

# Customer Engagement Research

Report  
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# Executive Summary

## Research design

The design of this customer engagement exercise was informed through consultation with internal stakeholders (managers of each Asset Management Plan). This consultation identified the areas which customers can influence (e.g. access to information, and affordability) and those which customers cannot influence but which Essential Energy can produce explanations to customers about (e.g. technologies, and refurbishment programs).

Voluntary representatives from Essential Energy's Customer Council and Rural Advisory Group were involved in the development and review of the research and reported back to the Customer Council and Rural Advisory Group.

The qualitative phase of the research involved eight group discussions with the four key customer segments in locations representing the different parts of Essential Energy's customer base.

The quantitative phase comprised a survey conducted online with 1,013 of Essential Energy customers, providing a confidence interval of  $\pm 3.1\%$ .

## Research findings

This customer research has provided insight into four key themes: affordability, reliability, control and information.

### Affordability

**Customers lack understanding of why prices are rising but accept it as inevitable and out of their control.**

Nearly half of those surveyed spent up to \$400 per quarter on electricity (47%). Younger people, those in remote areas and those with higher income tend to have larger bills, and vulnerable households tend to have lower bills.

Most of the customers surveyed are doing something to try and reduce their electricity bills (86%), this is highest among vulnerable households and lowest among young people aged 18-25. Most of the customers who have tried to save power think they have seen a reduction their bill (76%), but there is very low awareness about what to do for the most significant reductions and a thirst for information about this.

Price was important to all, and was most important to vulnerable customers. Rising prices were a concern but customers felt that this was inevitable and out of their control: a constant electricity supply was viewed as essential and something they would have to pay for no matter what the price.

### Support for vulnerable households

There was general support for the notion of Essential Energy providing help to vulnerable customers - two-thirds of customers said that Essential Energy should be doing more to support vulnerable households. However this

support was on the proviso that it reaches those who genuinely need it and is not open to abuse. There was also a view that support should be provided by the Government (such as via Centrelink) rather than by the network company.

## Reliability

**Constancy of supply is paramount to customers, and for most, a reduction in price would not compensate for reduced reliability.**

Most thought that there were either fewer unplanned power interruptions now than in the past or did not know (19% and 44%, respectively. Over two-fifths did not know, suggesting that interruptions were not important or were not an issue for them). Urban customers were more likely to say that that the number of power interruptions had reduced.

Nearly two thirds deemed the number of planned power interruptions acceptable (62%), with this dropping for unplanned interruptions (38%). Customers in regional and remote areas were less likely to find the number and duration of power cuts acceptable.

**Half of customers would not accept reduced reliability in exchange for a price reduction**

The concept of reducing reliability for a reduction in prices was fairly unpopular. However half of those surveyed said either that they would be willing to accept more interruptions for a reduction in their bill, or that they were unsure whether they would or not (30% agreed, 20% said neither/don't know), and half said that they would not be willing to accept this scenario (49%).

**Information about interruptions makes them more acceptable**

The provision of information about the time, duration and reasons for interruptions makes power interruptions more acceptable for the majority of customers (73% for planned interruptions, and 65% for unplanned). Being able to plan ahead was of high importance and lessened the impacts of interruptions to supply. Information becomes more important the longer an interruption is likely to last, as it allows customers to manage its impacts.

## Control

**Customers place a very high value on being able to control when and how they use and pay for electricity and are unwilling to sacrifice this control.**

Most customers were willing in principal to limit their use of large appliances at set times in exchange for a reduction in their bill (as in a time of use tariff/rebate, which 63% said they would be willing to consider, in principal). However the in-depth discussions with customers revealed an unwillingness to limit use at times that would be inconvenient – most often peak demand times, particularly among families with young children and small business customers. These customers would not make savings from time of use tariffs/rebates, and the network would not benefit.

Support for appliances to be switched off remotely by Essential Energy (as in a controlled load tariff) was lower (24% would be willing to consider this), due to a lack of willingness among customers to relinquish control. Sacrificing control was generally not a viable or attractive option – even in exchange for a reduction in price.

Over a quarter of customers surveyed would prefer a pay-as-you-go meter, and those most likely to want this were the young, females, and vulnerable customers. This was seen as a way of staying informed of how much they were spending on electricity and was popular because it would increase their control over their usage.

## Information

**The provision of clear information makes interruptions more acceptable, enables changes in patterns of use, and gives customers more control over their electricity usage.**

There was widespread lack of knowledge and understanding of electricity bills, tariffs, demand management, and the relationship between electricity generation, network operation and retail organisations. This lack of understanding and fear of being overwhelmed with detailed technical information was preventing customers from making informed choices about their electricity supply and reduced their ability to reduce their usage and bills.

There was a strong desire among customers for more information about their electricity supply in general, and specifically for information about tariffs (90%), real-time information about how much electricity is being used (85%), and how to reduce electricity use (83%) (particularly among vulnerable customers). Email and brochures or pamphlets were the preferred method of communication for customers for all areas of information other than unplanned interruptions, where SMS text message was preferred. There was also an enthusiasm for receiving tailored information and advice in person (through energy audits for example).

Two fifths of customers surveyed owned a smartphone (42%), indicating a fairly high level of uptake of mobile technology by customers. A desire was expressed for information to be available when and where customers need it, through communications channels that are convenient for them. Around four in ten said they would like to be able to use their smartphone/tablet to monitor their electricity use (43%), to tell them how much it costs them to use a particular appliance (43%) or to tell them how much their electricity will be (39%).

# 1. Research Context

## 1.1 Background

Essential Energy is a leading Australian energy business, owned by the NSW Government. The company is responsible for building, operating and maintaining the country's largest electricity network spanning 95% of New South Wales as well as parts of southern Queensland and northern Victoria. It is investing around \$6billion between 2009-2014 in building and maintaining the network, meeting customer expectations for the delivery of safe and reliable essential services.

Essential Energy is structured regionally, with service centres and depots in each of its five regions. This enables the company to be responsive to local needs and has resulted in consistently high customer satisfaction. Essential Energy's guaranteed customer service standards in relation to electricity distribution relate to:

- Timely provision of services
- Timely notice of planned interruption to supply
- Interruption duration standard
- Repair of faulty Streetlights
- Punctuality in keeping appointments

The Australian Energy Regulator (AER) has responsibility for the economic regulation of distribution network service providers in NSW. The AER's current key responsibilities include, among other things, regulating the revenues of network service providers, monitoring the electricity wholesale market and establishing service standards for electricity transmission network service providers. Essential Energy is in the process of preparing the proposal to AER for the regulatory period 2014-2019.

## 1.2 Objectives

Overall, the aim of this project was to develop and implement a framework of engagement which allows Essential Energy to identify, facilitate and engage with its customers, their representatives and its stakeholders. Specifically, the key objectives of the research were to gain insight into:

- The range of customer attitudes towards the themes identified for the research and specific network product innovations
- The motivations, drivers and constraints influencing behaviours around electricity consumption
- The relationship between and relative importance of price, reliability, control and information for different customer groups



- The prevalence of specific views on each of the themes identified for the research by engaging a representative sample of Essential Energy customers
- The level of acceptability of various network product innovations among different customer groups including trade-offs between price, reliability and control
- The level of interest and desire for greater information on electricity consumption and preferred communication channels among different customer groups

## 2. Research design

### 2.1 Internal stakeholder workshops

Internal stakeholders were consulted about the content of the customer engagement, in terms of the topics and issues on which they would find customer feedback valuable, and the format of this feedback. This was an important part of the engagement program as it provided an understanding of the areas which can and cannot be influenced by customer preferences, and in turn which areas it would be most useful to engage customers on. The internal stakeholder consultation also helped to ensure that the scope and format of any feedback gathered in the engagement exercise would be suitable for feeding into the various business plans across each area.

Two internal stakeholder workshops were held on 22 May 2012 with the managers responsible for each Asset Management Plan in the regulatory submission. Managers of 'system' AMPs, i.e. those relating to the building and maintenance of the network, and managers of 'non-system' AMPs, i.e. those that support the network functions such as IT and vehicle fleet took part in separate workshops.

Key themes on which to base the customer engagement exercise were identified and agreed during the workshops. These themes were organised into two categories: areas in which customer preferences can influence decisions in AMPs; and areas in which AMPs can provide explanation of decisions to customers but which are determined entirely by other factors (such as safety standards for example) and are not able to be influenced by customer opinion.

**Table 1: Areas identified where customers can influence AMPs**

Areas of influence	Areas of explanation
Affordability	Areas of major investment
Reliability	Technologies
Access to information	Refurbishment programs
Demand management	Fleet
Communications	
Transparency	

## Involvement of Essential Energy’s customer representative groups

Voluntary representatives from Essential Energy’s Customer Council and Rural Advisory Group were involved in the development and review of both the quantitative and qualitative phases as well as attending the group discussions. Engaged as Customer Champions, the volunteers’ varying backgrounds allowed for meaningful input into the research criteria, while also allowing for first hand customer feedback to be reported back to both the Customer Council and Rural Advisory Group and thus providing additional on-going opportunities for both groups.

### 2.2 Qualitative phase

A program of eight group discussions was undertaken between 12 and 14 June 2012. Discussions were held with the four key customer segments in four locations representing different parts of Essential Energy’s customer base, as outlined in Table 2.

**Table 2: Qualitative sample design**

Customer segment	Definition	Tamworth (Northern NSW, inland)	Wagga Wagga (Southern NSW, inland)	Coffs Harbour (Northern NSW, coastal)	Batemans Bay (Southern NSW, coastal)
<b>Rural and remote customers</b>	Households not on town water supply	Group 1	Group 3		
<b>Small business customers</b>	Businesses with fewer than 19 employees	Group 2		Group 8	
<b>Vulnerable customers</b>	Households having difficulty paying their electricity bill		Group 4		Group 5
<b>Small general customers</b>	All other households			Group 7	Group 6

Each discussion involved between eight and ten participants and lasted between 90 and 120 minutes. Participants were provided with a cash incentive by Ipsos as remuneration for their time and input to the discussion: small general and vulnerable customers received \$80, while rural and remote customers and small business customers received \$125. Customer Champions were present for six of the eight group discussions and input was sought by moderators at the end of the groups. Customer Champions were did not receive an incentive payment.

All group discussions were recorded and interview notes also made by interviewers during or shortly after each session. Following the completion of the interviews, Ipsos SRI researchers reviewed the interview recordings and notes. Key themes, points of view, trends and patterns were drawn from the participants' responses and discussed in an analysis workshop involving the research team. In reporting the findings, verbatim quotes are used to demonstrate key points and bring the themes to life.

## 2.3 Quantitative phase

The survey was conducted online between 11 June 2012 and 25 June 2012. Participants were drawn from a managed research panel. In order to participate in the survey, customers had to live in an area serviced by Essential Energy and be involved in decisions about the household electricity account.

### Sample structure

A total of 1013 participants took part in the survey. Quotas were applied during the data collection phase in order to ensure that the sample reflected Essential Energy's customer base as closely as possible. The following non-interlocking quotas were applied:

- Location: based on customer numbers in Essential Energy's five operating regions
- Age: based on the NSW population from 2006 Australian Census data
- Gender

The age quotas set for the survey were not met. However, weights were not applied to the dataset before analysis. This decision was based on the assumption (in the absence of data) that Essential Energy's customer base is likely to hold a different age distribution to that of the general population. Weighting the data back to the general population would therefore risk distortion of the data distribution.

### Statistical analysis

Throughout this report, demographic variables are used to identify differences in the attitudes and behaviours of groups of participants. The profile variables used are:

- Age
- Gender
- Size of the last quarterly electricity bill
- Household income
- Household size
- Number of people home during the day
- Vulnerable household status

Significance testing was conducted using several tests. The most appropriate test was selected depending on the type of data being analysed. All significance testing was conducted to a 95% level of confidence. The sample of 1013 households provides a confidence interval of  $\pm 3.1\%$ .

