experiment. The service aspects included in the scenarios are show in Table 2.

Table 2: Service attributes shown to participants and their descriptions

Service attributes	Description
Unplanned blackouts	Investment in the electricity network impacts the likelihood of blackouts. External factors like trees, weather, animals and bushfires can cause blackouts.
Service restoration times	Major storms can cause considerable damage to the electricity network and cut power to hundreds of thousands of homes and businesses in multiple locations.
Street light repairs	Electricity networks maintain the street lighting system on behalf of councils and other community organisations, responding to up to 30,000 reports of street light faults every year.
Pole maintenance	The network includes about 450,000 wooden poles, so inspections and maintenance help reduce the risk of poles failing and falling down due to rot or termite attacks, which brings down live wires.
Vegetation management	Electricity networks regularly prune trim trees around powerlines to reduce the risk of trees bringing down live wires or starting a bushfire, and to make sure children climbing trees can't touch powerlines. Pruning also helps prevent blackouts caused by trees and branches touching powerlines.
Quarterly network charge	The amount you are charged on your quarterly electricity bill for network services. The network charge is 40% of your total bill.

For each service attribute, at least two modalities (or options) were included in the model. These were designed in close consultation with staff from Ausgrid in order to ensure that they represented a realistic approximation of potential service outcomes based on potential decisions about operational and capital expenditure on the network.

Development and presentation of scenarios

Ipsos developed 16 scenarios of paired combinations or bundles of the above service attributes. The paired scenarios were constructed using the NGENE fractional factorial design construction software seeking maximal D-efficiency and using no priors ('weights' of importance for each service attribute based on existing evidence) for the alternative specific constant parameter and the service attributes.

During the experiment, each participant was presented with eight different paired scenarios in which the modalities of each service attribute were systematically varied. The decision was made to show each respondent eight scenarios rather than 16 in order to limit respondent fatigue caused by repetition of similar questions for a prolonged period, which in turn can lead to less reliable responses and therefore, data. The image below shows a screen shot of the one of the scenarios as it was presented to respondents on screen.

Figure 5: Example of a choice scenario presented to participants

The complete list of the attribute levels presented to participants was as follows (please note: italics represent the status quo, and the level "labels" are denoted by square brackets and red font).

Table 3: Complete list of attribute levels

Quarterly network charge	Unplanned blackouts	Vegetation management	Pole maintenance	Service restoration times	Street light repairs
$233 [HIGHER]	· Average of 3.5 over the next 5 years · Each lasts 65 minutes [BETTER]				
$202 [STATUS QUO]	· *Average of 4 blackouts over the next five years* · *Each lasts 1 hour and 15 minutes.* [STATUS QUO]	· *Prune trees in all areas about once a year* · *Trees touching powerlines cause blackouts to 1 in 7 customers.* [STATUS QUO]	· *Detailed inspection once every 5 years* · *About 7 poles fail each year* [STATUS QUO]	· *Crews restore power to most areas within 2 to 3 hours* [STATUS QUO]	· *Councils are charged about $180 per street light for installation and maintenance* · *80% of street light faults are repaired in an average of 7 days* [STATUS QUO]

$172 [LOWER]	· An average of 5.5 blackouts per customer over the next 5 years · Each lasts 1 hour and 40 minutes [WORSE]		· Detailed inspection once every 6 years · About around 20 poles fail each year [WORSE]	· Crews restore power to most areas within 4 to 6 hours [WORSE]	
$141 [LOWEST]	· An average of 6 blackouts per customer over the next 5 years · Each lasts almost 2 hours [WORST]	· Trees only proactively pruned in bushfire-prone areas · Each year trees touching powerlines cause blackouts to 1 in 5 customers · Trees touching powerlines may pose a public safety risk [WORSE]	· Detailed inspection once every 8 years · About 46 poles fail each year [WORST]	· Crews restore power to most areas within 24 to 48 hours [WORST]	· Councils are charged about $150 per street light for installation and maintenance · 10% of street light faults are not able to be repaired for up to 2 and a half years [WORSE]

Acceptability of scenarios

Following the presentation of the choice scenarios, participants were shown three scenarios, one at a time, (from a total of nine) and asked to rate their acceptability on a seven point scale from 'Totally acceptable' to 'Totally unacceptable'. This served a dual purpose:

- It helped Ipsos to validate the selections made in the choice experiment and ensure their external validity.

- It enabled Ipsos to generate a scenario simulator in which the relationship between utility/coefficient values from the choice experiment and unacceptability was used to estimate unacceptability of all possible scenarios.

Figure 6: Example of an acceptability rating scenario presented to participants

Please indicate how acceptable the following service offering and quarterly network charge for the supply of electricity would be to you.

Unplanned blackouts	• Average of 4 blackouts over the next five years • Each lasts 1 hour and 15 minutes
Service Restoration times	• Crews restore power to most areas within 2 to 3 hours
Street light repairs	• Councils are charged about $180 per street light for installation and maintenance • 80% of street light faults are repaired in an average of 7 days
Pole maintenance	• Detailed inspection once every 6 years • About around 20 poles fail each year
Vegetation management	• Prune trees in all areas about once a year • Trees touching powerlines cause blackouts to 1 in 7 customers
Quarterly network charge	$202

○ Totally acceptable
○ Very acceptable
○ Fairly acceptable
○ Neither acceptable nor unacceptable
○ Fairly unacceptable
○ Very unacceptable
○ Totally unacceptable

The full list of scenarios was as follows:

Figure 7: Full list of acceptability rating scenario

Statement	Quarterly network charge	Unplanned blackouts	Service restoration times	Pole maintenance	Vegetation management	Street light repairs
1	Status quo	Status quo	Status quo	Worse	Status quo	Status quo
2	Higher	Better	Status quo	Better	Status quo	Status quo
3	Higher	Status quo	Worse	Status quo	Status quo	Worse
4	Lower	Worse	Status quo	Worse	Worse	Status quo
5	Lowest	Worst	Worse	Worse	Worst	Worse
6	Lower	Worst	Status quo	Worse	Worst	Status quo
7	Status quo	Worse	Status quo	Better	Status quo	Status quo
8	Lower	Better	Worse	Worse	Worse	Worse
9	Lowest	Status quo	Status quo	Better	Status quo	Status quo

3.2 Analysis

Analyses and statistical modelling were conducted by the Ipsos project team using Q statistical software.

Statistical analysis and modelling were performed incorporating significance testing to establish notable differences between separate but related variables as well as demographic subgroups of interest (including service region, vulnerability, employment, number of people in household, number of children in household, income, CALD status, education and involvement in electricity account). The following analyses and tests of significance were used:

- Chi-square tests to establish significant associations between categorical variables;
- T-tests to establish significant associations between mean scores;
- Conjoint analysis to investigate the trade-offs consumers make amongst a range of factors surrounding energy network service and maintenance.

A false discovery rate correction was applied to comparisons of multiple columns or cells.

3.3 Limitations and biases

- The actual distribution of bill payers in terms of age and gender across the network was unknown. This meant that Ipsos was unable to impose hard quotas and ensure that the final sample was representative of all Ausgrid bill payers.

  In order to resolve this issue, Ipsos imposed maximum caps on age groups and genders to ensure that the sample was not overly skewed towards a demographic group.

- The volume of information contained in the choice model is high, which likely lead to a heavy cognitive load on participants.

  In order to resolve this issue, Ipsos presented full descriptions of the characteristics of the attributes prior to presentation of the choice scenarios. Participants were able to view the descriptions of the attributes by hovering over the attribute title with their cursor.

  Further, information presented to participants in each choice option was shortened to a few bullet points at most to ensure a reduction in the cognitive load of participants.

- In DCEs, there can be bias associated with presentation of the status quo, such that people are unwilling to properly consider alternatives.

  In order to resolve this issue, the status quo was incorporated in the model but was not labelled. This meant that Ipsos could evaluate alternative service arrangements without the possibility of these cognitive biases occurring.

- The population of interest in the study was Ausgrid customers, rather than the general public; benchmarking quotas against ABS census data for age and gender is therefore a potential source of bias as it may not represent the desired population.

  Demographic data on utilities bill payment sourced from emma® was used to ensure that quotas were appropriate to the population of interest.

4. Findings

4.1 Network service experience

When asked how satisfied or dissatisfied they were with the supply of electricity to their household over the preceding year, the vast majority (83%) of participants were satisfied with their supply of electricity (most of whom were 'very satisfied'; 44%). Less than one in twenty (3%) were dissatisfied (Figure 8).

Figure 8: Participants' satisfaction with the supply of electricity to their household
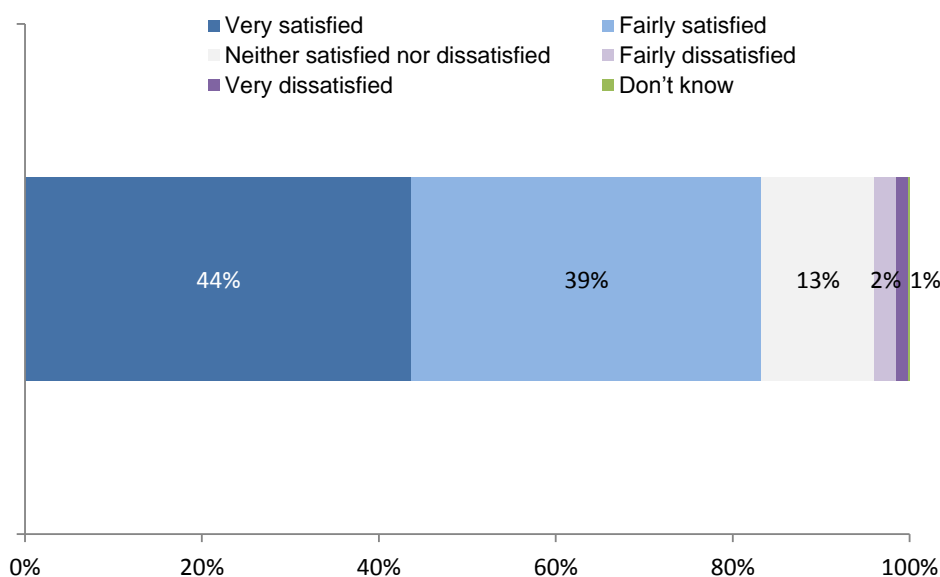
Q1. *Overall, to what extent are you satisfied or dissatisfied with the supply of electicity to your household over the past twelve months*

Base: All Ausgrid participants; n=988.

Satisfaction differed significantly according to participants' socioeconomic characteristics. Specifically:

- Seventy-one percent (71%) of participants who were vulnerable were satisfied with their supply of electricity, compared with 88% of participants who were not vulnerable.

- Participants with three or more people living in their household (79%) were significantly less likely to have been satisfied with their supply of electricity than other participants (87%)

Participants were asked to estimate the number of unplanned blackouts that they had experienced at their household in the past twelve months. Overall, as illustrated in Figure 9, the average number of blackouts experienced in the preceding year was 1.2.