Categorical data was analysed using Chi-square tests with post-hoc analysis of adjusted standardised residuals used to identify differences between subgroups. Differences were deemed to be statistically significant when cases where adjusted standardised residuals were above 2.0.

Ordinal data was analysed using Kruskal-Wallis H tests with post-hoc Mann-Whitney's U used to identify differences between sub-groups where necessary.

Continuous data was analysed using one-way ANOVAs with post-hoc Bonferroni's correction used to identify differences between sub-groups where necessary.

## ARIA Plus classification of remoteness

Participants were asked to provide the postcode of their home. Postcodes were categorised according to the ARIA Plus system, which classifies each area according to its level of remoteness.

ARIA Plus is primarily an index value between 0 and 15 calculated for 1 kilometre square grids across all of Australia.<sup>1</sup> The classifications are shown in Table 3.

**Table 3 ARIA Plus categories of remoteness**

Remoteness area class	ARIA Plus score range in the class
<b>Major cities of Australia</b>	Average ARIA index value of 0 to 0.2
<b>Inner regional Australia</b>	Average ARIA index value greater than 0.2 and less than or equal to 2.4
<b>Outer regional Australia</b>	Average ARIA index value greater than 2.4 and less than or equal to 5.92
<b>Remote Australia</b>	Average ARIA index value greater than 5.92 and less than or equal to 10.53
<b>Very remote Australia</b>	Average ARIA index value greater than 10.53

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<sup>1</sup> This number represents the remoteness of a point based on the physical road distance to the nearest town or service centre in each of five population size classes. While ARIA provides a method to quantify remoteness, the index itself does not provide a geographical classification. The 1 kilometre grids must be grouped together in some way to form the areas or regions which are intrinsic to a geographical classification. The Australian Bureau of Statistics developed a classification based on the average ARIA Plus score within each Census Collection District, which has been used here to categorise participants based on their postcode.

[http://www.abs.gov.au/websitedbs/d3110122.nsf/0/f9c96fb635cce780ca256d420005dc02/\\$FILE/Remoteness\\_Paper\\_text\\_final.pdf](http://www.abs.gov.au/websitedbs/d3110122.nsf/0/f9c96fb635cce780ca256d420005dc02/$FILE/Remoteness_Paper_text_final.pdf)

# 3. Research findings

## 3.1 Household electricity use

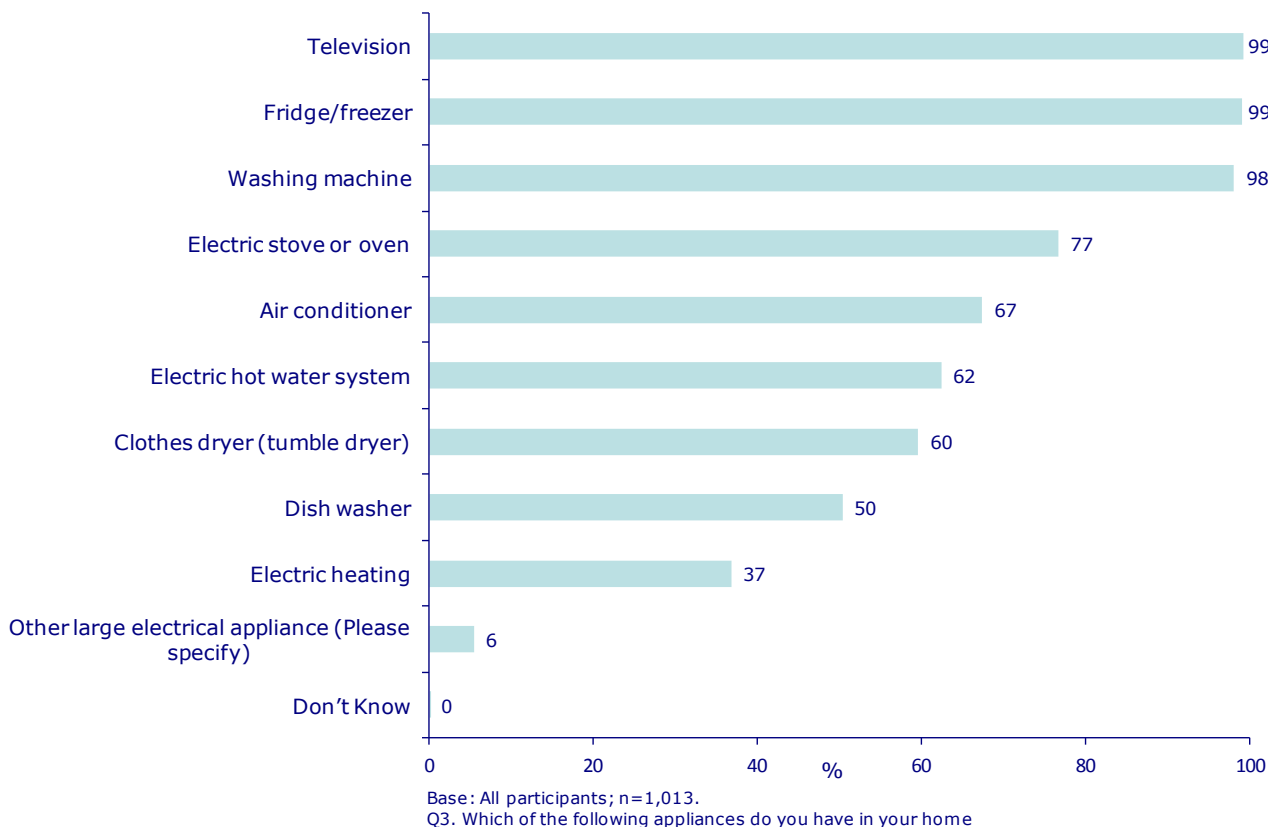
Findings in this section explore participants' use of electricity in their households, including:

- Ownership and use of large appliances, and perceptions of which use the most electricity;
- How much they are spending on electricity bills; and
- Measures taken to reduce electricity usage, the motivation for making changes, and the perceived impacts of these changes on usage.

### Appliance ownership and bill size

Participants were asked about the appliances they had at their home (Figure 1: Large appliances owned). The most commonly owned appliances included televisions (99%), fridge/freezers (99%) and washing machines (98%), which were almost universally owned by participants. Electric stoves or ovens (77%) were owned by over three quarters of participants, and air conditioners (67%) were owned by over two-thirds.

Figure 1: Large appliances owned



- Households whose last electricity bill was under \$400 were less likely to own *tumble dryers*, *dishwashers*, *electric water heaters* and *air conditioners*. Households whose last bill was over \$600 were more likely to

own *tumble dryers*, *dishwashers*, *electric water heaters* and *air conditioning*. In addition to this, those whose previous bill was more than \$800 were more likely to have *electric heating* and *other large appliances*.

- Households with incomes between \$15,000 and \$20,000 were less likely to own *dishwashers*, *washing machines* and *tumble dryers*. Households with incomes above \$60,000 were more likely to own *dishwashers* and *tumble dryers*.
- Households in inner regional areas were less likely to own *electric hot water heaters*, whereas those in outer regional and remote areas were more likely to own them.
- Households with no one home during the day were more likely to own *dishwashers* and *air conditioners*. They were also more likely to own *tumble dryers*, as were those households with two people home during the day.

Next, participants were asked to indicate the cost of their last quarterly household electricity bill (Figure 2). Almost half of all participants (47%) indicated that their previous bill was between \$0 and \$400, and a further third (33%) indicated that their last bill was between \$401 and \$600. One in ten (10%) participants indicated that their previous bill was between \$601 and \$800, and nearly one in 12 (8%) participants indicated that their last bill was more than \$800.

**Figure 2: Cost of last quarterly household electricity bill**



Base: All participants; n=1,013.  
Q4. Approximately how much was your last quarterly household electricity bill?

- A significant inverse relationship between age and bill size was observed in the data. Younger participants tended to have higher electricity bills than older participants.
- A significant inverse relationship between number of people home during the day and bill size was observed in the data. Participants from households with more people home during the day tended to have higher electricity bills than those from households with fewer people home during the day.

Younger people, those in remote areas and those with higher income tend to have larger bills.

- A significant positive relationship between remoteness and bill size was observed in the data. Participants in more remote areas tended to have higher electricity bills than those in less remote areas.
- A significant positive relationship between household income and bill size was observed in the data. Participants from households with higher incomes tended to have higher electricity bills than those with lower incomes.
- Participants from vulnerable households tended to have lower electricity bills than other customers.

Vulnerable customers tend to have lower bills.

### Qualitative research findings

Discussion around appliance use in the qualitative research broadly mirrored the survey findings. Participants were asked to describe the range of appliances they had in their homes or businesses, with some differences being observed between the four broad customer types.

Most small general customers and vulnerable customers stated that they thought that the major electricity using appliances in their households were hot water, fridge/freezers, televisions and air conditioning units (for those who owned them). Peak use was generally perceived to be in the early evenings when people were cooking, watching television and doing washing.

*For our family it's around 5 o'clock through to probably 8 o'clock. We've got baths running and dinners cooking. A lot of the lights are on. All the action seems to be happening at that time of the day.* **Rural customer, Tamworth**

Some rural customers used a very similar set of appliances to small general customers. However, there was some additional equipment that added to their electricity consumption. Water pumps in particular were mentioned by many participants from rural areas as being big users of electricity, with some also mentioning workshop equipment (e.g. welders) and electric fences. Some rural customers also had separate billing systems with different rates set up for their homes and the rest of their properties.

Small business customers reported wholly different usage patterns to households. The appliances perceived to consume the most energy depended heavily on the type of operation the business ran. They included computer servers, air conditioners, coffee machines, welders, lights and water heating systems.

### Reducing electricity use

A large majority of survey participants (86%) indicated that they had made some efforts to reduce their electricity bill.

86% of customers have done something to save energy.

- Participants aged 18-25 were less likely to have done something to reduce their bill (79%), while those aged 55-64 were more likely to have done something (91%).
- Vulnerable customers were more likely to have done something to reduce their bill (90%) compared to other customers (84%).



Participants who indicated that they had attempted to reduce their electricity bill were asked the method(s) by which they had done so (Figure 3). Of these participants, more than four-fifths (82%) had installed energy-efficient light bulbs, and almost two-thirds (65%) had reduced their use of large appliances.