Figure 9: Estimated average number of unplanned blackouts
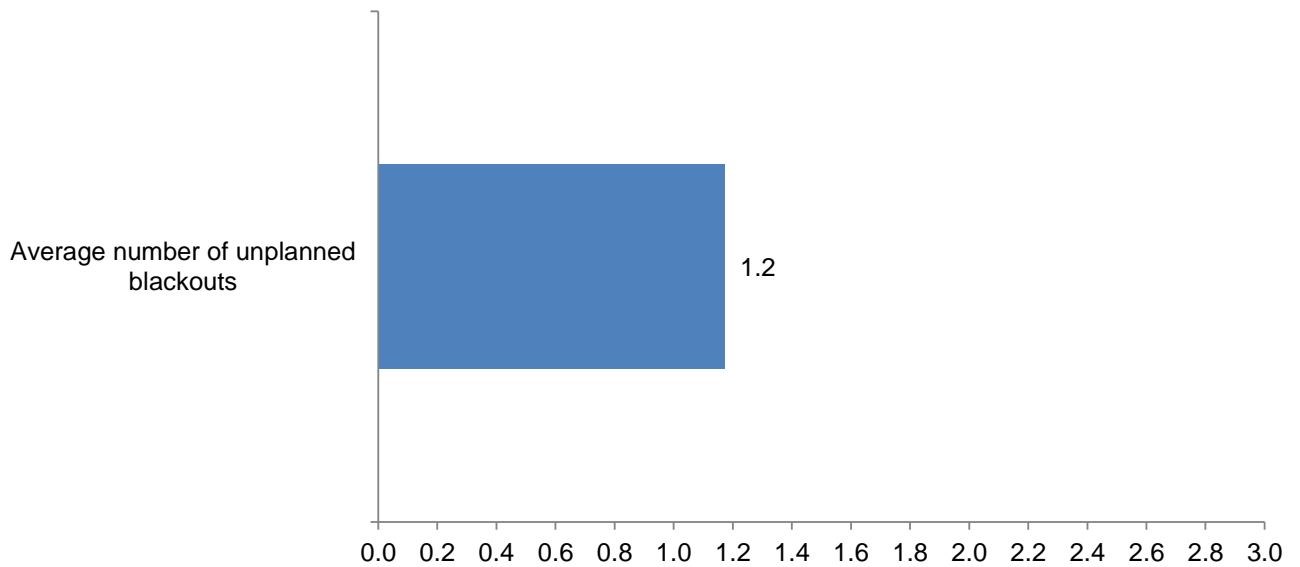
Q2. *About how many __unplanned__ blackouts have you experienced at your household in the past twelve months?*

Base: All Ausgrid participants who provided a response; n=879 (n=109 indicated that they didn't know or couldn't remember)

The estimated average number of unplanned blackouts estimated differed significantly according to the characteristics of participants. Specifically:

- Participants living in the South Region (average = 0.8) provided a significantly lower estimate than those living in the North Region (average = 1.6).

- Those with a CALD background (average = 1.0) provided a significantly lower estimate than those who only spoke English (average = 1.2).

- Those who rented their property (average = 0.8) provided a significantly lower estimate than those who did not rent their property (average = 1.3).

When participants who had experienced one or more unplanned blackouts were asked how long they lasted on average, the average length listed by participants was 2.4 hours (144 minutes), as seen in Figure 10.

Figure 10: Estimated average length of unplanned blackouts (hours)

Q3. *Approximately how long did this/these unplanned blackouts last for?*

Base: All Ausgrid participants who experienced a blackout and could remember how long it/they lasted; n=495 (n=384 indicated that they didn't know or couldn't remember)
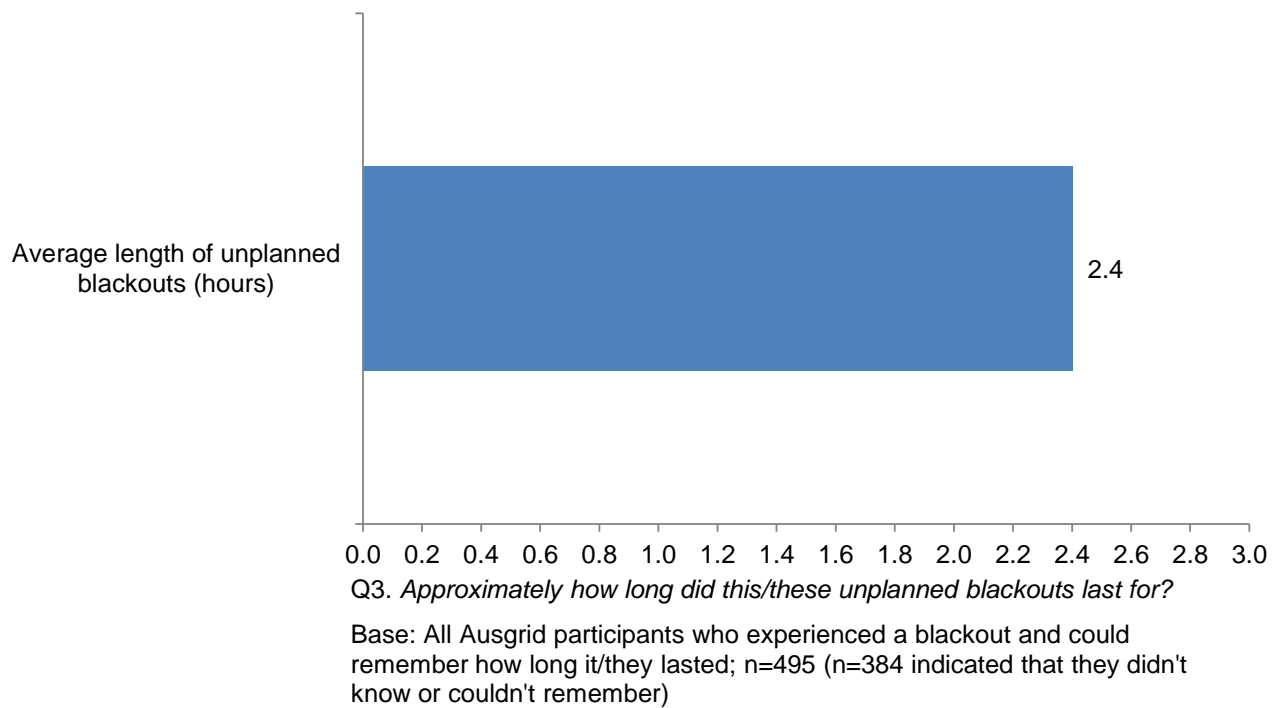
The estimated length of unplanned blackouts did not differ significantly according to the characteristics of participants.

Participants were also asked to estimate the number of planned blackouts that had occurred at their household in the preceding year. On average, participants estimated that 0.3 blackouts had occurred over the last twelve months.

Figure 11: Estimated number of planned blackouts

Q4. *About how many **planned** blackouts have you experienced at your household in the past twelve months?*

Base: All Ausgrid participants who provided a response; n=842 (n=116 indicated that they didn't know or couldn't remember)
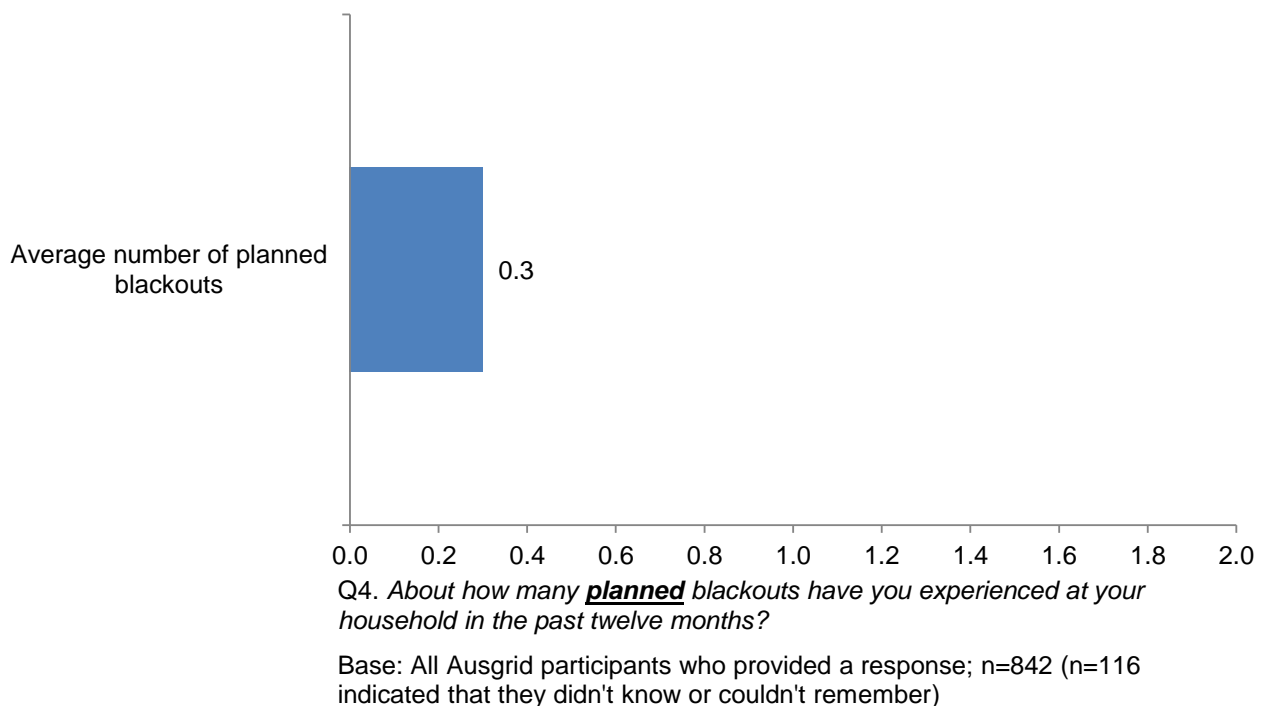
The estimated number of planned blackouts differed significantly according to the characteristics of participants. Specifically:

- Those who lived in the South Region averaged a significantly lower estimate (0.1) than those who lived in the North Region (0.5).

- Those who owned their property (average = 0.4) estimated significantly more blackouts than those who did not own their property (average = 0.2).

When participants who estimated that they had experienced one or more planned blackouts in the last year were asked to estimate their average length, on average, they estimated that the planned blackouts lasted 3.6 hours (216 minutes) as illustrated in Figure 12.

Figure 12: Estimated length of planned blackouts (hours)
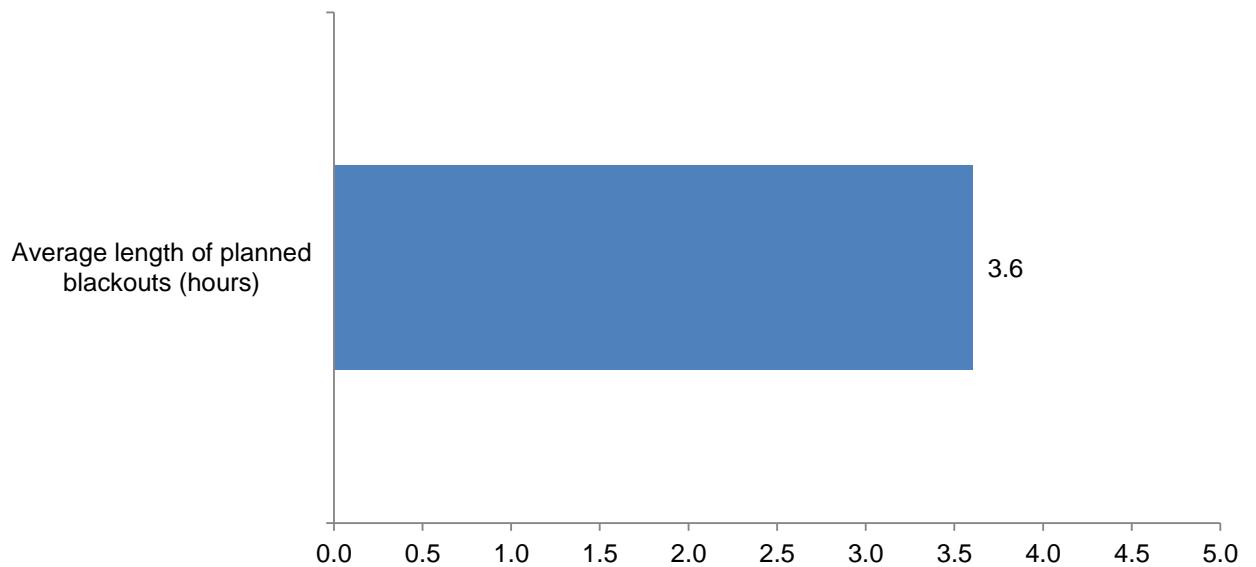
Q5. *Approximately how long did this/these planned blackout(s) last for?*

Base: All Ausgrid participants who experienced a blackout and could remember how long it/they lasted; n=160 (n=682 indicated that they didn't know or couldn't remember)

The estimated length of planned blackouts differed significantly according to the characteristics of participants. Specifically:

- Those who lived in the North Region (average = 4.1 hours or 246 minutes) estimated a significantly longer average length than those living in the South Region (average = 2.1 hours or 126 minutes).