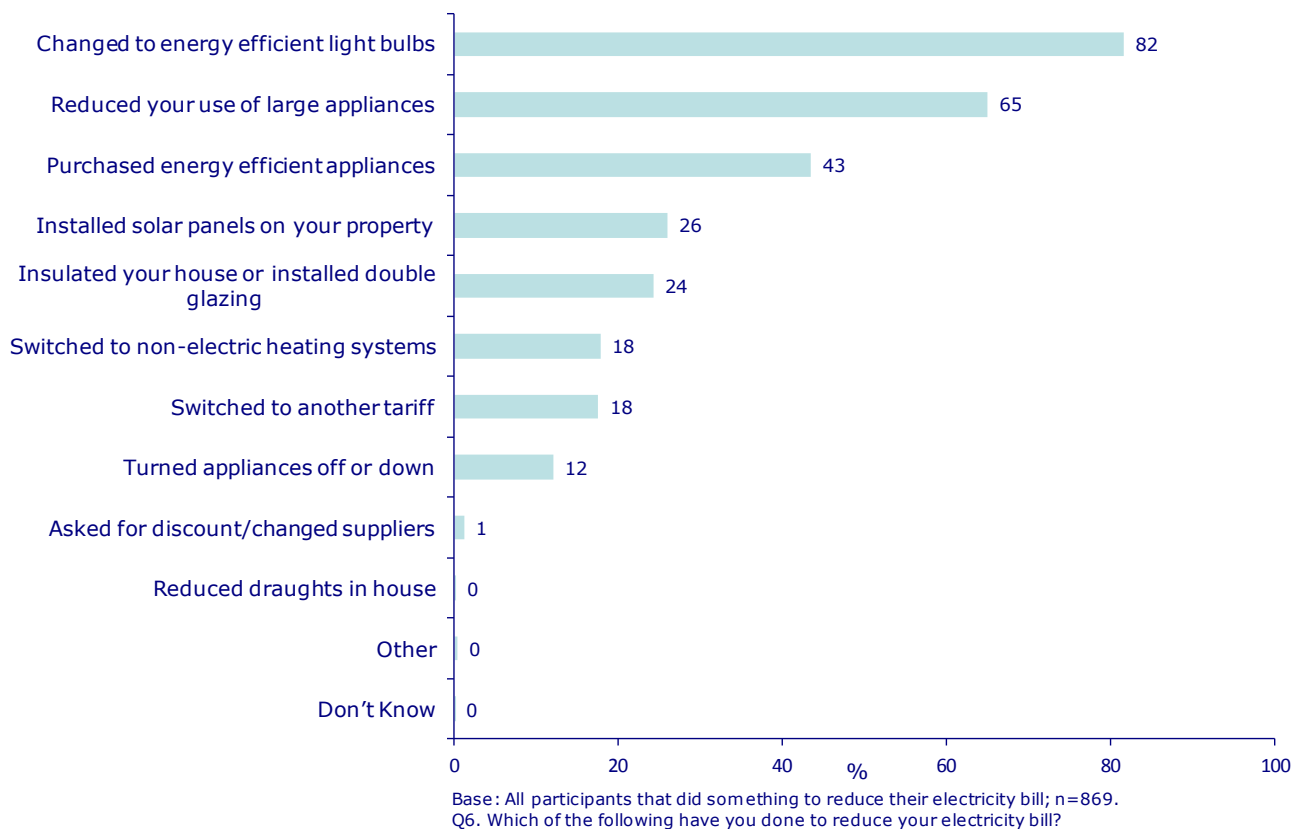
Other commonly-used approaches included the adoption of energy efficient appliances (43%), the installation of solar panels (26%) and insulation or double glazing (24%). Only one in 100 participants indicated that they had asked for a discount or had changed their electricity supplier (1%).

Of those participants who had made efforts to reduce their electricity bill, two fifths has used one or two of the methods shown in Figure 3 (40%), and nearly a third had used three methods (31%). Nearly a fifth had used four methods (18%), and around one in ten had used 5 more or methods in an attempt to reduce their electricity bill (11%).

Participants aged 18-32 were more likely to have used one or two methods (56%, compared with 40% overall).

Participants whose last electricity bill was less than \$400 were more likely to have used between five or more methods (13%).

**Figure 3: Methods taken to attempt to reduce electricity bill**



Around three-quarters of participants who had made efforts to reduce their electricity bill had outlaid money to do so (77%). The following groups were more likely to have done this.

- Participants aged over 55 (89%)
- Males (82%)

Financial considerations can dissuade some customers from installing energy saving systems.

- Participants whose last electricity bill was less than \$400 (85%)
- Participants from a household with income of \$15,000-\$20,000 (85%)

### Qualitative research findings

Discussion group participants were readily able to mention a range of behaviours that they undertake to reduce electricity consumption which were reflective of the survey findings. Almost all participants stated that the desire to save money was the key motivating factor behind their decisions to undertake energy-saving behaviours and strategies. Some stated that environmental concerns also played a role in such decisions, but that they were a secondary factor.

Installation of energy efficient light bulbs was often mentioned early on, and most participants stated that they had received some free or at discount rates through various promotional programs.

Switching off lights and appliances when not in use was also mentioned by many participants. While some participants reported running their air conditioning units all day and night on hot days, many described undertaking behaviours which reduced the energy consumption of the unit. Behaviours mentioned included turning the unit on early in the day to cool the house down before switching it off, and only putting it on for an hour or two at a time.

Customers had generally not looked into changing to a different tariff. Some who had looked at changing had decided against switching to time of use (TOU) tariffs/rebates as they were not confident that they would be able to manage their on-peak usage to reduce their bill. This was particularly the case for rural participants who had to run water pumps for stock during the day and business customers who were restricted in their ability to shift their peak usage.

Participants who reported installing insulation often stated that they had done it because they had built a new house or renovated an old one. Likewise, many participants reported that they had purchased energy efficient appliances. Most of these, however, stated that they would only switch to energy efficient appliances when old ones had reached the end of their useful lives. Washing machines, dishwashers, refrigerators and freezers were the appliances most often mentioned.

*No, I think you feel good doing it when you can cut back on your usage. When we built our house, we looked into a lot of things like that so we looked into facing north and fully insulated and looking at EC curtains and stuff like that too just to maximise the normal temperatures. **Rural customer, Tamworth***

A few participants had installed photovoltaic panels or solar water heaters on their homes or offices, and this was being done primarily for economic reasons. Perceptions of the amount of money saved on energy bills as a result were mixed. Some said they were saving money, whereas others were unsure or did not think the installation had made much difference to their account.

Some participants had looked at solar panels as an option and decided against it. A range of reasons were cited for this, including the investment required being too high; the payoff not being high enough or being over too long a period to sustain the investment required; and the aspect of the house not being appropriate or other environmental factors rendering panels inefficient.

Some participants had installed gas heaters and/or water heating systems in their homes or offices. Motivations for this were most often financial, with many saying that they saved a large proportion on their energy bill after the installation. Heating efficacy was also mentioned by some participants as a motivation for switching to gas.

*I wouldn't have a clue how to use any less than what I do. Like I try and turn everything off. I try and not use too many. Like I live comfortably obviously but I wouldn't know what to do to reduce it any more. **Rural customer, Wagga Wagga***

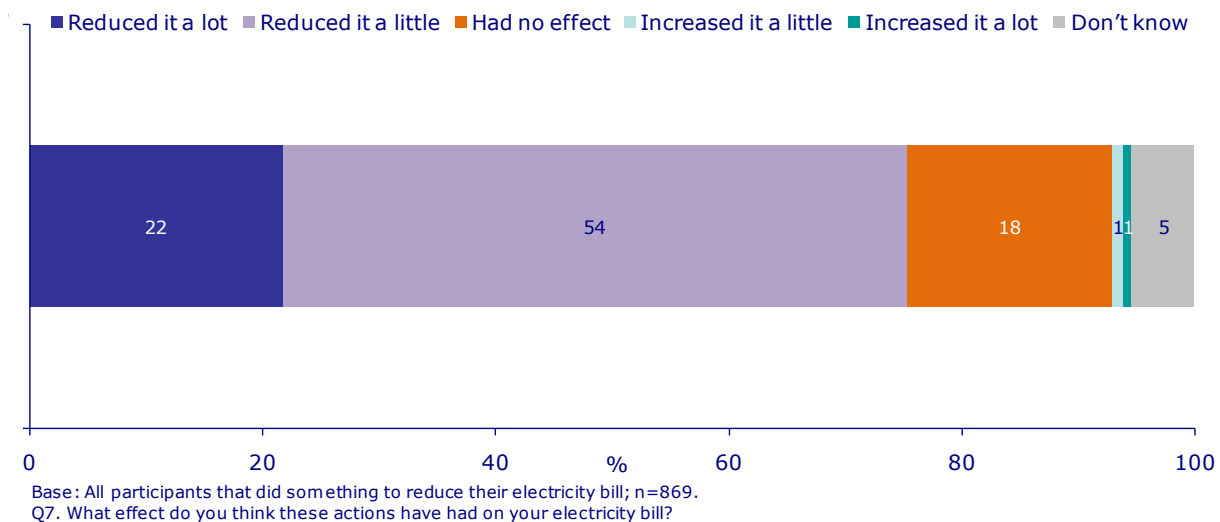
*Well we replaced our hot water system with an instantaneous gas one. And the savings on that have just been remarkable. And you know, particularly if you have visitors for you know, a week or something, and they are in the shower nonstop, it's just amazing how cheap it actually is compared to the other thing. **Small general customer, Batemans Bay***

### Effectiveness of energy efficiency measures

Participants who indicated that they had attempted to reduce their electricity bill were asked to indicate how effective these approaches had been (Figure 4). More than three quarters (76%) of survey participants who had undertaken energy efficiency measures in their homes indicated that their bill been reduced as a result, either by a lot (22%) or a little (54%). Nearly one in five (18%) said that the methods had no impact on their bill and a further one in 50 (2%) thought that their bill had increased as a result.

76% of customers who have tried to save power have managed to reduce their bill.

**Figure 4: Impact of attempts to reduce electricity bill**



- Participants whose last electricity bill was less than \$400 tended to indicate that the energy efficiency measures they had undertaken were more effective than those with higher electricity bills.
- Participants from vulnerable households tended to indicate that the energy efficiency measures they had undertaken were less effective than those from other households.

Vulnerable customers have more difficulty reducing their bill than others.

### Qualitative research findings

During the group discussions many participants stated that, while they thought their energy consumption must have decreased due to the energy efficiency measures they had undertaken, their overall bill was the same or higher than it had previously been due to increased unit prices for electricity. To this end, taking action on energy efficiency was seen as a positive step, although frustration was expressed by many participants at increasing bills.

*I don't know if there is a great lot that I could do to reduce my use...Because I do turn off things at the sockets and things like that. And I didn't find honestly another thing a great deal of savings. **Rural customer, Wagga Wagga***

Some participants also stated that they were unsure of the effect of energy efficiency measures on their bills. Some participants said that they were able to look at the quarterly data on their bills and compare values to the same time the previous year, but they were often not confident of the accuracy of the information.

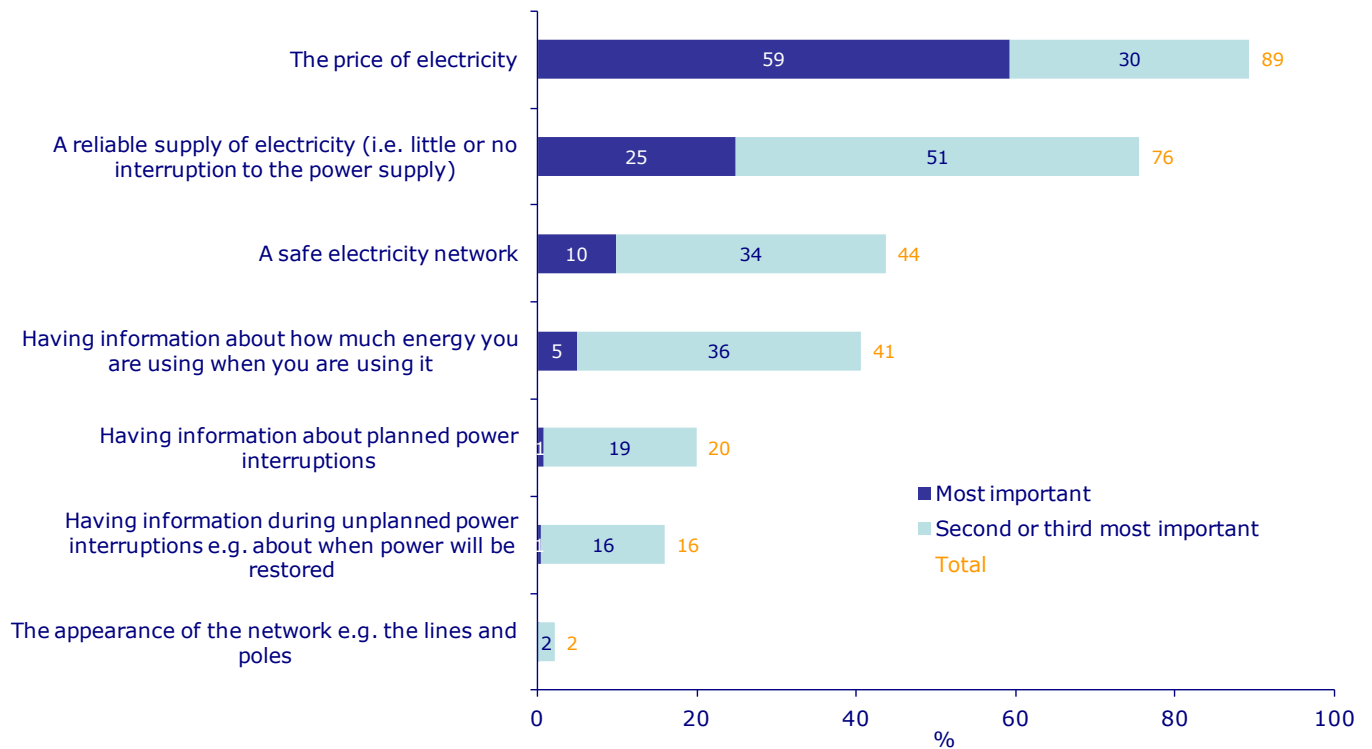
## 3.2 Priorities for electricity supply

Price and reliability are the two most important aspects in customers' minds.

Findings in this section explore customer priorities for their electricity supply and their understanding of the tradeoffs and competing priorities.

Participants were asked to indicate their top three priorities for the supply of electricity to their house, and were subsequently asked to nominate the most important of the three. The price of electricity was the priority for participants, and was listed by almost nine in ten participants, with six in ten having articulated that it was the single most important priority to them. The next highest priority was a reliable supply of electricity; this factor was listed by over three quarters of participants (76%), and was the most important priority to one quarter of participants. Other commonly listed priorities included a safe electricity network (44%) and having access to real-time information about energy use (41%).

**Figure 5: Participants' priorities in the supply of electricity to their homes**



Base: All participants; n=1,013.  
 Q1. Thinking about the supply of electricity to your household, which are the three most important factors to you?  
 Q2. Which is the most important to you

- 18-34 year olds were less likely to rank *reliable supply* (14%) and *information on planned interruptions* (13%) among their top three priorities.
- Males (80%) were more likely than females (73%) to rank *reliable supply* among their top three priorities. Females (46%) were more likely than males (39%) to rank *safety* among their top three priorities.
- Vulnerable customers were less likely to rank *reliable supply* (70%) and *appearance of the network* (1%) in their top three. They were more like to rank *price* (93%) among their top three priorities.

Vulnerable customers find reliability less important and price more important.

Customers understand that there is a tradeoff between affordability and reliability.

**Qualitative research findings**

Whereas price was rated as the most important factor by survey participants when forced to choose, with reliability ranked second, the discussion groups provided further insight into the relationship between price and reliability. During the discussions about the trade-offs between price and reliability, participants could spend time considering the importance of a consistent electricity supply. There was some understanding of the pressures on the network and the fact that an increased level of reliability requires a greater level of capital investment and maintenance.

*... if you don't have the right price, which is why they've put their prices up recently or next month or whatever, they won't be able to maintain the infrastructure so therefore your safety comes into question, therefore your maintenance comes into question, your reliability comes into question, there's a whole heap of questions.*

***Vulnerable customer, Batemans Bay***

*Well the infrastructure has got to be maintained and the supply has got to be there. It's all got to be paid for, it's the same as the roads need to be tarred and...kept, you know **Rural customer, Wagga Wagga***

*And when you have a big storm and something goes down the grid, I mean, that's mega dollars and those guys out hanging off poles at 2 o'clock in the morning; that's all part of the infrastructure that's got to be paid for. If we don't pay for it, we don't have reliability. That's a pretty blunt fact. **Small general customer, Coffs Harbour***

Customers in the group discussions felt that price rises were inevitable and that they had no control over this. There was a view that they would have to pay whatever the electricity companies asked for as they had no alternative, as electricity was viewed as an essential service. Rising prices were viewed as reasonable if they genuinely reflected the rising costs of maintaining the network, however were viewed as unacceptable if it was being done to increase profits

*You have to be able to afford it because it's something you can't live without. **Rural customer, Wagga Wagga***

*There's not much we can do about it 'cos the network's got to be upgraded. It hasn't been looked after for a long long long long time and now it's got to be upgraded, so we don't have a choice, but what can you do? **Small general customer, Coffs Harbour***

*But realistically if the companies decided to put it up anyways, even though as you are saying, it's got to be justified, what could anybody do about it seriously? You are still going to have to pay it. **Rural customer, Wagga Wagga***

*I would like to know that it's fair and that the guy at the top is not making \$250 million per annum, per year knowing that our connection fee is going into his pocket ... Like if it's fair for everybody and everybody knows that that's what the system costs to run... **Rural customer, Wagga Wagga***

Reliability was defined by most participants in terms of a constant supply of electricity and rapid repair of any faults causing interruptions. Many participants were aware of the need for maintenance of lines and trimming of vegetation around lines and the contribution this made to reliability. However, most only mentioned the trimming and maintenance on their property or in their local area when prompted on the subject.

*So for me it's like you assume it's continuous. Part of that point though I need to contact somebody that will come and fix it. **Rural customer, Wagga Wagga***

Rural customers tended to be more aware of and place higher importance on the establishment of supply and maintenance of lines on and near their properties.

*Yeah definitely the vegetation, trees and stuff. You're always conscious of your trees growing around. **Rural customer, Tamworth***

Participants who stated that reliability was the most important aspect of their service (i.e. the majority in group discussions) often cited the need for constant electricity supply to appliances such as refrigerators as being a key reason for its importance, as well as the inconvenience involved in being without power. Small business

customers were particularly concerned about the potential for financial loss that arises from interruptions. Information in the absence of power was also rated as highly important by small business and rural household customers, although all customer groups mentioned this aspect.

Price was also regarded as highly important, with some participants rating it the most important factor. However, when presented with the option of having a lower level of reliability in exchange for a lower price, most participants responded that this would not be acceptable.

Most saw safety as being an essential, non-negotiable aspect of their service. In some discussions it was not brought up by participants spontaneously, indicating a low level of consideration of safety when thinking about the network. Many participants indicated that, because safety was seen as an essential part of the network service, it was difficult to weigh against factors such as reliability and price.

Environmental concerns were mentioned by a few participants, although it was often noted that purchasing “green” or sustainable energy from retailers was more expensive for the customer and therefore was not done as price was more important.

### 3.3 Reliability of supply

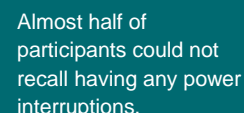
Findings in this section explore participant’s attitudes towards the reliability of their electricity supply, including:

- Perceptions of number and duration of interruptions
- Perceptions of reliability compared to the past
- Impacts of power interruptions
- Acceptability of power interruptions

#### Perceptions of reliability

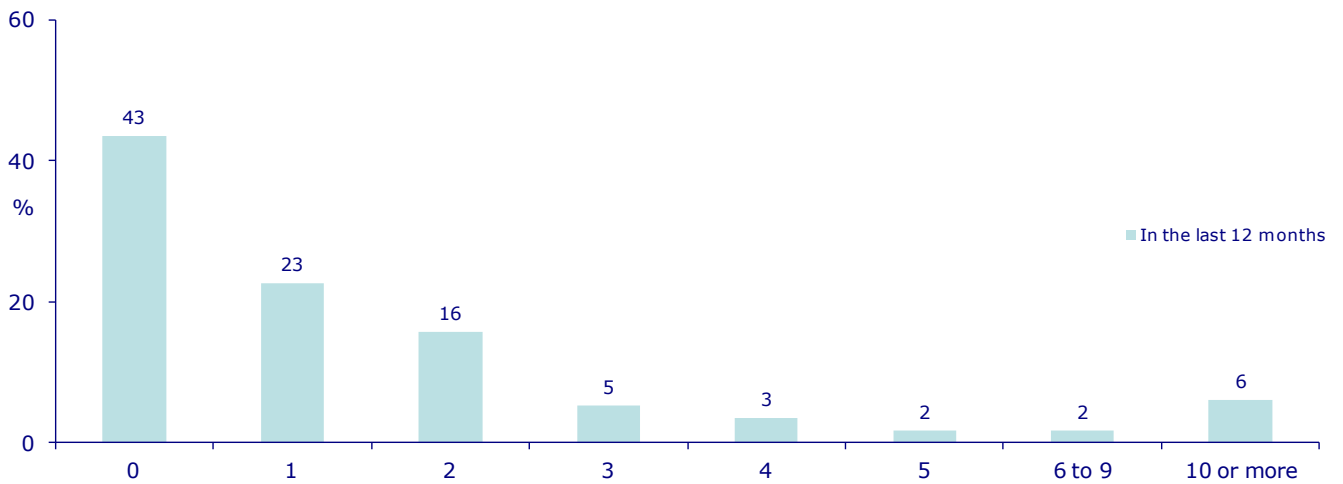
##### ***Length and duration of interruptions***

Participants were asked to estimate the number of power interruptions they had experienced at their property in the preceding 12 months. Close to half of participants (43%) had not experienced any power interruptions, and almost a quarter (23%) experienced only a single interruption in the previous year. A further 16% had experienced two interruptions. One in eight participants (12%) had experienced between three and nine interruptions, with 5% reporting ten or more in the preceding year.



Almost half of participants could not recall having any power interruptions.

**Figure 6: Number of power interruptions experienced in the last 12 months**



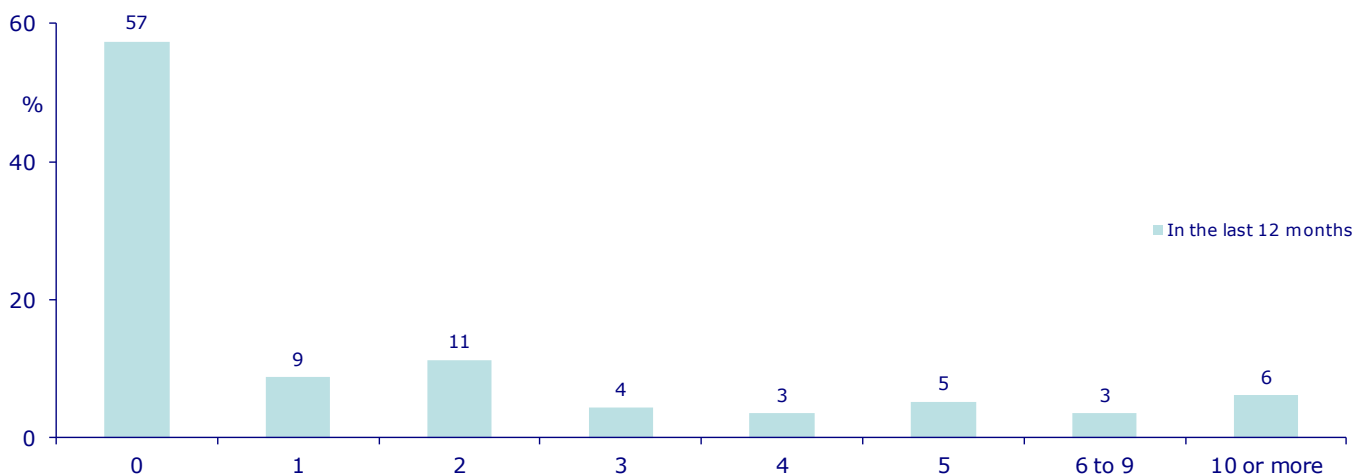
Base: Participants who had lived at their address for more than a year; n =898.  
 Q9. How many power interruptions would you estimate you have had in the last 12 months since June 2011?

- Participants from outer regional (mean = 3.91) and remote (mean = 8.83) areas reported significantly higher numbers of power interruptions than those in major cities (i.e. metropolitan areas, mean = 1.84) and inner regional areas (mean = 2.85).

Outer regional and remote customers report significantly higher numbers of interruptions.