- Those who rented their property (average = 2.4 hours or 144 minutes) estimated a significantly shorter average length than those who did not rent their property (average = 3.9 hours or 234 minutes).

4.2   Willingness to pay for network services

As mentioned earlier, participants were presented with eight different paired scenarios in which the modalities (or levels) of each service attribute were systematically varied. They were then asked to choose the option they preferred. Preferences were analysed using a mixed logit model and the coefficients in Figure 13 were generated.

Only primary effects were considered. The coefficients for each service attribute in Figure 13 are relative to the 'status quo', for which the coefficients were set to 0.0, that is:

- **Quarterly network charge**: $202 network charge;

- **Unplanned blackouts**: 4 blackouts in 5 years, each lasting 1 hour and 16 minutes;

- **Vegetation management**: Prune trees in all areas about once a year; each year trees touching powerlines cause blackouts to one in seven customers;

- **Pole maintenance**: detailed inspection once every five years; about seven poles fail each year;

- **Service restoration times**: Crews restore power to most areas within 2 to 3 hours; and

- **Street light repairs**: Councils are charged about $180 per street light for installation and maintenance; 80% of street light faults are repaired in an average of 7 days.

In Figure 13, positive coefficients represent increased likelihood of selection of scenarios with that attribute, while negative coefficients represent decreased likelihood selection of scenarios with that attribute. Further, they key to interpretation of this figure is in the size of the coefficients. To that end, it is clear that whilst cost has the largest effect on likelihood to choose a scenario, service restoration times and the number and pole maintenance were also strong influencers of whether a particular scenario was chosen or not.

Figure 13: Trade-off model coefficients
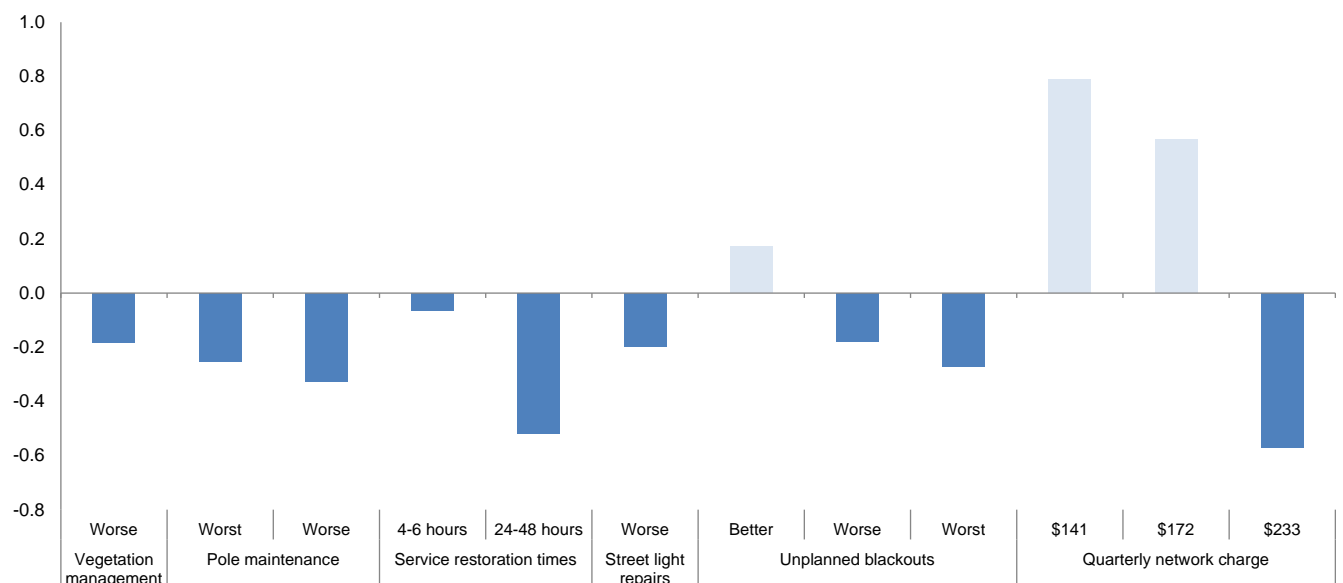
Base: All Ausgrid participants; n=988
Q23. In the next section you will be asked about different options for the supply of electricity to your household. There will be 8 screens. On each screen, you will be presented with two options including services provided by Ausgrid and the quarterly network charge. Each option will differ in terms of the following characteristics...

For cost, it is evident that **cheaper prices had the strongest effect on the likelihood of scenarios being selected by participants**. Lower costs ($172 and $141 per quarter) resulted in increased likelihood of selection. Conversely, if the quarterly price was increased to $233, participants were far less likely to select the scenario.

Service restoration times had the second largest impact on the likelihood of the selection of scenarios. However, this strong negative selection effect only occurred when the restoration time was extended to 24-48 hours; when it was extended to 4-6 hours, there was a small negative effect.

Interestingly, pole maintenance seemed to have a marginally larger size of effect on attractiveness of scenarios than did the number and length of unplanned blackouts. With decreases in pole maintenance characteristics (detailed inspections every six years with 20 poles failing each year; and detailed inspections every eight years, with 46 poles failing each year), participants became less likely to select the scenario. It should be noted that there was little difference between the two worst pole maintenance options (they were not significantly different from each other and therefore should be considered equivalent).

In terms of unplanned blackouts, improvement in service (to 3.5 blackouts in five years, each lasting 65 minutes) led to an increased likelihood of selection, while decreases in service (to 5.5 blackouts, each lasting 1 hour and 40 minutes; and 6 blackouts, each lasting almost two hours) led to a reduction in participants' propensity to selection the scenarios.

Vegetation management and streetlight repairs had similar effects and were the factors that had the smallest impact on the likelihood of the selection of scenarios.

4.2.1 Acceptability of scenarios

As previously mentioned, participants were presented with three of the scenarios in Figure 14 (of nine total) and were asked to rate the acceptability or unacceptability of each. The acceptability results are illustrated below in Figure 15, Figure 16 and Figure 17.

Figure 14: Full list of acceptability rating scenario

Scenario	Quarterly network charge	Unplanned blackouts	Service restoration times	Pole maintenance	Vegetation management	Street light repairs
1	Status quo	Status quo	Status quo	Worse	Status quo	Status quo
2	Higher	Better	Status quo	Better	Status quo	Status quo
3	Higher	Status quo	Worse	Status quo	Status quo	Worse
4	Lower	Worse	Status quo	Worse	Worse	Status quo
5	Lowest	Worst	Worse	Worse	Worst	Worse
6	Lower	Worst	Status quo	Worse	Worst	Status quo
7	Status quo	Worse	Status quo	Better	Status quo	Status quo
8	Lower	Better	Worse	Worse	Worse	Worse
9	Lowest	Status quo	Status quo	Better	Status quo	Status quo

Overall, scenarios nine (81% acceptable) and four (71% acceptable) had the highest acceptability ratings (scenario nine also had the lowest unacceptability rating; 8%). This result indicates the significant influence that price and service restoration times have on ratings of acceptability and unacceptability:

- In scenario nine, the price point ($141) was lowest and service restoration times (the other key driver of attractiveness of statements) were unchanged;

- In scenario four, the price point ($172) was the second lowest, and service restoration times (the other key driver of attractiveness of statements) were unchanged.

Conversely, scenarios three (37% unacceptable) and five (40% unacceptable) had the highest unacceptability ratings.

The prominence of statement five in the unacceptability ratings emphasises that while price is a major driver of participant satisfaction, participants nevertheless appear unwilling to completely sacrifice quality of service for a lower quarterly network fee.

Figure 15: Acceptability results
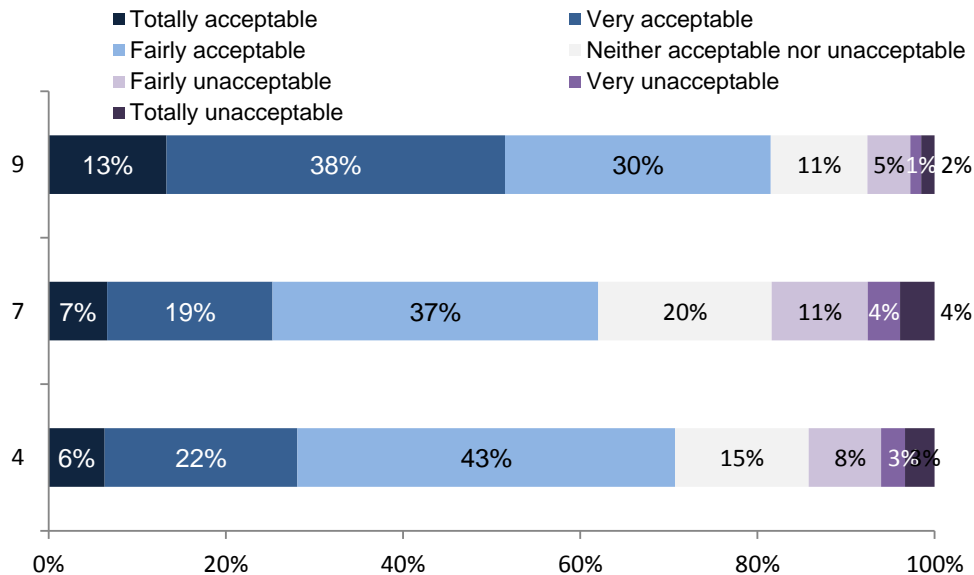
Q7. *Please indicate how acceptable the following service offering and quarterly network charge for the supply of electricity would be to you*

Base: All Ausgrid participants; n=988.

Figure 16: Acceptability results (continued)
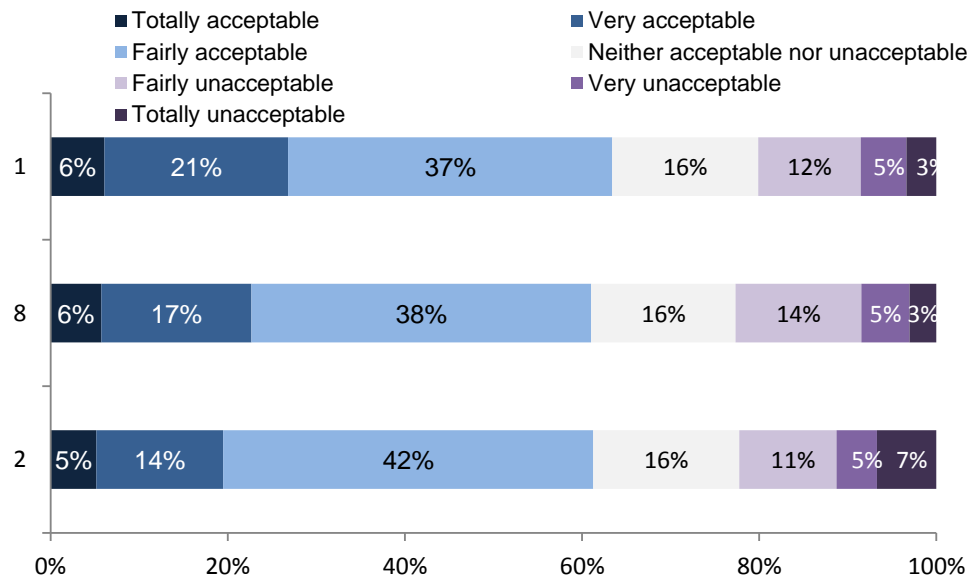
Q7. *Please indicate how acceptable the following service offering and quarterly network charge for the supply of electricity would be to you*

Base: All Ausgrid participants; n=988.