Participants were also asked to estimate the number of occasions their electrical supply had reduced in capacity (known as a brownout) in the preceding 12 months. Well over half of participants (57%) had not experienced a brownout, and a further 20% had experienced between one and three brownouts. Almost one in seven participants (15%) experienced between three and nine brownouts, and slightly more than one in 20 participants (6%) indicated that they had experienced ten or more brownouts in the previous year.

**Figure 7: Number of brownouts experience in the last 12 months**



Base: Participants who had lived at their address for more than a year; n =898.  
 Q10. How many times would you estimate you have experienced dimming, flickering lights, or reduced capacity for appliance use?



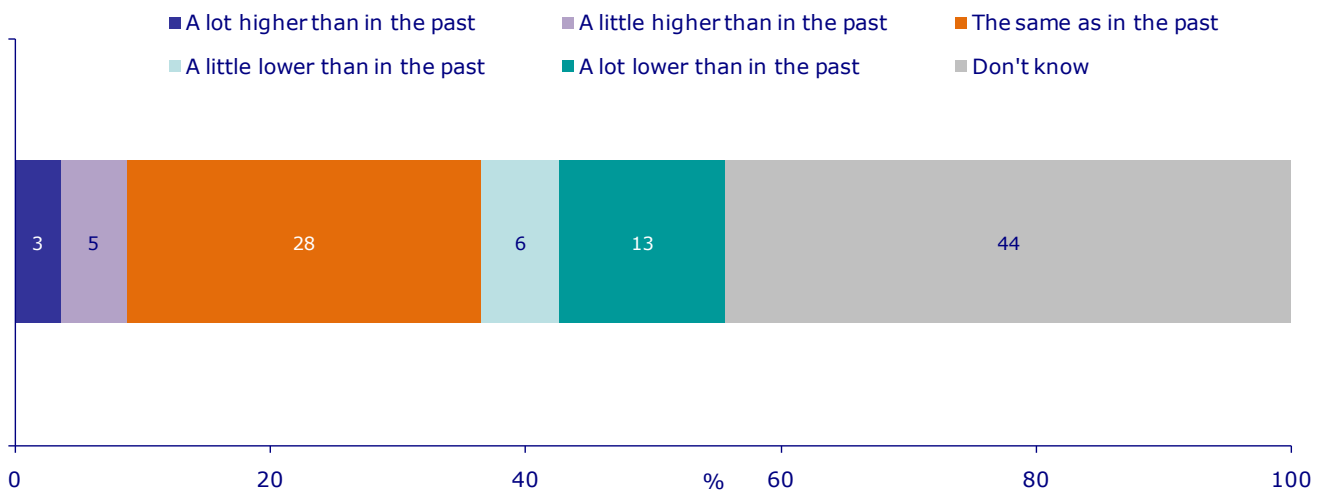
- Participants in remote areas reported a significantly higher number of brownouts (mean = 75.42) than all participants in major cities (mean = 6.05), inner regional (mean = 7.17) and outer regional (mean = 12.11) areas.

Participants were asked whether they believed the number of unplanned power interruptions was more or less than in the past (Figure 8). A small proportion of participants (8%) believed that there were more unplanned interruptions than in the past, while almost one in five (19%) believed that there were fewer than in the past.

Over a quarter of participants (28%) indicated that the frequency of power interruptions was the same as in the past. Interestingly, almost half of participants (44%) indicated that they did not know how the number of unplanned interruptions compared to the past.

44% of customers don't know whether the number of interruptions has changed.

**Figure 8: Frequency of unplanned power interruptions in comparison to the past**



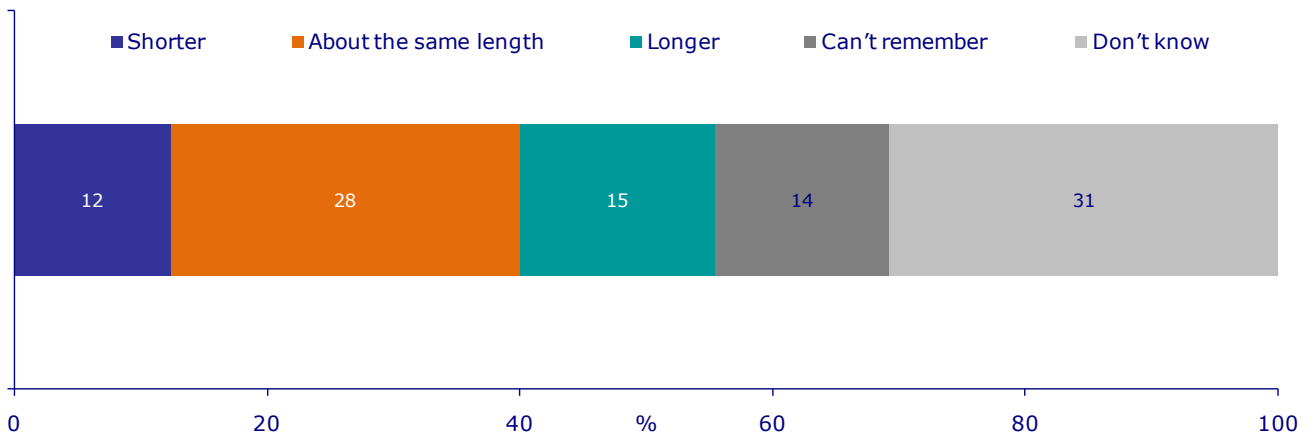
Base: Participants who had been living at their current address for more than 12 months; n = 898  
 Q13. Do you think that the **number** of unplanned power interruptions has been...

- Participants in major cities (i.e. metropolitan areas) were more likely than those in other areas to say that that the number of interruptions is now lower than in the past.
- Participants from vulnerable households were more likely than others to say that the number of interruptions is now higher than in the past.

Participants were also asked whether they believed that the duration of unplanned power interruptions was longer, shorter or about the same as in the past (Figure 9). Similar proportions of participants indicated that they thought the duration of interruptions had increased (15%) or had decreased (12%). More than a quarter (28%), however, indicated that they thought that the duration of interruptions was about the same as in the past.

In a finding similar to that for the number of interruptions, 45% of participants indicated that they didn't know or couldn't remember whether the duration of unplanned interruptions had changed.

**Figure 9: Duration of unplanned power interruptions in comparison to the past**



Base: All participants that had experienced power interruptions and been living at the same address more than 12 months n = 779  
 Q14. Do you think that the **duration** of unplanned power interruptions has been...

- There were no significant differences between different types of customers, in perceptions of the duration of power interruptions.

### Qualitative research findings

The general view was that full service interruptions (i.e. no power) occurred once or twice a year, although a few estimated up to one per month. Most stated that they did not experience partial interruptions or brownouts often, with many struggling to remember having one in the recent past.

The duration of power interruptions was thought to be variable by most participants. While some stated that they experienced only relatively brief interruptions (up to two hours) others, particularly rural customers, experienced a greater level of variability. Some reported unplanned interruptions lasting anywhere between a few minutes and eight or nine hours.

Comparisons of interruptions in the last 12 months to those in previous years were generally positive. Most participants stated the number of unplanned interruptions is now much lower than it was 10 or 15 years ago. When comparing the present to the past two or three years, most stated that the number of interruptions was similar, but that the duration tended to be much shorter now.

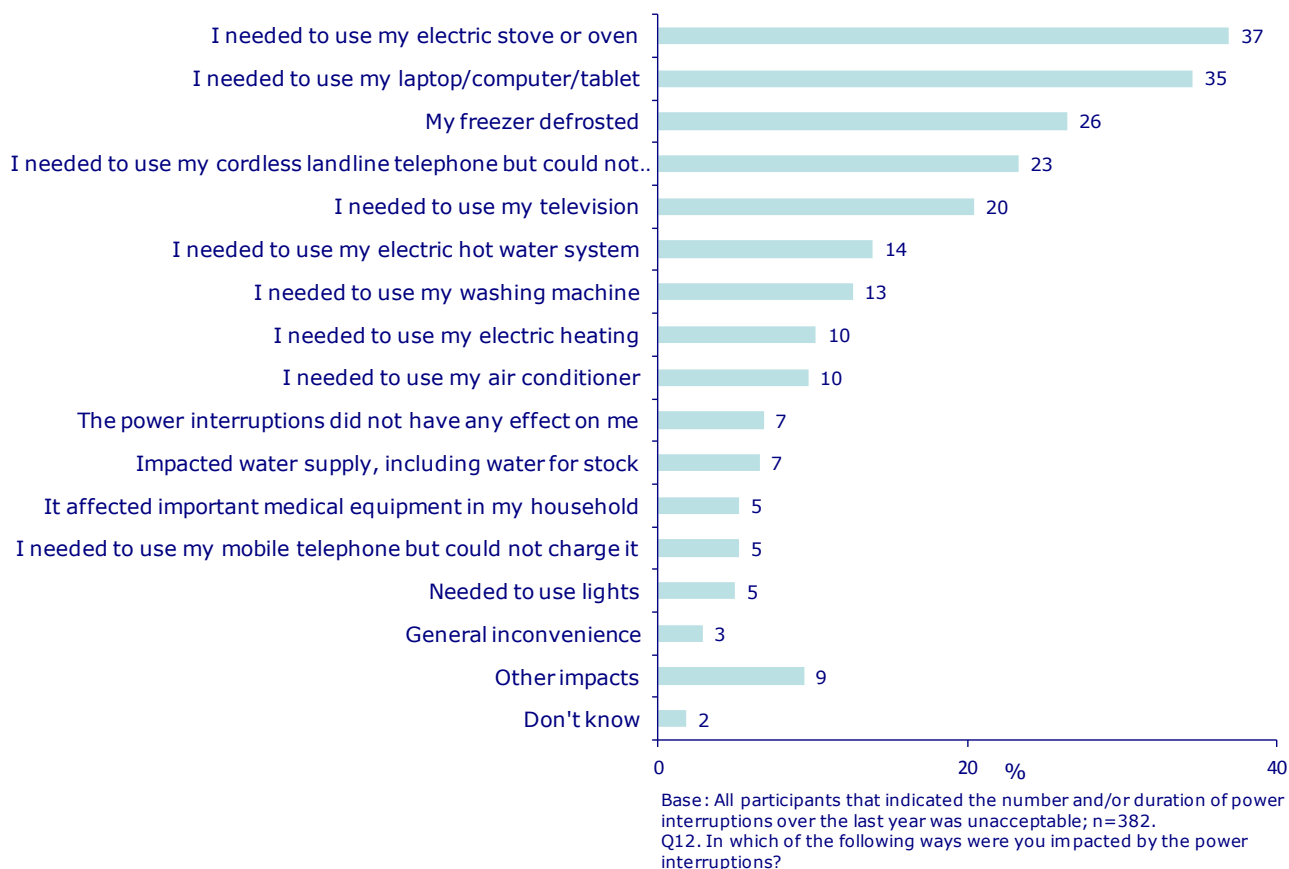
Batemans Bay was the exception. Higher than normal storm activity had caused damage to infrastructure and lead to an increased number of unplanned interruptions over the past year. Participants from this area were all well informed about the reasons for the increase in interruptions, as most accepted them as inevitable under extreme conditions.

### Impacts of interruptions

Participants who indicated that the number or duration of interruptions was unacceptable were asked the ways in which they were impacted by the power interruptions. Over a third said they needed to use their electric stove or oven (37%), or needed to use their computer or laptop (35%). More than a quarter of participants indicated that their freezer defrosted (26%) as a result of the power outages. Just under a quarter indicated that they needed to use their cordless landline telephone but could not (23%). Seven percent said that power

interruptions impacted their water supply (including water for stock) (7%), and 5% said it affected their medical equipment. Seven percent said the power interruptions had no impact on them (7%).

**Figure 10: Impacts of power interruptions**



### Qualitative research findings

In the group discussions, small general and vulnerable customers tended to speak of power interruptions in terms of inconvenience, rather than financial or other more severe impacts. The worst impacts were perceived to be the inability to cook, use the washing machine, or work at home on their computers when they needed to. Freezers defrosting were also seen as a problem during longer interruptions, although these were not reported to have occurred often. Inconveniences such as the inability to watch television were not regarded as highly important by most participants.

*Just inconvenience more than anything. **Rural customer, Tamworth***

*Cooking, washing, cleaning you're relying on it ... and you're relying on power to see what you're doing. It's very easy to keep knocking the candles over. **Vulnerable customer, Batemans Bay***

Small business owners and managers experienced the most severe financial impacts of all the customer segments. Both planned and unplanned interruptions were mentioned by small business owners and managers as having direct impacts on the profitability of the business.

Financial impacts are important for small business customers.

*I lose money, it's as simple as that. If I've got no power I can't cook and I can't serve people I mean my income ...* **Small business customer, Coffs Harbour**

Those in rural locations also indicated a higher degree of inconvenience compared to urban households due to the impacts of interruptions on water supply. The impact was reported as being particularly severe on those who had stock to provide water for during summer.

*I don't flush the dunny. I don't wash if I got no electricity.* **Rural customer, Tamworth**

*But you can't get by without water for an extended period of time like six, seven hours if you've got 30 head of cattle on a hot day...* **Rural customer, Tamworth**

*Summer's a bad one, especially 'cos we have ... we do a lot of home kills and stuff and all the meat in all the freezers and stuff...* **Rural customer, Tamworth**

## Acceptability of interruptions: the influence of price and information

Participants were asked about the acceptability of the number and duration of planned and unplanned power interruptions (Figure 11). Responses were given on an 11-point scale, where 0 was completely unacceptable and 10 was completely acceptable.

Overall, participants indicated that the number and duration of planned power interruptions were more acceptable than those for unplanned interruptions. Almost two thirds (62%) considered the number of planned interruptions acceptable, compared just over a third (38%) who considered the number of unplanned interruptions acceptable. The mean response on the acceptability scale of 7.30 for planned interruptions was significantly higher than the mean response of 5.53 for unplanned interruptions.

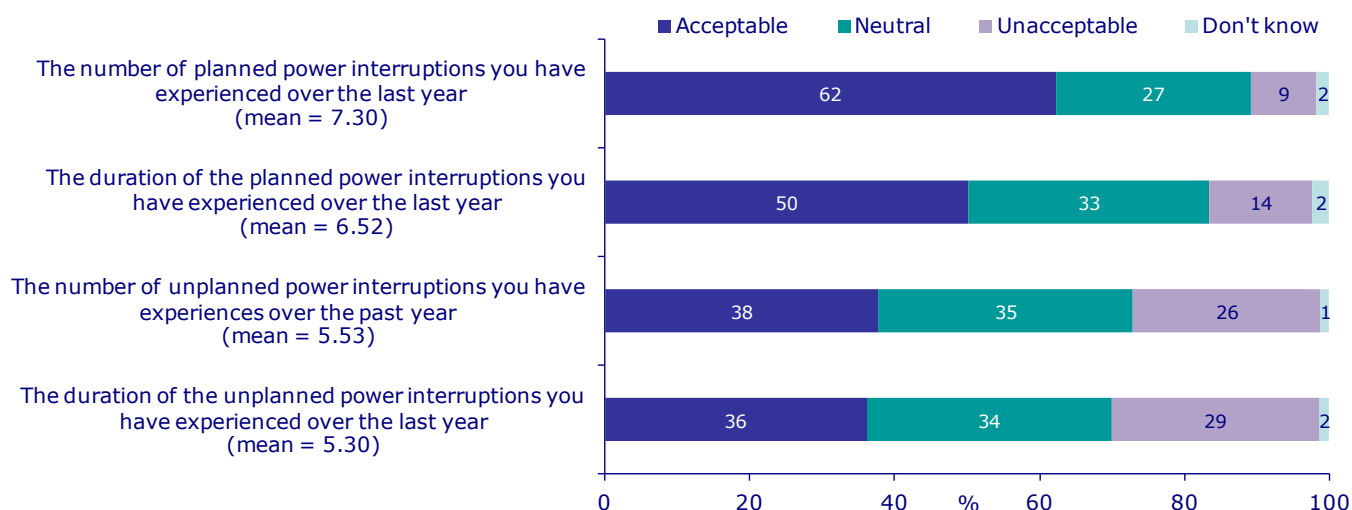
62% of customers find the number of planned interruptions acceptable, compared to 38% for unplanned.

Half of participants (50%) considered the duration of planned interruptions acceptable, compared to 36% for unplanned interruptions. The mean response on the acceptability scale of 6.52 for planned interruptions was significantly higher than the mean response of 5.30 for unplanned interruptions.

A small inverse correlation is observed between the number of power interruptions experienced in the last 12 months and the acceptability of unplanned interruptions ( $r = -.227$ ). The acceptability of the number of interruptions decreases as the number of interruptions increases, however, the relationship is not strong. This indicates that there are factors other than the number of interruptions experienced influence acceptability.

The number of interruptions experienced impacts perceptions of acceptability, but other factors are also important.

**Figure 11: Acceptability of number and duration of planned and unplanned power interruptions**



Base: All participants that had experienced power interruptions; n=844 (n=65 last 12 months, n=779 lived at this address).  
 Q11. How acceptable or unacceptable are each of the following, in your view?  
 Note: Responses from 0-3 were categorised as unacceptable, 4-6 were categorised as neutral and 7-10 were categorised as unacceptable.

- Participants aged 18-34 (mean = 6.37) rated the *number* of unplanned interruptions as more acceptable than those aged 55-64 years (mean = 4.99) and 65 or more years (mean = 5.33). Those aged 18-34 years (mean = 5.83) also rated the *duration* of unplanned interruptions as more acceptable than those aged 55-64 years (mean = 4.85).
- Female participants (mean = 5.79) rated the *number* of unplanned interruptions as more acceptable than male participants did (mean = 5.06). Women (mean = 5.48) also rated the *duration* of unplanned interruptions as more acceptable than men did (mean = 5.00).
- Households in major cities (mean = 6.71) rated the *number* of unplanned interruptions as more acceptable than those in outer regional (mean = 5.30) and remote (mean = 3.50) areas. Those in major cities (mean = 6.49) also rated the *duration* of unplanned interruptions as more acceptable than those in outer regional (mean = 4.95) and remote (mean = 3.75) areas.
- Participants in the lowest income bracket (\$15,000-\$20,000 household income per annum) rated the number and duration of all forms of interruption as less acceptable than those with incomes between \$60,000 and \$100,000.
  - Those in the \$15,000-\$20,000 income category rated the *number* of planned interruptions (mean = 6.79) as less acceptable than those in the \$60,000-\$100,000 category (mean = 7.75) and those with household incomes above \$100,000 (mean = 7.97).
  - Those in the \$15,000-\$20,000 income category rated the *number* of unplanned interruptions (mean = 5.03) as less acceptable than those in the \$60,000-\$100,000 category (mean = 6.21).
  - Those in the \$15,000-\$20,000 income category rated the *duration* of planned interruptions (mean = 6.08) as less acceptable than those in the \$60,000-\$100,000 category (mean = 7.10).

Regional and remote customers find the number and duration of interruptions less acceptable than those in cities.

- Those in the \$15,000-\$20,000 income category rated the *duration* of unplanned interruptions (mean = 4.08) as less acceptable than those in the \$60,000-\$100,000 category (mean = 5.97).

Participants were asked to indicate their level of agreement with a series of statements regarding the acceptability of power interruptions (Figure 12).

***‘I would be willing to accept more power interruptions if my electricity bill was reduced’***

Half of all customers are unwilling to accept more interruptions in exchange for a reduced bill.

Almost half of all participants (49%) indicated that they disagreed with the notion that they would accept more power interruptions if their electricity bill was reduced. However a significant minority agreed that they would be willing to accept this (30% agreed or strongly agreed with the statement).

- 18-34 year olds were more likely to agree or strongly agree (42%), and vulnerable households were more likely to strongly agree (12%, compared with 9% overall).

***‘If there is clear information about the time and duration of planned power interruptions, these interruptions would be more acceptable’***

Most participants agreed that planned power interruptions would be more acceptable if clear information regarding the time and duration of interruptions was disseminated (73% agreed or strongly agreed).

Information about planned interruptions makes them more acceptable for most.

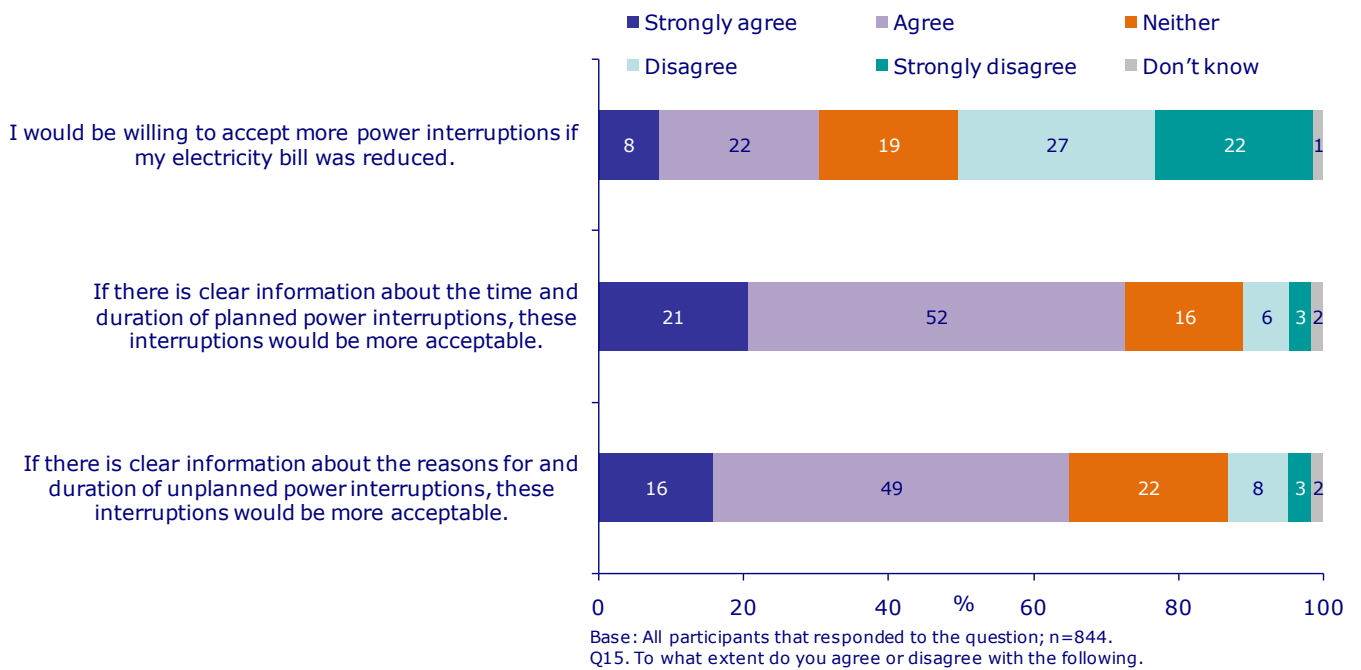
***‘If there is clear information about the reasons for and duration of unplanned power interruptions, these interruptions would be more acceptable’***

Most agreed that unplanned power interruptions would be more acceptable if clear information regarding the reasons for, time and duration of interruptions was provided (65% agreed or strongly agreed).

Information about unplanned interruptions makes them more acceptable for two thirds of customers.

- 55-64 year olds were more likely to strongly disagree (7%, compared with 3%).

**Figure 12: Agreement with statements regarding the acceptability of power interruptions**



**Qualitative research findings**

Participants in the group discussions found that the number of planned and unplanned interruptions they had experienced were acceptable. Most participants thought that stated that they accepted that unplanned interruptions were sometimes unavoidable, and that as long as planned interruptions were well communicated in advance, the number they were experiencing was acceptable.