Figure 17: Acceptability results (continued)
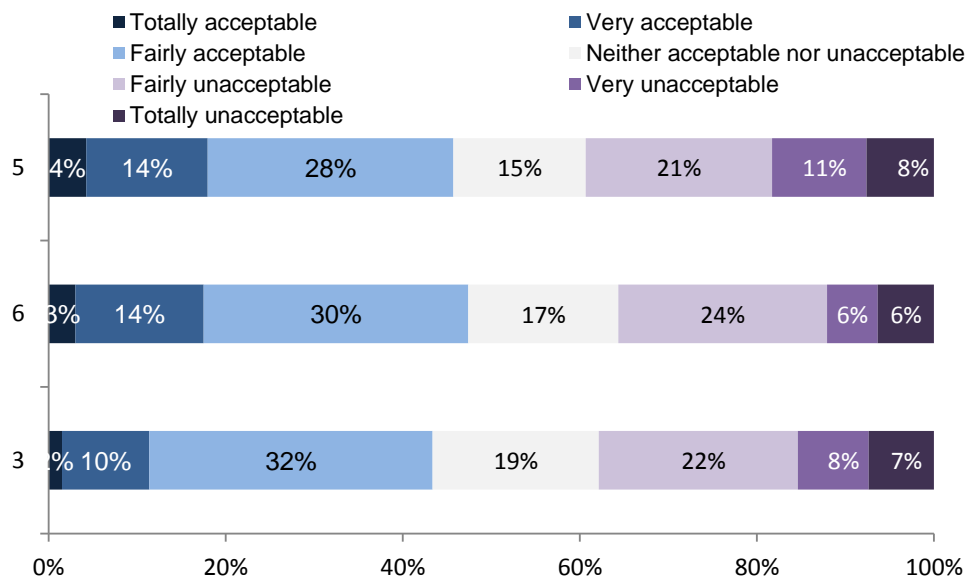
Legend:
- ■ Totally acceptable
- ■ Very acceptable
- ■ Fairly acceptable
- ■ Neither acceptable nor unacceptable
- ■ Fairly unacceptable
- ■ Very unacceptable
- ■ Totally unacceptable

Scenario	Totally/Very acceptable	Fairly acceptable	Neither	Fairly unacceptable	Very unacceptable	Totally unacceptable
5	4% / 14%	28%	15%	21%	11%	8%
6	3% / 14%	30%	17%	24%	6%	6%
3	2% / 10%	32%	19%	22%	8%	7%

Q7. *Please indicate how acceptable the following service offering and quarterly network charge for the supply of electricity would be to you*

Base: All Ausgrid participants; n=988.

Given that scenarios five and two fulfil, in essence, one of the objectives of this study (to determine how unacceptable customers find service options that are more/less expensive with increased/decreased services), significance testing was run to determine if certain subgroups were more likely to find these options unacceptable.

Perceived unacceptability of scenario five (lower quarterly network charges with decreased service attributes) differed according to the household composition of participants. Specifically:

- Participants with three or more people in their household (31%) were significantly less likely to have considered this scenario unacceptable than others (47%); and

- Those living with one or more children (27%) were significantly less likely to have deemed this scenario unacceptable than those without children (45%).

On the other hand, perceived unacceptability of scenario two (highest network charge for increased services) did not differ according to the household composition of participants.

5.   Conclusions

5.1   Network service experience

More than eight in ten participants (83%) were satisfied with the supply of electricity to their household from Ausgrid. Levels of satisfaction were significantly lower among participants who had struggled to pay their electricity bill in the preceding three months and those with three or more people living in their household (71% and 79%, respectively).

Participants were also asked to estimate the number of planned and unplanned blackouts in the last year, as well as their average duration. The average number of unplanned blackouts estimated by customers was 1.2 in the preceding twelve months; the estimates of consumers living in the South Region (average = 0.8) and those who rented their property (average = 0.8) were significantly lower than other participants'. Further, the average duration of unplanned blackouts was estimated at 144 minutes.

Ausgrid consumers reported fewer planned blackouts; the average number estimated by customers in the preceding twelve months was 0.3. As for unplanned blackouts, those who lived in the South Region (average – 0.1) and those who rented appeared to have experienced lower numbers in the previous year (average = 0.8). The average estimated length of planned blackouts was 216 minutes, more than one hour longer than the unplanned blackouts.

In conclusion, participants appeared to be predominantly satisfied with the current Ausgrid service offering. This result was consistent across both service regions.

5.2   Willingness to pay for network services

The choice experiment used to investigate customers' willingness to pay for network services revealed that price is a key driver of participants' selection of potential service offerings. However, the model and analysis also clearly revealed that changes in service offerings - particularly in terms of the time associated with service restoration – matter a great deal to Ausgrid customers. Specifically, increases in the time taken to restore power to houses had significant negative effects on the consideration of potential service offerings: participants were much less likely to select scenarios in which the restoration of electricity was longer than the status quo. Decreases in pole maintenance also had a negative impact on consumers' consideration of service offerings. Any reduction in the frequency of detailed inspections (and therefore increases in the number of poles falling each year) led to a lower likelihood of selection of potential service offerings by consumers.

5.2.1   Acceptability of scenarios

Following the choice experiment, participants were asked to rate three scenarios (randomly allocated from a set of nine) in terms of their acceptability. The ratings provided by customers served to reinforce the results of the choice experiment: while price was a key factor in the unacceptability ratings of customers (with scenarios with network fees higher than the status quo often being related highly in terms of unacceptability), reduction in service offerings (particularly increases in service restoration times) also had a significant effect on ratings.

This finding was demonstrated by customers rating of statement five, which proposed the lowest quarterly price ($141), but a reduction in all of the other service attributes. This was deemed to be the most unacceptable statement of all presented, indicating that customers are unwilling to sacrifice service offerings (particularly in terms of number and duration of unplanned blackouts and service restoration times) for a large reduction in quarterly network charge.

6. Appendices

6.1 Utility values

Characteristics	Quarterly network charge	Unplanned blackouts
Vegetation management	Worse	-0.183***
Pole maintenance	Worst	-0.255***
	Worse	-0.325***
Service restoration time	4-6 hours	-0.064
	24-48 hours	-0.518***
Street light repairs	Worse	-0.198***
Unplanned blackouts	Better	0.173
	Worse	-0.180
	Worst	-0.270***
Quarterly network charge	$141	0.789***
	$172	0.566
	$233	-0.570
Model information	**Log-likelihood**	**-4,445.237**
	BIC	**9,007.150**
	n	**988**

*** *Denotes significance at the 99% level*

6.2 Sample profile

Figure 18 illustrates participants' involvement in decisions relating to their electricity account. Seven in ten (69%) participants were completely responsible for decisions relating to their electricity account, while three in ten (31%) were jointly responsible for these decisions.

Figure 18: Participants' involvement in decisions relating to their electricity account
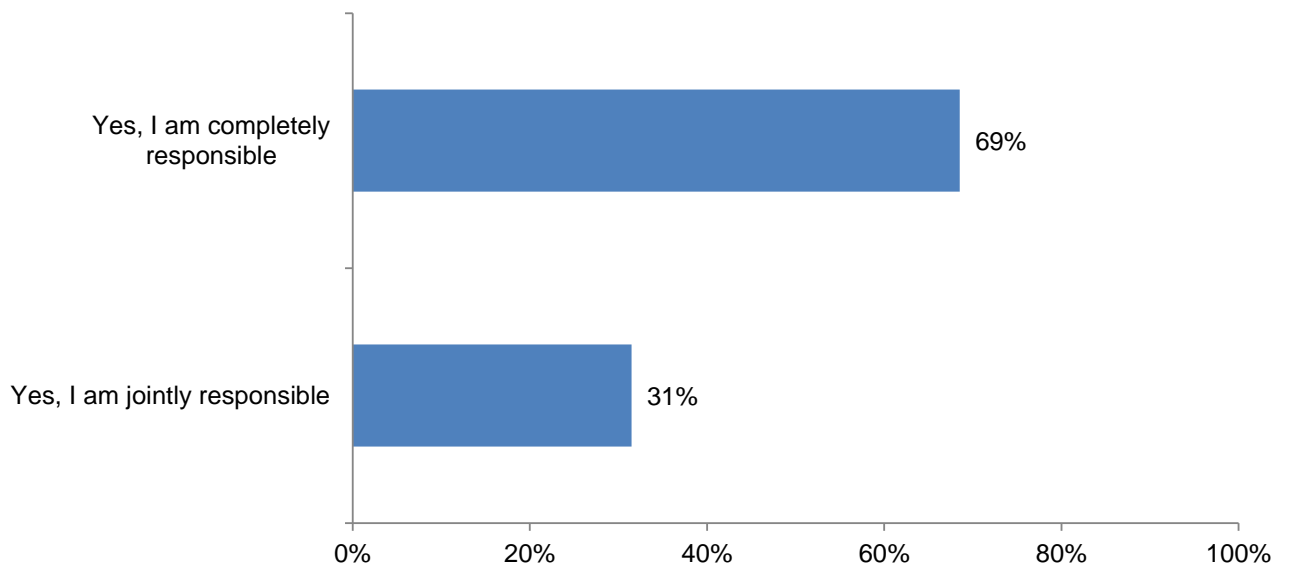
SQ1. *Do you deal with your household's electricity bill or have any involvement in decisions relating to your electricity account?*

Base: All Ausgrid participants; n=988.

Participants were asked about whether they had struggled to pay or been late paying their electricity bill in the preceding three months. This was used to classify participants as vulnerable (those who indicated 'yes' were classified as vulnerable). As Figure 19 depicts, less than a quarter (23%) of participants were vulnerable, three quarters (75%) were not vulnerable and one in fifty (2%) indicated that they preferred not to say.

Figure 19: Participants' vulnerability
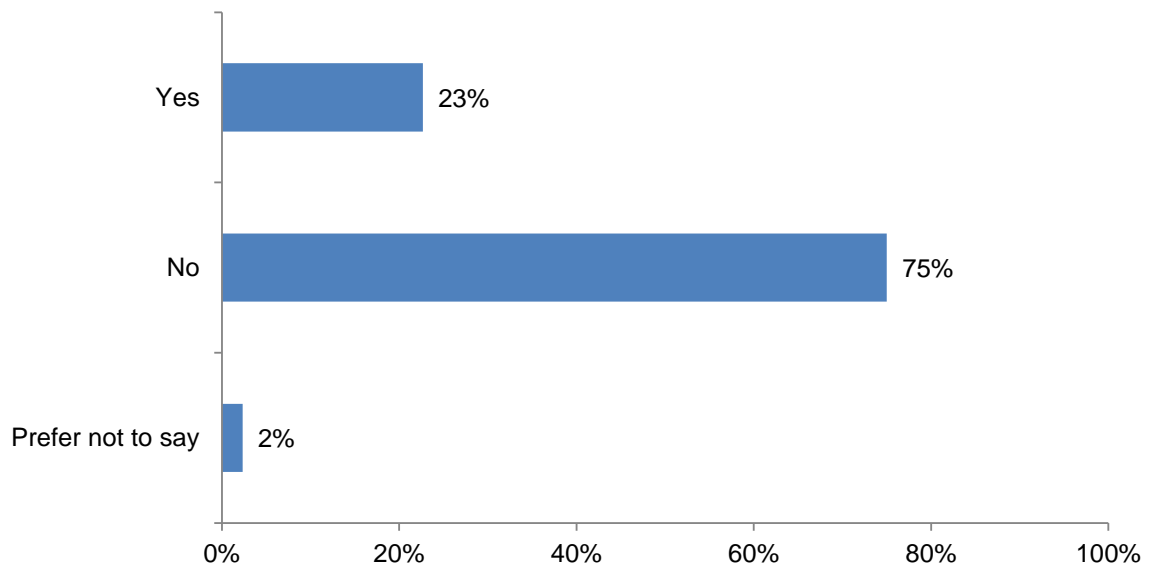
Q8. *In the last three months have you struggled to pay your electricity bill or been late paying it?*

Base: All Ausgrid participants; n=988.

Vulnerability of participants differed significantly according to their characteristics. Specifically:

- Participants in the North Region (26%) were significantly more likely to have been vulnerable than those in the South Region (20%).

- Younger participants (those aged 18-34 years; 33%) were significantly more likely to have been vulnerable than those aged 35-64 years (22%) and those aged 65 or more years (16%).

- Females (26%) were significantly more likely to have been vulnerable than males (19%).

- Those with three or more people living in their household (27%) were significantly more likely to have been vulnerable than those with one (18%) or two (19%) people living in their household.

- Participants with one or more children (30%) were significantly more likely to have been vulnerable than those without children (20%).

- Those with home duties (38%) were significantly more likely to have been vulnerable than those without (23%).

In terms of household structure, almost half (45%) of participants had three or more people living in their household, four in ten (39%) had two people and almost one in five (17%) lived by themselves, as illustrated in Figure 20.

Figure 20: Number of people living in participants' households
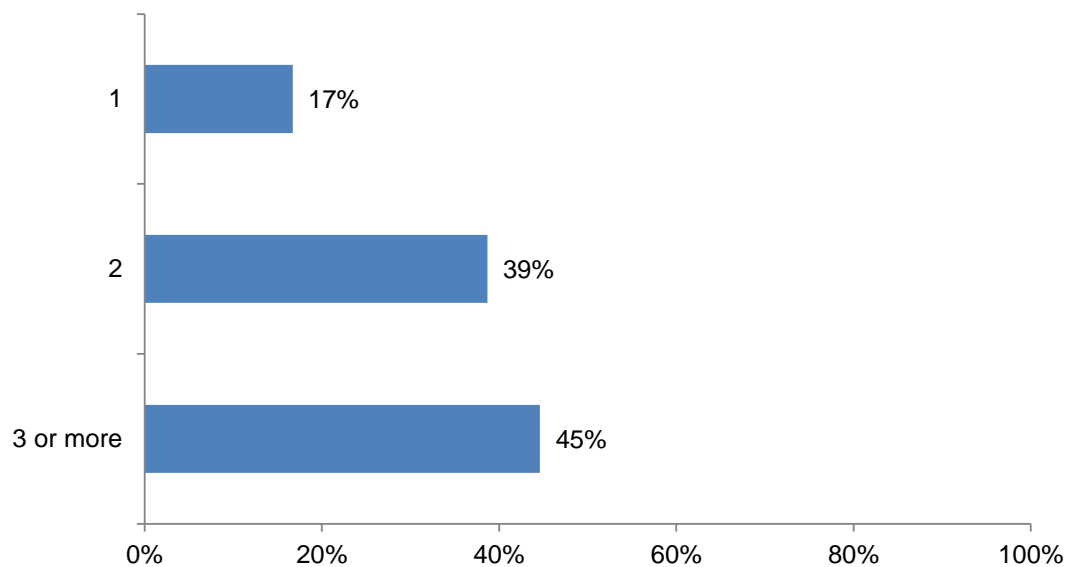
Q9. *How many people are there living in your household, including yourself?*

Base: All Ausgrid participants; n=988.

Amongst households with two or more people, more than six in ten (63%) did not have children living with them, while four in ten (37%) had one or more children living with them (Figure 21).

Figure 21: Number of children in participants' households
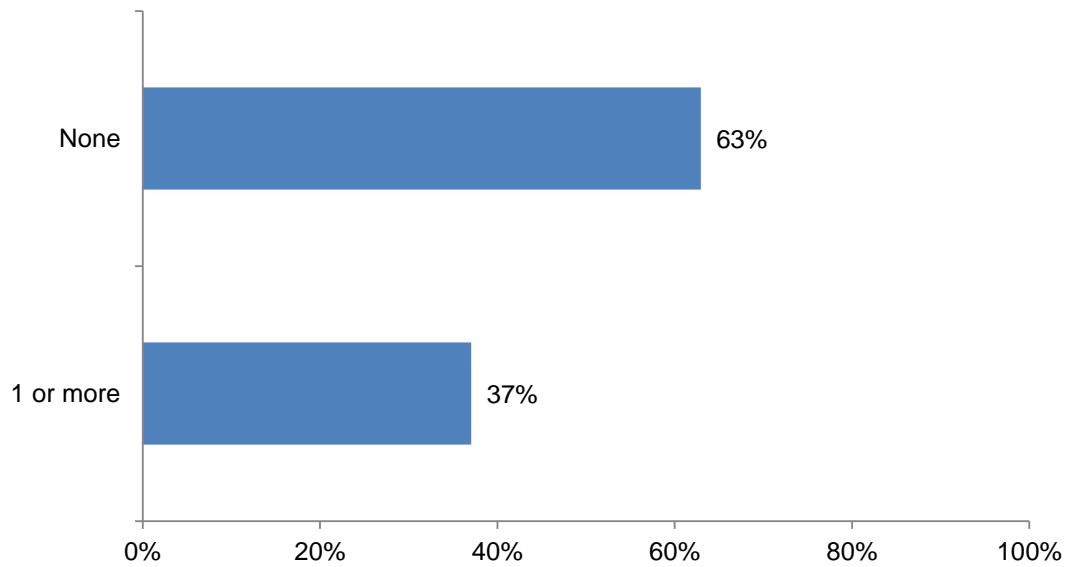
Q10. *How many of these people are children aged 18 or less years?*

Base: Ausgrid participants who had more than one person in their house; n=818.

Participants were asked which life stage they best fitted into. As illustrated in Figure 22, one quarter (23%) participants were older couples or single parents with no children left at home; while approximately one in seven were a couple or single parents with mostly school aged children (15%), single living alone (14%), couple or single parents with mostly older children (aged 18 or over; 13%) or were couples with no children (13%).

Figure 22: Participants' lifestage

Older couple or single parent with no children left at home — 23%
Couple or single parent with mostly school aged children — 15%
Single living alone — 14%
Couple or single parent with mostly older children (aged 18 or over) — 13%
Couple no children — 13%
Couple or single parent with mostly pre-school children (aged 6 or under) — 11%
Single living with other people — 6%
Other — 4%
Prefer not to say — 1%
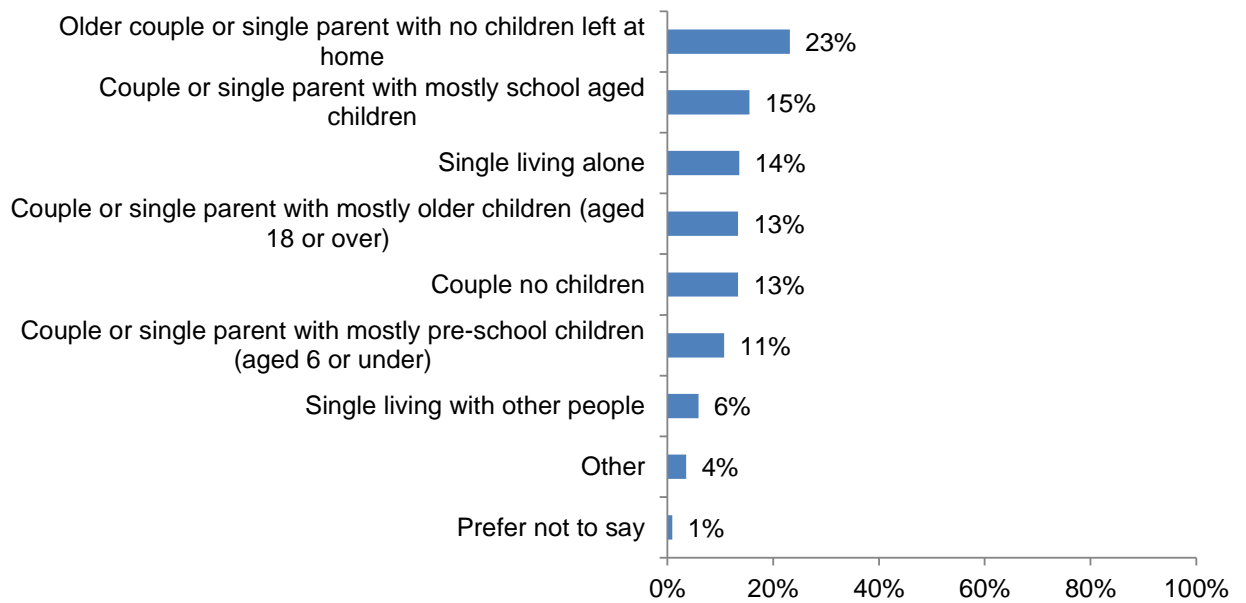
Q11. *Which of the following best describes your lifestage?*

Base: All Ausgrid participants; n=988.

As shown in Figure 23, the majority of participants owned their home, either outright (39%) or with a mortgage (30%). Approximately three in ten (27%) rented their property.

Figure 23: Participants' tenure status

Owned outright — 39%
Owned with a mortgage — 30%
Being rented — 27%
Other — 3%
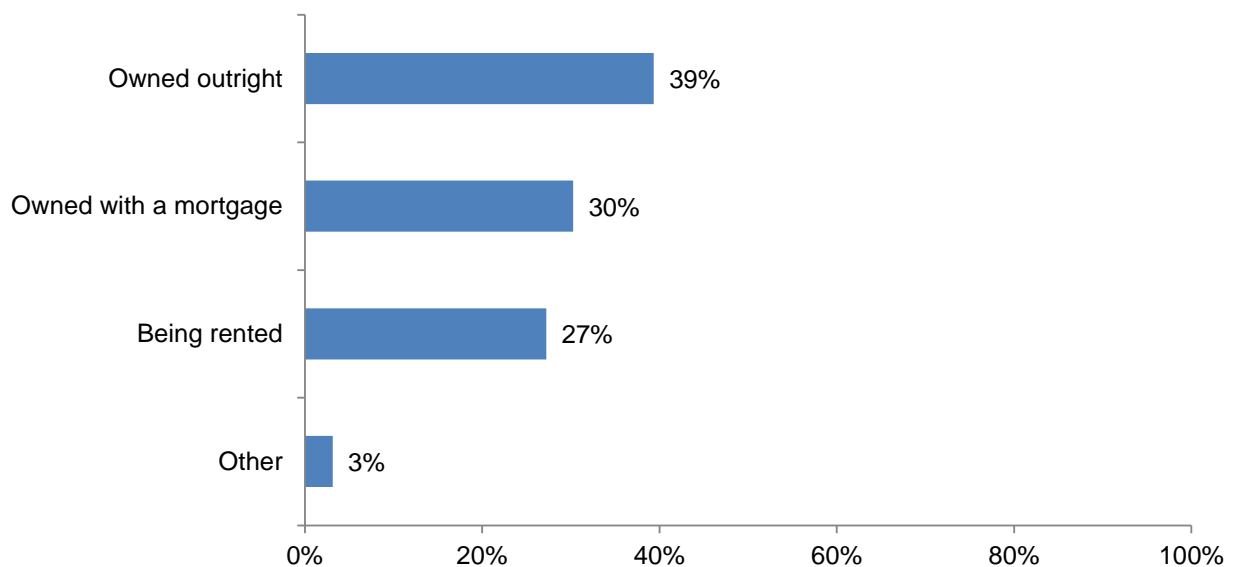
Q12. *Is your home...?*

Base: All Ausgrid participants; n=988.

Participants were asked to indicate their employment status, as depicted in Figure 24. Slightly fewer participants were retired (29%) than employed full time (32%). Around one in five was employed part

time (18%), while one in ten had home duties (10%). Less than one in twenty (4%) participants were unemployed.