*We're right at the end of the line so we tend to lose power quite a bit when there's thunderstorm activity but it's where we live and you know that they're on to it and the supplies usually comes back on within a reasonable timeframe. So it's just a given for where we live, I think. Rural customer, Tamworth*

**Unplanned interruptions**

Participants were generally well informed about how to access information about unplanned interruptions. Many participants were able to discuss instances when they had called Essential Energy during unplanned interruptions and obtained information relevant to their local area. This was seen as providing sufficient information and an appropriate channel through which to provide information. Some participants, however, were unaware that this service existed or that it was Essential Energy that provided it.

*Usually if you ring and you can't get through to an operator they'll have a recorded message on the line that they've experienced power outages in the following areas, blah, blah, blah, blah. Rural customer, Tamworth*

There was interest in receiving information via text message during unplanned interruptions, as is done during flood events, rather than having to call Essential Energy for an update.

Information becomes more important the longer an interruption lasts.

Participants found that the provision of information about unplanned interruptions did tend to make the interruptions more acceptable. Information became more important the longer an interruption was likely to last.

It was seen as appropriate for information about interruptions of less than an hour or two to be available only over a phone service. Some participants, particularly those who were likely to be more heavily impacted by unplanned outages, such as small businesses and rural customers, stated that they would like to be actively informed by Essential Energy if an unplanned interruption was likely to last for longer than a few hours.

*I suppose it's all about the service really. You want someone to be able to help you and that's friendly and if something does go wrong that they can come out and it won't take them three days to come out and see you.*

**Rural/regional customer, Wagga Wagga**

The influence of information on acceptability of unplanned interruptions was clearly demonstrated by participants in the Batemans Bay groups. The Batemans Bay area had been subjected to a series of interruptions in recent times due to a colony of bats which regularly ran into the lines. The public had been well informed about the ways the issue was being addressed through local media releases. Participants reported that they thought the interruptions were acceptable, because they understood the causes and the measures being taken to address them.

*There was something that came up in Veera Southeads, I think it was last year or the year before when a colony of bats came through and they kept on causing an area to be blacked out so the energy provider took measures to put stuff over the wires so the bats could actually pick up that there was an object there and go around it and not cause blackouts, so I suppose that comes down to service and maintenance and sensitivity with the environment.* **Vulnerable customer, Batemans Bay**

### **Planned interruptions**

Most participants reported that they were usually informed about planned interruptions via a letter to their home two or three weeks before the outage. This was generally seen as an acceptable warning period, and most expressed satisfaction with this system of communication.

*They have obviously got to do work or whatever so it's good that they let you know.* **Rural/regional customer, Wagga Wagga**

A small number of participants, who generally reported having high numbers of planned interruptions in recent time periods, stated that the number of interruptions was unacceptable despite the information they had been provided.

There were two areas, where participants perceived that information could be more effectively managed. Firstly, while it was generally acknowledged that most changes to planned interruptions were communicated via a phone call, some participants cited occasions when they had not been informed when a planned interruption had been cancelled. Such instances tended to cause frustration as plans made to accommodate the interruption turned out to be unnecessary.

*It is a little bit [frustrating] 'cos my husband was taking the day off... and then when he realised there'd be no power, well he might as well go to work. So he did and then it didn't happen.* **Rural customer, Tamworth**



*We've had quite a few letters where they're working on the power line somewhere so we will be out of power like nearly all day. And then the day it happens, you get a phone call that it's not happening. That's really annoying.*

**Rural customer, Tamworth**

Secondly, some stated that they would like to receive a reminder on the day prior to a planned interruption so that they didn't forget that the interruption was going to occur. Small business owners and managers, in particular, would find this beneficial.

### 3.4 Understanding of the network and billing

Findings in this section explore participants' understanding of the electricity network and the way they are charged for their energy, including:

- Understanding of the importance of demand management
- Understanding of billing information

During group discussions, there was a high level of confusion around the structure and makeup of electricity bills. There was also confusion and a general lack of knowledge about the reasons for recent increases in electricity prices and the effects of increased demand on the network infrastructure.

#### **Understanding of network peaks**

During group discussions, participants were asked whether they understood the reason for peak and off-peak billing. There was a very poor grasp of the reason for peak and off-peak rates, with many making reference to the generation of energy in their explanations. Very few of the participants made a link between peaks in demand and capital expenditure, and that it was therefore in the network operator's interest to reduce peak load.

It could take the peak out of the consumption because, I mean, the energy companies down in parts of Victoria are really, in summer and winter, they suffer because they've got so much consumption happening with it, they are pleading with people to shut this down, shut that down. So we're getting to that situation. **Small general customer, Coffs Harbour**

*Participant 1:* It all used to be Country Energy out there and now Country Energy is, I don't even know, I have lost track now I think it's AGL. I could be wrong. Or it's Origin, whichever one, that's it, that's your option.

*Participant 2:* Well Essential own Origin. **Regional/rural customers, Wagga Wagga**

Several participants worried that introducing an off-peak rate would simply move the peak into off-peak hours. This new peak would then necessitate the formulation of a new off-peak period, thus not solving the problem of peak use.

Very few customers understand the challenge of demand management.

## Understanding of billing information

Almost half of survey participants (46%) indicated that they felt there was not enough information available for them to make informed decisions about their electricity usage. However, a similar proportion (44%) indicated that they thought that there was sufficient information. The remaining 10% indicated that they were unsure.

### Qualitative research findings

Participants stated that they had great difficulty understanding their electricity bill.

While the total bill figure was generally reported to be clearly identifiable, the breakdown of the bill was less so. Very few participants were aware that their bill was made up of a network charge and a retail charge. Further, even those who were aware there were two charges, were unaware of the proportion of the bill each charge constituted.

Many customers are confused by their bill or misunderstand their tariff.

Many participants made the assumption that TOU tariff rates applied to their households, and that they were billed at different rates for peak and off-peak usage. Several participants thought that they received different peak and off-peak rates, despite the fact that they still had conventional meters installed in their homes. Some of this confusion appears to arise from the fact that their bills list different tariff rates for different times of the day. Some participants spontaneously stated that they were interested in knowing the peak and off-peak rates for electricity consumption. This was usually driven by a desire to save money on their bill.

*And I'd like to know when is the dearest time so that I don't use my washing machine and things 'cos I'll do it at night and friends of ours said oh that's the dearest time to be doing it. **Rural customer, Tamworth***

*My other half told me, I had no idea, that only a couple of days ago that, that our hot water service heats of a night time...And that was my first knowledge, even though I am the one who pays the bills and looks at these pretty graphs and I am like oh really, at night time? **Rural customer, Wagga Wagga***

A small number of participants reported that they had installed IN meters in their homes or offices and had a switched to a TOU tariff. These participants tended to have a good grasp on their energy consumption and most also reported undertaking several energy efficient behaviours.

Many rural participants reported that they received two different tariff rates; one for their household consumption and one for consumption on their property (e.g. in workshops and for pumping water to stock).

During the group discussions, opinions were also split on whether the information available in the public domain was sufficient for making informed decisions. Almost all participants reported that they were confused by the billing information they received, and some were also confused about whether they were billed on a TOU basis.

Some participants reported that their homes or offices had been audited for energy efficiency, and that this had increased their understanding of their options greatly. Active searches for information on energy efficiency were also reported by some participants, most often via the internet. Small business customers tended to report this behaviour more often than household customers.

### 3.5 Control: rebates, tariffs and usage patterns

Findings in this section explore participants' perceptions of different tariff options

- TOU tariffs/rebates
- Remotely-controlled load rebates in high demand periods
- Pay-as-you-go meters

Survey participants were asked two questions regarding different tariff/rebate options. The first concerned TOU tariffs/rebates (i.e. tariffs charging less for usage during set times or rebates if customers keep usage at set times below certain levels). The second concerned remotely-controlled load rebates (i.e. rebates paid in exchange for customers allowing the network provider to control some of their appliances).

63% of customers would consider a TOU tariff, but only 24% would consider allowing Essential energy to remotely control their appliances.

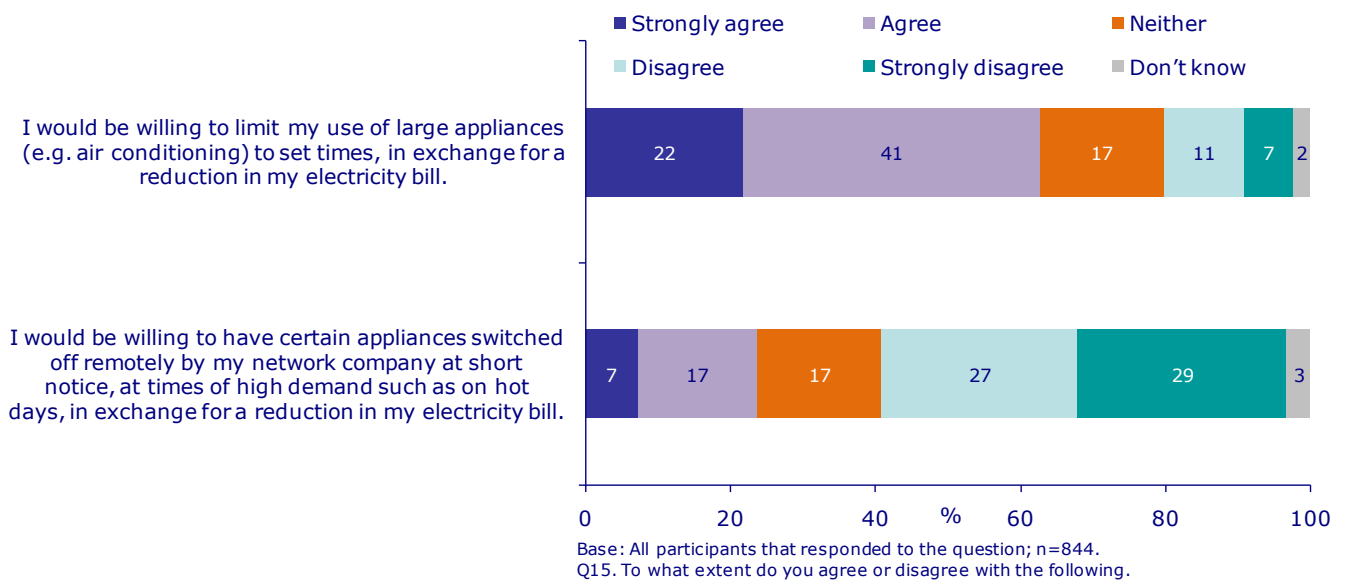
Figure 13 shows the level of agreement with statements about willingness to take up either tariff/rebate. Almost two-thirds of all participants agreed that they would be willing to limit their use of large appliances in exchange for a reduction in their electricity bill (63%, including 22% who strongly agreed).

- Vulnerable households were more likely to agree or strongly agree (26%).

A much smaller proportion of participants were willing to consider a remotely-controlled load rebate. More than half disagreed that they would be willing to have certain appliances switched off remotely at times of high demand in exchange for a reduction in their electricity bill (56%, including 29% who strongly disagreed).