Figure 24: Participants' employment status

Employed full time	32%
Retired or Pensioner	29%
Employed part time	18%
Home duties	10%
Unemployed	4%
TAFE or university student	3%
School or secondary student	0%
Other	2%
Prefer not to say	1%
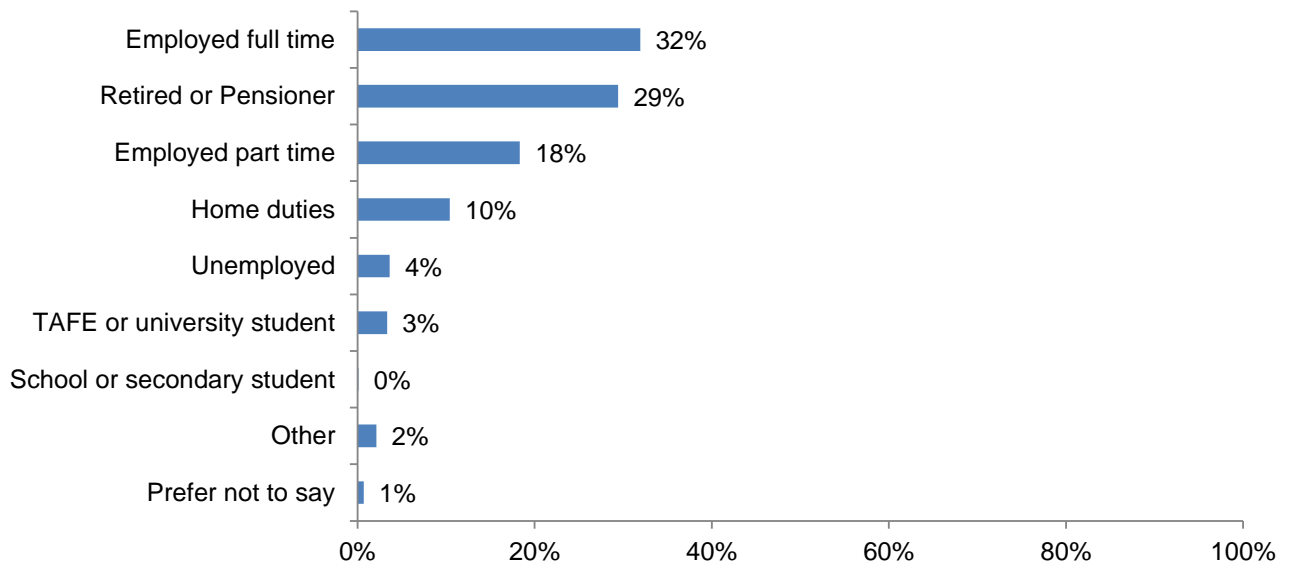
Q13. *Which of the following **best** describes you?*

Base: All Ausgrid participants; n=988.

As shown in Figure 25, a quarter (25%) of participants had completed a TAFE certificate, while one in five (20%) had a Bachelor Degree. One in eight had a postgraduate degree (13%), while a similar proportion (12%) completed Year 10 or under, and slightly fewer (10%) completed Year 12.

Figure 25: Participants' level of educational attainment

Postgraduate degree (honours, Masters, PhD)	13%
Graduate diploma or graduate certificate	7%
Bachelor Degree (undergraduate)	20%
Advanced diploma or diploma	11%
Certificate (TAFE)	25%
Year 12	10%
Year 11	2%
Year 10 or under	12%
I'd prefer not to say	1%
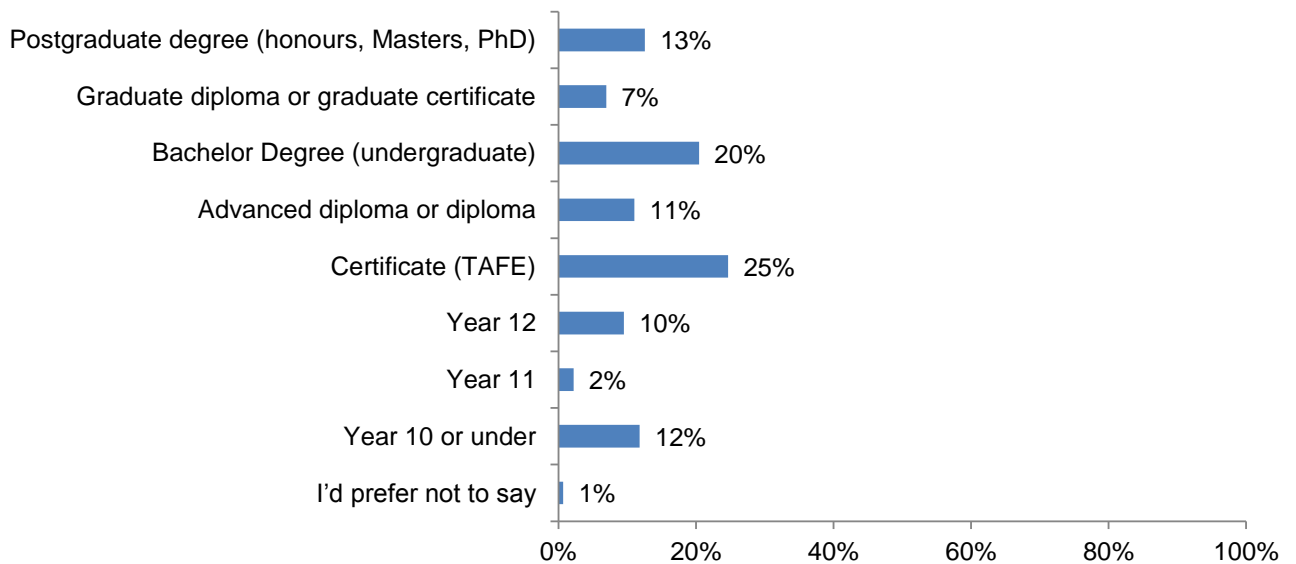
Q14. *What is the highest level of education you have completed?*

Base: All Ausgrid participants; n=988.

In relation to annual household income before tax, more than two in ten (21%) had an annual household income of $40,000 or less, while almost three in ten (29%) had a household income

between $40,001 and $80,000. Almost four in ten participants (37%) had a household income higher than $80,001 (Figure 26).

Figure 26: Participants' annual household income

Q15. *What is your approximate household income before tax?*
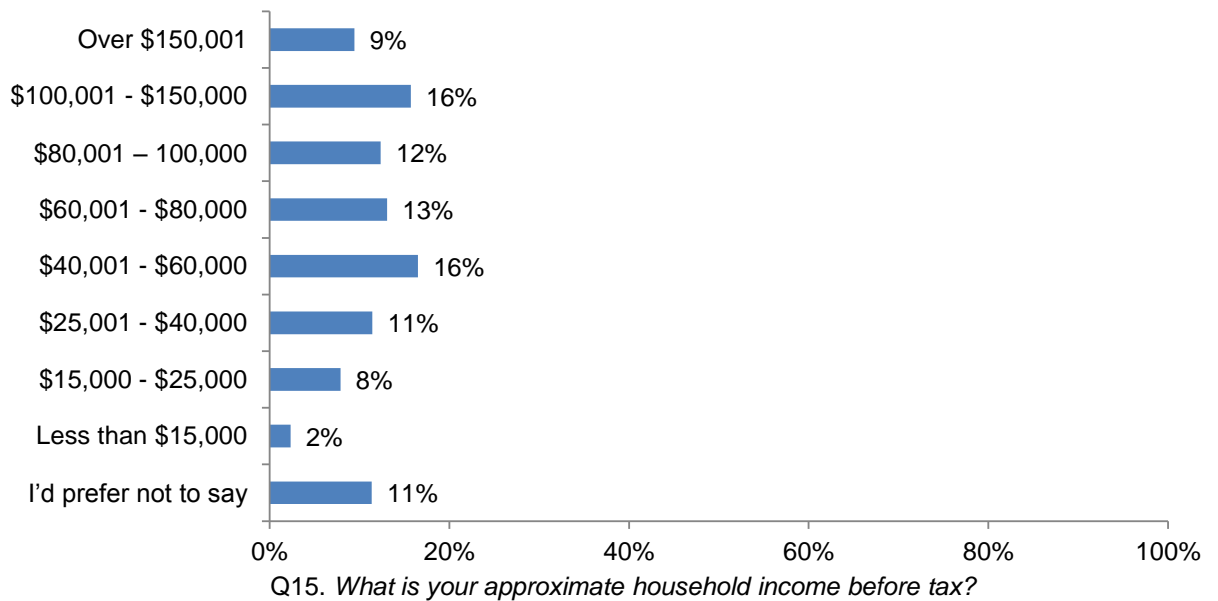
Base: All Ausgrid participants; n=988.

Participants were asked whether they or their parents mainly speak a language other than English. On this basis, more than one in five (21%) were from a culturally and linguistically diverse background, while fewer than eight in ten (78%) only spoke English.

Figure 27: Participants culturally and linguistically diverse (CALD) status

Q16. *Do you or your parents mainly speak a language other than English?*
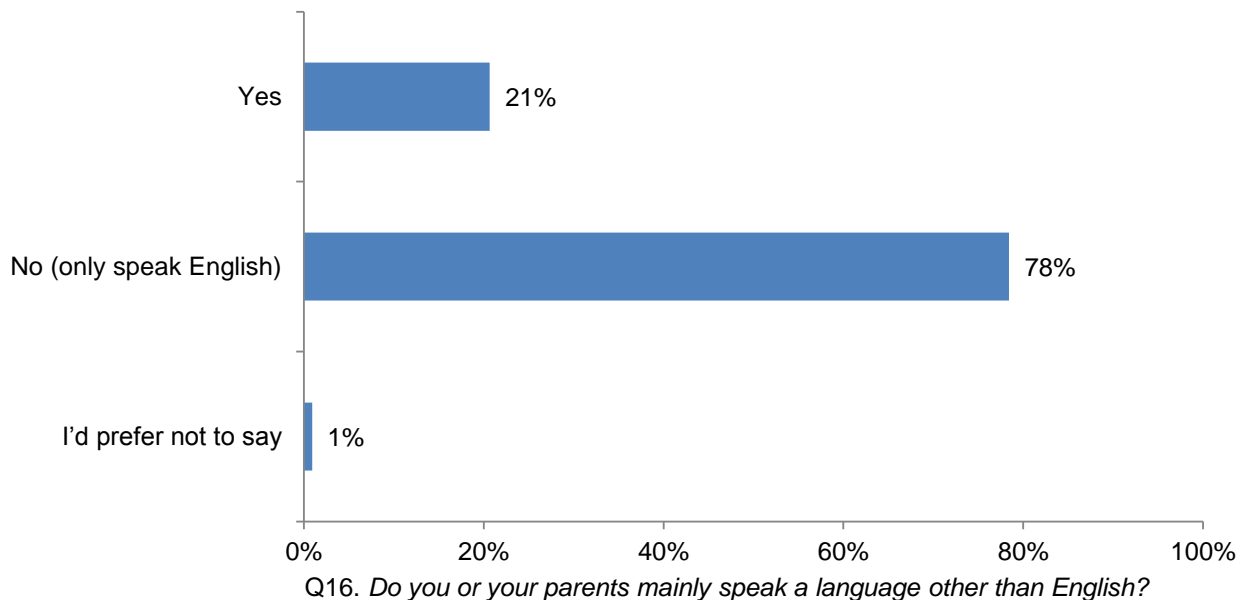
Base: All Ausgrid participants; n=988.

6.3   Questionnaire

Energy Choice Modelling Survey

Job book Number	14-085009
Job Name	Choice Modelling/Willingness to Pay Study
Client	Essential Energy, Endeavour Energy, Ausgrid
Date	3/12/14
Version Number	2
Authors	Robert McPhedran

Survey topic:

Your views on supply of electricity

Quotas

Essential Energy area n=1000

Postcodes sent to Tak

Region		
	% in population	**Quota**
Far West	3%	25
North Coast	36%	358
Northern	20%	198
South Eastern	15%	152
Southern	27%	267
Total	**100%**	**1000**

Age (across all post codes)		
	% in population	**Quota**
18-34	24%	238
35-64	54%	538

Ausgrid area n=1000

Postcodes sent to Tak

Region		
	% in population	**Quota**
South	55%	555
North	45%	445
Total	**100%**	**1000**

Age (across all post codes)		
	% in population	**Quota**
18-34	32%	316
35-64	50%	502
65+	18%	182
Total	**100%**	**1000**

Endeavour Energy n=1000

Postcodes sent to Tak

Region		
	% in population	**Quota**
Central	39%	390
Northern	43%	429
Southern	18%	181
Total	**100%**	**1000**

Age (across all post codes)		
	% in population	**Quota**
18-34	30%	295
35-64	52%	521
65+	18%	184
Total	**100%**	**1000**

65+	22%	224		
Total	**100%**	**1000**		
Gender: Males 50%, Females 50%			**Gender: Males 50%, Females 50%**	**Gender: Males 50%, Females 50%**

Key:

Name and Label	# _____ #	i.e. #SQ3i. Age#
Question type	{ _____ }	I.E. {SINGLE} {MULTIPLE} {INTEGER (RANGE 16-64)} {DECIMAL (RANGE 16.5 - 63.5)} {TEXT (RANGE 10-20)}
Question Filter/Routing	< _____ >	I.E. < ASK IF Q1 = 1>
Programming instructions	[_____]	I.E. [RANDOMISE STATEMENTS]
Changes	HIGHLIGHT	

SECTION A: SCREENER QUESTIONS

HQ1 If…

SEE ACCOMPANYING SPREADSHEET.	1 - ALLOCATE TO ESSENTIAL ENERGY
SEE ACCOMPANYING SPREADSHEET.	2 - ALLOCATE TO ENDEAVOUR ENERGY
SEE ACCOMPANYING SPREADSHEET.	3 - ALLOCATE TO AUSGRID

SQ1 Do you deal with your household's electricity bill or have any involvement in decisions relating to your electricity account?
{SINGLE RESPONSE}
#HQ1   HQ1 Bills#

Yes, I am completely responsible	01 – CONTINUE
Yes, I am jointly responsible	02 – CONTINUE
No, I am not responsible	03 - TERMINATE

[IF TERMINATE: GO TO TERMINATION SCRIPT]

---[NEW SCREEN] ---

SQ2 Are you…?
{SINGLE RESPONSE}
#SQ2   SQ2 Gender#

[RECRUIT TO QUOTA]

Male	01
Female	02

---[NEW SCREEN] ---

SQ3 Can you please tell me your approximate age?
{SINGLE RESPONSE}
#SQ3   SQ3 Age#

[RECRUIT TO QUOTA]

17 years or under	01 - TERMINATE
18-34 years	02 - CONTINUE
35-64 years	03 – CONTINUE

65+ years	04 - CONTINUE

---[NEW SCREEN] ---

SQ4 And what is the postcode where you live?

[RECRUIT TO QUOTA] [IF OUT-OF-RANGE, TERMINATE]

---[NEW SCREEN] ---

Termination script:

Thank you for agreeing to take part in the survey. Unfortunately you are not one of the people we are looking for in this survey.

Experience with energy provider

This survey is about your **electricity network provider**. The network is made up of the substations, poles and wires and that carry electricity to your home and businesses as shown below). Your network is called <IF HQ = 1> Essential Energy <IF HQ = 2> Endeavour Energy <IF HQ = 3> Ausgrid.

<SHOW IMAGE IF HQ = 1>

<SHOW IMAGE IF HQ = 2>

<SHOW IMAGE IF HQ = 3>
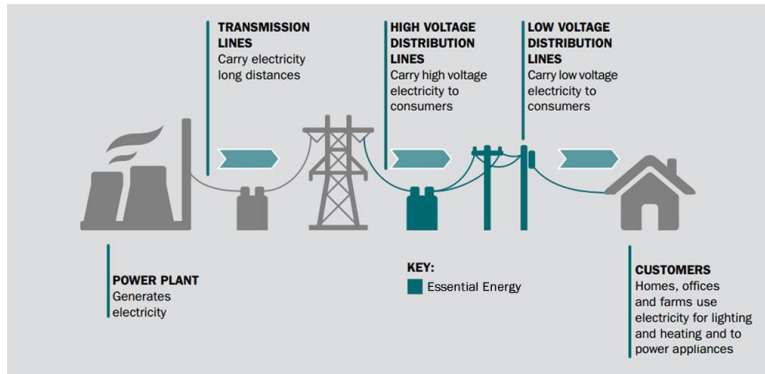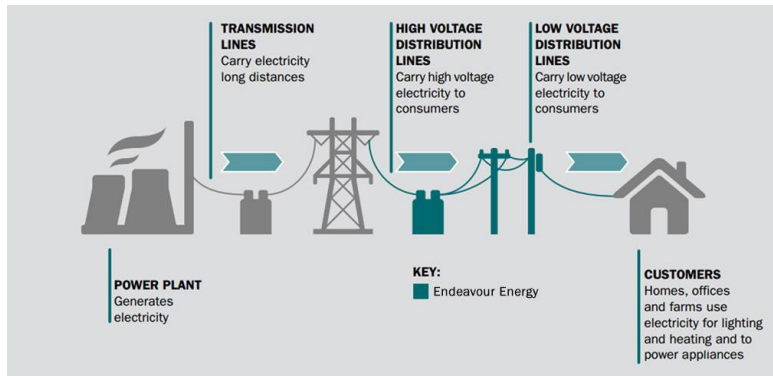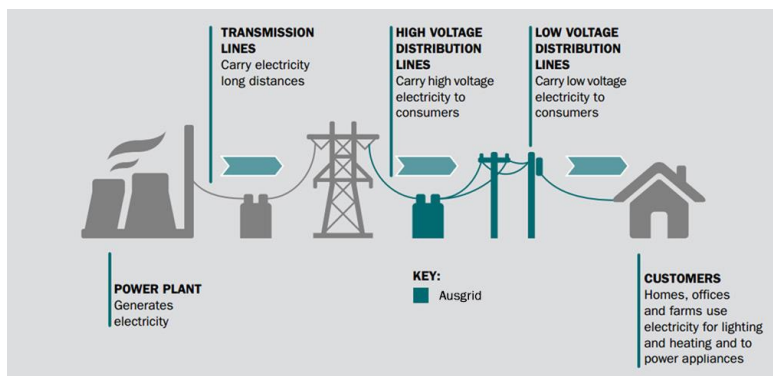
When answering the survey questions, please ensure that you are only thinking about the **network distribution services** provided by <IF HQ = 1> Essential Energy <IF HQ = 2> Endeavour Energy <IF

HQ = 3> Ausgrid shown above. The survey is not about the retailers to sells who sell your electricity to you.

---[NEW SCREEN] --

Thinking about the supply of electricity to your household over the past twelve months…

<ASK ALL>

Q1   Overall, to what extent are you satisfied or dissatisfied with the supply of electricity to your household over the past twelve months?
{SINGLE}
#Q1   Q1 Satisfaction with energy provision#

Very satisfied	1
Fairly satisfied	2
Neither satisfied nor dissatisfied	3
Fairly dissatisfied	4
Very dissatisfied	5
Don't know	9

<ASK ALL>

Q2   About how many **unplanned** blackouts have you experienced at your household in the past twelve months (that is, blackouts that occurred due to accidents and storms)? If you haven't had any **unplanned** blackouts, please write 0.

Please do NOT include times you have experienced dimming, flickering lights, or reduced capacity for appliance use.

{INTEGER}
#Q2   Q2 Unplanned blackouts…#

(Please write in number)

	09
	Don't know/Can't remember

<ASK IF Q2 DOES NOT EQUAL 0 OR Don't know/Can't remember >

Q3   <IF Q2 = 1> Approximately how long did this **unplanned** blackout last for?
           <IF Q2 = 2+> On average, how long did these **unplanned** blackouts last for?
{INTEGER}
#Q3   Q3 Unplanned blackouts length…#

				09
	hours		Minutes	Don't know/Can't remember

<ASK ALL>

Q4   About how many **planned** blackouts have you experienced at your household in the past twelve months (that is, blackouts that occurred due to network maintenance)? If you haven't had any **planned** blackouts, please write 0.

Please do NOT include times you have experienced dimming, flickering lights, or reduced capacity for appliance use.

{INTEGER}
#Q4   Q4 Planned blackouts…#

(Please write in number)

	09
	Don't know/Can't remember

---**[NEW SCREEN]** --

<ASK IF Q4= DOES NOT EQUAL 0 OR Don't know/Can't remember>

Q5   <IF Q4 = 1> Approximately how long did this **planned** blackout last for?
        <IF Q4 = 2+> On average, how long did these **planned** blackouts last for?
{INTEGER}
#Q5   Q5 Planned blackouts length…#

				09
	hours		Minutes	Don't know/Can't remember

---**[NEW SCREEN]** --

Choice model

It costs hundreds of millions of dollars a year to maintain and operate the <IF HQ = 1> Essential Energy <IF HQ = 2> Endeavour Energy <IF HQ = 3> Ausgrid network and this work is funded by you through your electricity bill. The network charge makes up about 40% of your total quarterly bill.

Every five years, electricity networks submit plans to the Australian Energy Regulator (AER). The plans include the funding needed to operate and maintain the network. The AER decides how much networks can charge customers to fund the services. <IF HQ = 1> Essential Energy's <IF HQ = 2> Endeavour Energy's <IF HQ = 3> Ausgrid's main priorities are to keep you safe, keep the power on, and provide their services at an affordable cost.

Q6   In the next section you will be asked about different options for the supply of electricity to your household.
There will be 8 screens. On each screen, you will be presented with two options including services provided by <IF HQ = 1> Essential Energy <IF HQ = 2> Endeavour Energy <IF HQ = 3> Ausgrid and the quarterly network charge. Each option will differ in terms of the following characteristics:

	<IF HQ = 1> (ESSENTIAL ENERGY)		<IF HQ = 2> (ENDEAVOUR ENERGY)		<IF HQ = 3> (AUSGRID)	
1	**Unplanned blackouts**	Investment in the electricity network impacts the likelihood of blackouts. External factors like trees, weather, animals and bushfires can cause blackouts.	**Unplanned blackouts**	Investment in the electricity network impacts the likelihood of blackouts. External factors like trees, weather, animals and bushfires can cause blackouts.	**Unplanned blackouts**	Investment in the electricity network impacts the likelihood of blackouts. External factors like trees, weather, animals and bushfires can cause blackouts.
2	**Service restoration times**	Major storms can cause considerable	**Service restoration times**	Major storms can cause considerable	**Service restoration times**	Major storms can cause considerable

		damage to the electricity network and cut power to hundreds of thousands of homes and businesses in multiple locations.		damage to the electricity network and cut power to hundreds of thousands of homes and businesses in multiple locations.		damage to the electricity network and cut power to hundreds of thousands of homes and businesses in multiple locations.
3	**Street light repairs**	Electricity networks maintain the street lighting system on behalf of councils and other community organisations, responding to up to 15,000 reports of street light faults every year.	**Street light repairs**	Electricity networks maintain the street lighting system on behalf of councils and other community organisations, responding to up to 30,000 reports of street light faults every year.	**Street light repairs**	Electricity networks maintain the street lighting system on behalf of councils and other community organisations, responding to up to 30,000 reports of street light faults every year.
4	**Aerial inspection**	Aerial inspection involves patrolling the entire network from the air to identify defects such as low hanging wires, broken poles and trees that are too close to powerlines. This is important as it minimises the risk	**Pole maintenance**	The network includes about 360,000 wooden poles, so inspections and maintenance help reduce the risk of poles failing and falling down due to rot or termite attacks, which brings down live wires.	**Pole maintenance**	The network includes about 450,000 wooden poles, so inspections and maintenance help reduce the risk of poles failing and falling down due to rot or termite attacks, which brings down live wires.

		of bushfire, and maintains reliability. Aerial inspection provides more information and is quicker than ground inspection.				
5	**Vegetation management**	Electricity networks regularly prune trim trees around powerlines to reduce the risk of trees bringing down live wires or starting a bushfire, and to make sure children climbing trees can't touch powerlines. Pruning Trimming also helps prevent blackouts caused by trees and branches touching powerlines.	**Vegetation management**	Electricity networks regularly prune trim trees around powerlines to reduce the risk of trees bringing down live wires or starting a bushfire, and to make sure children climbing trees can't touch powerlines. Pruning Trimming also helps prevent blackouts caused by trees and branches touching powerlines.	**Vegetation management**	Electricity networks regularly prune trim trees around powerlines to reduce the risk of trees bringing down live wires or starting a bushfire, and to make sure children climbing trees can't touch powerlines. Pruning Trimming also helps prevent blackouts caused by trees and branches touching powerlines.
6	**Quarterly network charge**	The amount you are charged on your quarterly electricity bill for network services.	**Quarterly network charge**	The amount you are charged on your quarterly electricity bill for network services.	**Quarterly network charge**	The amount you are charged on your quarterly electricity bill for network services.

			The network charge is 40% of your total bill.		The network charge is 40% of your total bill.		The network charge is 40% of your total bill.

Please select the option that you would prefer the most, taking into account services provided and the quarterly network charge.

{CHOICE MODEL}

#Q6   Q6 CHOICE SCENARIOS#

--[NEW SCREEN] ---

[SHOW EACH APIR IN THE CHOICE MODEL ON SCREEN IN THE FOLLOWING LAYOUTS]

<IF HQ = 1>

	Attribute	Option 1	Option 2
1	Unplanned blackouts		
2	Service restoration times		
3	Street light repairs		
4	Aerial inspection		
5	Vegetation management		
6	Quarterly network charge		

		1	2

	Attribute	Option 1	Option 2
1	Unplanned blackouts		
2	Service restoration times		
3	Street light repairs		
4	Pole maintenance		
5	Vegetation management		
6	Quarterly network charge		
		1	2

	Attribute	Option 1	Option 2
1	Unplanned blackouts		
2	Service restoration times		

			1	2
3	*Street light repairs*			
4	*Pole maintenance*			
5	*Vegetation management*			
6	*Quarterly network charge*			

[PLEASE ROTATE SO THAT 50% ARE SHOWN ATTIRIBUTES IN THE ORDER ABOVE, AND THE OTHER 50% IN THE FOLLOWING ORDER: 5,4,3,2,1,6. 6 ALWAYS TO BE ANCHORED AT THE BOTTOM]

[PLEASE ENSURE THAT THE ATTRIBUTE DESCRIPTION POPS UP IF THE PARTICIPANT HOVERS OVER THE ATTRIBUTE]

{ CHOICE SET IF HQ = 1}

PRESENT PARTICIPANTS WITH 8 CHOICE SCENARIOS AT RANDOM, ENSURING THAT EACH SCENARIO IS SEEN BY THE SAME NUMBER OF PEOPLE.

PLEASE ENSURE THAT 50% OF EE PARTICIPANTS ARE PRESENTED WITH OPTION 1 FIRST, WHILE THE OTHER 50% OPTION 2 FIRST.

PLEASE SEE SPREADSHEET

{CHOICE SET IF HQ = 2}

PRESENT PARTICIPANTS WITH 8 CHOICE SCENARIOS AT RANDOM, ENSURING THAT EACH SCENARIO IS SEEN BY THE SAME NUMBER OF PEOPLE.

PLEASE ENSURE THAT 50% OF ENDEAVOUR PARTICIPANTS ARE PRESENTED WITH OPTION 1 FIRST, WHILE THE OTHER 50% OPTION 2 FIRST.

PLEASE SEE SPREADSHEET

{CHOICE SET IF HQ = 3}

PRESENT PARTICIPANTS WITH 8 CHOICE SCENARIOS AT RANDOM, ENSURING THAT EACH SCENARIO IS SEEN BY THE SAME NUMBER OF PEOPLE.

PLEASE ENSURE THAT 50% OF AUSGRID PARTICIPANTS ARE PRESENTED WITH OPTION 1 FIRST, WHILE THE OTHER 50% OPTION 2 FIRST.

PLEASE SEE SPREADSHEET

Q7   Please indicate how acceptable the following service offering and quarterly network charge for the supply of electricity would be to you.

{SINGLE}
#Q7   Q7 Acceptablility…#

<IF HQ = 1>

	Attribute	
1	Unplanned blackouts	
2	Service restoration times	
3	Street light repairs	
4	Aerial inspection	
5	Vegetation management	
6	Quarterly network charge	

<IF HQ = 2>

	Attribute	
1	Unplanned blackouts	
2	Service restoration times	
3	Street light repairs	
4	Pole maintenance	
5	Vegetation management	
6	Quarterly network charge	

<IF HQ = 3>

	Attribute	
1	Unplanned blackouts	
2	Service restoration times	
3	Street light repairs	

4	*Pole maintenance*	
5	*Vegetation management*	
6	*Quarterly network charge*	

[INSERT 3 OF 9 SCENARIOS SHOWN BELOW AT RANDOM, ENSURING THAT EACH SCENARIO IS SEEN BY APPROXIMATELY THE SAME NUMBER OF PEOPLE]

Totally acceptable	1
Very acceptable	2
Fairly acceptable	3
Neither acceptable nor unacceptable	4
Fairly unacceptable	5
Very unacceptable	6
Totally unacceptable	7

<IF HQ = 1>

<DO NOT SHOW>	<DO NOT SHOW>	Quarterly network charge	Unplanned blackouts	Vegetation management	Aerial inspection	Service restoration times	Street light repairs
status quo	1	1	1	0	1	0	0
best service	2	0	0	0	0	0	0
2nd best	3	0	1	0	1	1	1
Worse service	4	2	2	1	2	0	0
worst	5	3	3	2	2	1	1
Cust service	6	2	3	2	2	0	0
More bo, good service	7	1	2	0	0	0	0
Less, bo, worse service	8	2	0	1	2	1	1
Good direct service	9	3	2	0	0	0	0

<IF HQ = 2>

<DO NOT SHOW	<DO NOT SHOW>	Quarterly network charge	Unplanned blackouts	Service restoration times	Pole maintenance	Vegetation management	Street light repairs

Ipsos
Social Research Institute
Ipsos

>							
status quo	1	1	1	0	1	0	0
best service	2	0	0	0	0	0	0
2nd best	3	0	1	0	1	1	1
Worse service	4	2	2	1	2	0	0
worst	5	3	3	2	2	1	1
Cust service	6	2	3	2	2	0	0
More bo, good service	7	1	2	0	0	0	0
Less, bo, worse service	8	2	0	1	2	1	1
Good direct service	9	3	2	0	0	0	0

<IF HQ = 3>

<DO NOT SHOW>	<DO NOT SHOW>	Quarterly network charge	Unplanned blackouts	Service restoration times	Pole maintenance	Vegetation management	Street light repairs
status quo	1	1	1	0	1	0	0
best service	2	0	0	0	0	0	0
2nd best	3	0	1	0	1	1	1
Worse service	4	2	2	1	2	0	0
worst	5	3	3	2	2	1	1
Cust service	6	2	3	2	2	0	0
More bo, good service	7	1	2	0	0	0	0
Less, bo, worse service	8	2	0	1	2	1	1
Good direct service	9	3	2	0	0	0	0

DEMOGRAPHICS

Now we have a couple of questions to help us analyse the results.

---**[NEW SCREEN]** ---

<ASK ALL>

Q8   In the last three months have you struggled to pay your electricity bill or been late paying it?
{SINGLE RESPONSE}
#Q8   Q8 Lateness of bills#

Yes – please specify [OTHER SPECIFY]	01 – CONTINUE
No	02 – CONTINUE
Prefer not to say	03 - CONTINUE

---**[NEW SCREEN]** ---

<ASK ALL>

Q9   Firstly, how many people are there living in your household, including yourself? *Please enter number*
{INTEGER – 0-100; 999 FOR PREFER NOT TO SAY}
#Q9   Q9 People in household…#

Don't know	1

---**[NEW SCREEN]** ---

<ASK IF Q8 IS NOT 1>

Q10   How many of these people are children aged 18 or less years? *Please enter number*
{INTEGER – 0-100; 999 FOR PREFER NOT TO SAY}
#Q10   Q10 Children under 18…#

Don't know	1

---**[NEW SCREEN]** ---

Q11   Which of the following best describes your lifestage? Please select one only,
{SINGLE}
#Q11   Q11_Lifestage#

Single living alone	1
Single living with other people	2
Couple no children	3
Couple or single parent with mostly pre-school children (aged 6 or under)	4
Couple or single parent with mostly school aged children	5
Couple or single parent with mostly older children (aged 18 or over)	6
Older couple or single parent with no children left at home	7
Other	8
Prefer not to say	97

--[NEW SCREEN] --

<ASK ALL>

Q12   Is your home ..?
{SINGLE RESPONSE}
#Q12   Q12 Tenure#

Owned outright	1
Owned with a mortgage	2
Being purchased under a rent/buy scheme	3
Being rented	4
Being occupied rent free	5
Being occupied under a life tenure scheme	6
Other	7
Prefer not to say	97

--[NEW SCREEN] --

<ASK ALL>

Q13   Which of the following **best** describes you? *Please select one only*
{SINGLE}
#Q13   Q13 Employment…#

Employed full time	1
Employed part time	2
Retired or Pensioner	3
Home duties	4
School or secondary student	5
TAFE or university student	6
Unemployed	7
Other	8
Prefer not to say	9

--[NEW SCREEN] --

Q14   What is the highest level of education that you have completed? *Please select one only*
{SINGLE RESPONSE}
#Q14   Q14 Education#

Postgraduate degree (honours, Masters, PhD)	1
Graduate diploma or graduate certificate	2
Bachelor Degree (undergraduate)	3
Advanced diploma or diploma	4
Certificate (TAFE)	5
Year 12	6
Year 11	7
Year 10 or under	8
I'd prefer not to say	9

---**[NEW SCREEN]** --

Q15   What is your approximate annual household income before tax? That is, the combined income of all members of your household
{SINGLE RESPONSE}
#Q15   Q15 Income#

Less than $15,000	1
$15,000 - $25,000	2
$25,001 - $40,000	3
$40,001 - $60,000	4
$60,001 - $80,000	5
$80,001 – 100,000	6
$100,001 - $150,000	7
Over $150,001	8
I'd prefer not to say	9

---**[NEW SCREEN]** --

Q16   Do you or your parents mainly speak a language other than English?
{SINGLE RESPONSE}
#Q16   Q16 CALD#

Yes	01
No (only speak English)	02
I'd prefer not to say	99

---**[NEW SCREEN]** --

<ASK IF Q16 = 1>

Q17   What other languages are spoken?
{SINGLE RESPONSE}
#Q17   Q17 Language#

Aboriginal	01
Arabic	02
Assyrian	03
Bosnian	04
Cantonese	05
Creole	06
Croatian	07
Dinka	08
Dutch	09
Farsi	10
German	11
Greek	12
Hindi	13
Hungarian	14
Indonesian	15
Italian	16
Japanese	17
Korean	18
Khmer	19
Lao	20
Macedonian	21
Mandarin	22
Maltese	23
Persian	24
Polish	25
Portuguese	26
Russian	27
Serbian	28
Spanish	29
Sudanese	30
Tagalog	31
Thai	32
Torres Strait Islander	33
Turkish	34
Vietnamese	35
Other	36

---**[NEW SCREEN]** ---

Ipsos and Essential Energy/ Endeavour Energy/Ausgrid greatly appreciate your time with this important survey.

[**IF CLIENT LIST SURVEY:** REDIRECT TO WWW.ANYPAGE.COM.AU]