- Female participants were more likely than male participants to strongly disagree (32%, compared with 26%), while vulnerable households were more likely to agree or strongly agree (31%, compared with 25% overall)

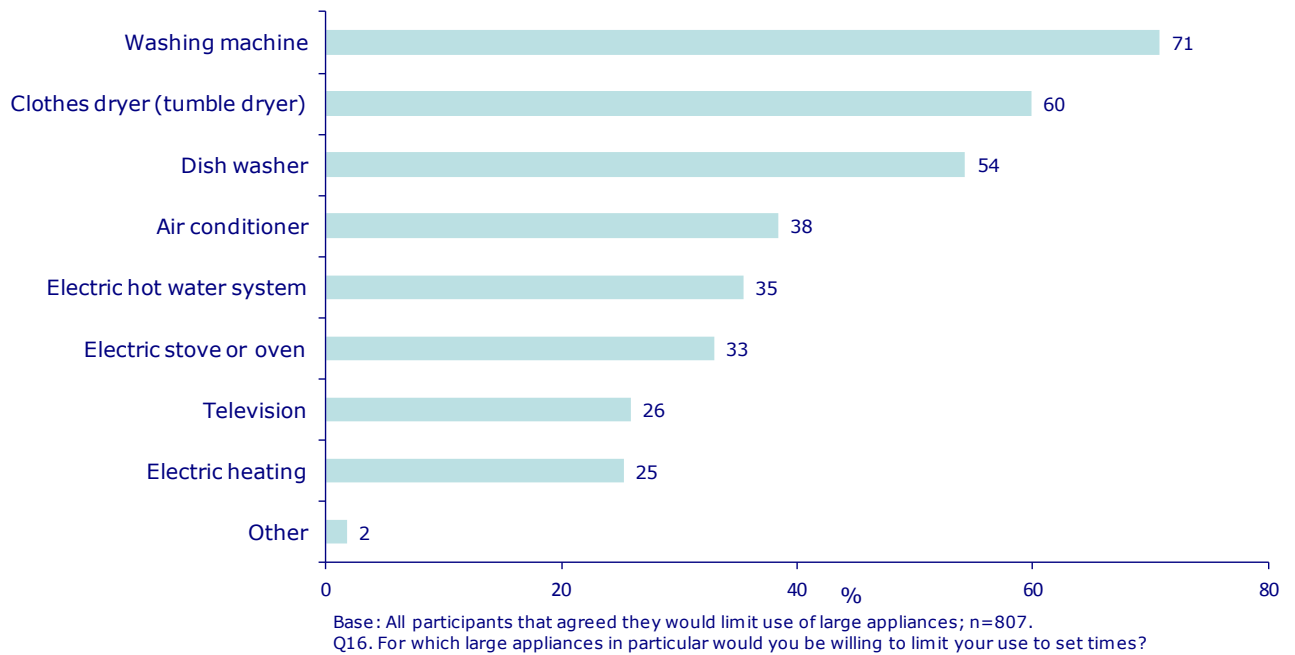
**Figure 13: Agreement with statements regarding tariff options**



## Time of use tariff/rebate

Participants who indicated they would be willing to limit the use of large appliances during peak times in exchange for a reduction in their electricity bill were asked to indicate for which appliances they would limit their use. The most commonly nominated appliances included the washing machine (71%) and the clothes dryer (60%). Over half of participants (54%) indicated that they would limit the use of their dishwasher at set times. Over a third were willing to limit the use of their air conditioning (38%). Participants were the least likely to indicate that they would limit the use of their television (26%) and electric heating (25%).

**Figure 14: Willingness to limit use of specific appliances to set times**



- Participants in single person households were less willing to limit their use clothes dryers to set times (45%). However, they were more often willing to limit their use of electric hot water systems and electric stoves or ovens (both 45%).
- Participants in households with no one home during the day were more willing to limit their use of tumble dryers (75%). Those in households with one person home during the day were more willing to limit their use of electric hot water systems. Participants in households with three or more people home during the day were more willing to limit their use of television (35%), but less willing to limit use of electric hot water systems (35%).
- Participants whose last bill was \$600-\$800 were more often willing to limit their use of tumble dryers (72%). Those whose last bill was more than \$800 were more often willing to limit use of tumble dryers (86%) and electric hot water systems (23%).
- Participants whose household income was \$60,000-\$100,000 (72%) and those whose household income was more than \$100,000 (74%) were more often willing to limit their use of tumble dryers. Those whose income was \$15,000-25,000 were less often willing to limit their use of tumble dryers (49%) but more willing to limit use of electric ovens or stoves.

- Participants from vulnerable households were less willing than others to limit their use of dishwashers to set times (49%).

### Qualitative research findings

The group discussions revealed a wide range of attitudes towards the idea of a TOU tariff/rebate. Most were relatively positive about idea, stating that they could modify their behaviour to fit off-peak times, although many prefaced this by saying that they needed more information about when peak times would be in order to make a decision. Some customers, however, preferred the simplicity of a flat rate tariff, preferring the inherent safety of being able to predict what their bill would cost.

*It's the same as phone calls, phone calls are cheaper after certain times because that's when people, the bulk of people aren't using it. **Rural customer, Wagga Wagga***

*So are they going to make it cheaper at certain times or make it more expensive at certain times? I mean keep their base level so is this really going to be cheaper? **Rural customer, Wagga Wagga***

Most business customers found they were restricted in the scope they had to modify the time that they used certain appliances by operational and customer demands. Examples of this included cafes and offices where cookers, fridges, computers and air conditioning had to be on all day.

This inability to change their consumption patterns was the greatest barrier to these customers taking up a TOU tariff/rebate. Small business customers were the least amenable group to the idea of a TOU tariff/rebate for this reason. Many stated that they would be unable to avoid peak times during the day due to customer demand, although for some businesses it was perceived to be less of a problem.

*With your business you've got to do what you've got to do when you do it. You can't change times. Sorry, everyone come in for lunch at two because it's cheaper for me. **Small business customer, Tamworth***

A few business customers, however, reported being somewhat more flexible in the timing of their energy consumption. This was more often the case for businesses which were not office-based. Examples included tradespeople and a dog training business.

Some rural customers were also resistant to the idea of a TOU tariff/rebate. This was often tied to the fact that they were not confident that they would be able to limit consumption during peak daytime hours due to their reliance on pumps to provide water to their homes and properties. Some, however, indicated that if the tariff were to apply only to their home, not the rest of their property that they would consider taking up a TOU tariff/rebate.

Some small general and vulnerable customers also thought they would be unable to change their consumption patterns. This was often because of a perceived inconvenience of changing their times of use.

*Like you are still going to cook tea at that time of the night. You are still going to, you can't walk around with a candle **Regional/rural customer, Wagga Wagga***

*Yeah, and like with the washing machine, I mostly use it in the morning because we only get sun out the back between 8 and 12 and then there's no sun for the rest of the day so I need to get my washing out early otherwise if it doesn't get dry, then I have to bring it in and put it in the dryer, so it's ... it's hard. **Small general customer, Coffs Harbour***

Not in busy hectic lifestyles. Maybe if you had nothing to do all day and were at home you could change things around... Who has got the time? **Regional/rural customer, Wagga Wagga**

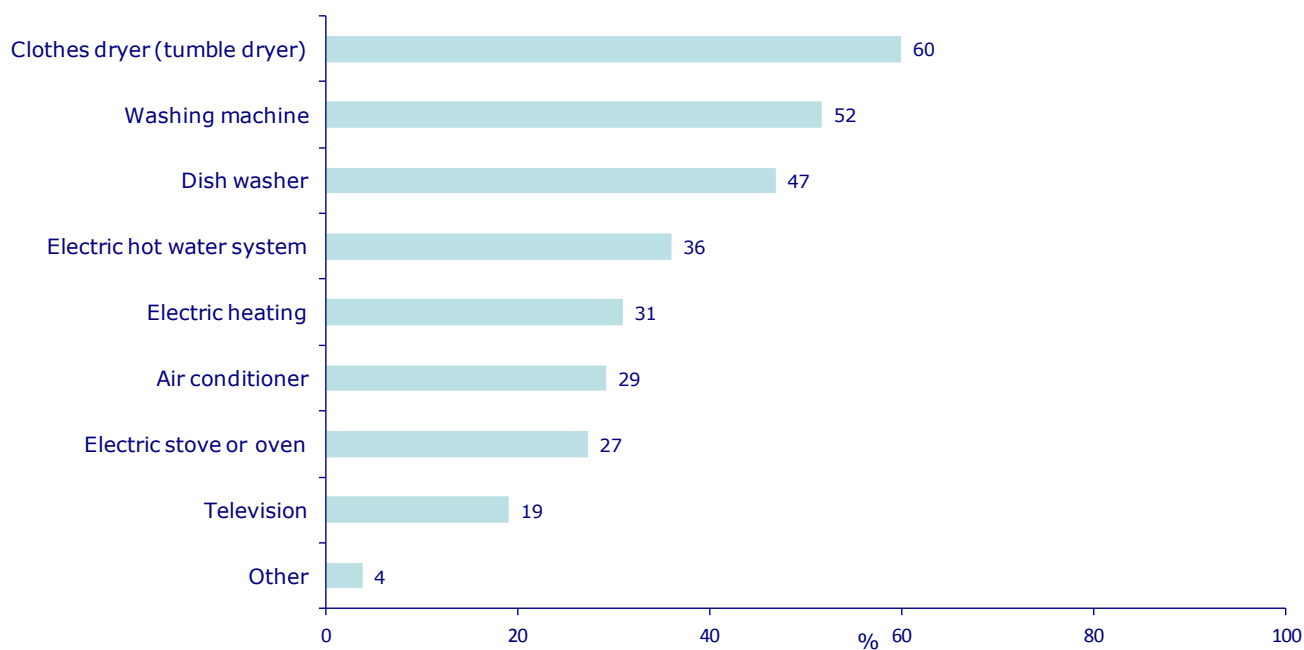
I would make sure like I wouldn't have the washing machine on or something but I am still going to cook dinner and I am still going to watch TV **Regional/rural customer, Wagga Wagga**

## Remotely controlled load rebates

Participants who indicated they would allow their network company to switch off appliances remotely during peak times in exchange for a reduction in their electricity bill were asked to indicate the appliances that they would allow to be switched off.

As for TOU, the most commonly nominated appliances included the clothes dryer (60%) and the washing machine (52%). Almost half of participants (47%) indicated that they would allow their network to switch off their dishwasher at set times. Almost a third said they would be willing to have their air conditioning switched off at set times (29%). Participants were least likely to allow their electric stove or oven (27%) or their television (19%) to be switched off by the network company.

**Figure 15: Willingness to allow network company to switch specific appliances off remotely**



Base: All participants that agreed they allow their network company to switch off appliances remotely; n=599.  
Q17. Which appliances in particular would you be willing to let your network company switch off remotely?

- Participants from households of four or more people were less often willing to have several appliances switched off remotely. Only 19% were willing to undertake such a tariff for their air conditioning, while 26% were willing for their electric hot water system and 19% for electric heating.

## Qualitative research findings

Most group discussion participants reacted with scepticism to the concept of a remotely-controlled load rebate. Very few participants, even among vulnerable customers, were willing to switch to a remotely-controlled load rebate. Initial reactions to the concept of having Essential Energy control appliances remotely were generally negative, with many stating that they could not see such a system being practical. Many did not initially believe that Essential Energy could easily isolate certain appliances in order to switch them off.

*How would you do that? Rural customer, Wagga Wagga*

*That would mean they'd have to be on separate circuits then wouldn't it? Small business customer, Coffs Harbour*

More important than this, however, was the aversion of many to the idea of giving up control of their appliances. Many participants stated that they already switched appliances off when they were not using them, and that if they were using them, they would not want them switched off. This was the key barrier to participants' intentions to take up such a tariff.

*I am not sure about turning off your air conditioning though because if you are not using your air conditioning you turn it off. If you do need it because it's really stinking hot, and we don't have it, if you do use it then I don't think you would want the company to turn it off for you ... Small general customer, Batemans Bay*

*Participant 1: I don't think I would like to use control.*

*Participant 2: No, they pay for it so they, yeah why should we ...*

*Participant 3: I like to be in control of what I am doing. Rural customers, Wagga Wagga*

Another concern raised by participants was that a controlled load tariff would impinge on their privacy and rights. Some participants said that they felt strongly the idea of having control over their consumption, and thus a TOU tariff/rebate would be preferable to a controlled load tariff.

*Oh, big brother is watching. Vulnerable customer, Batemans Bay*

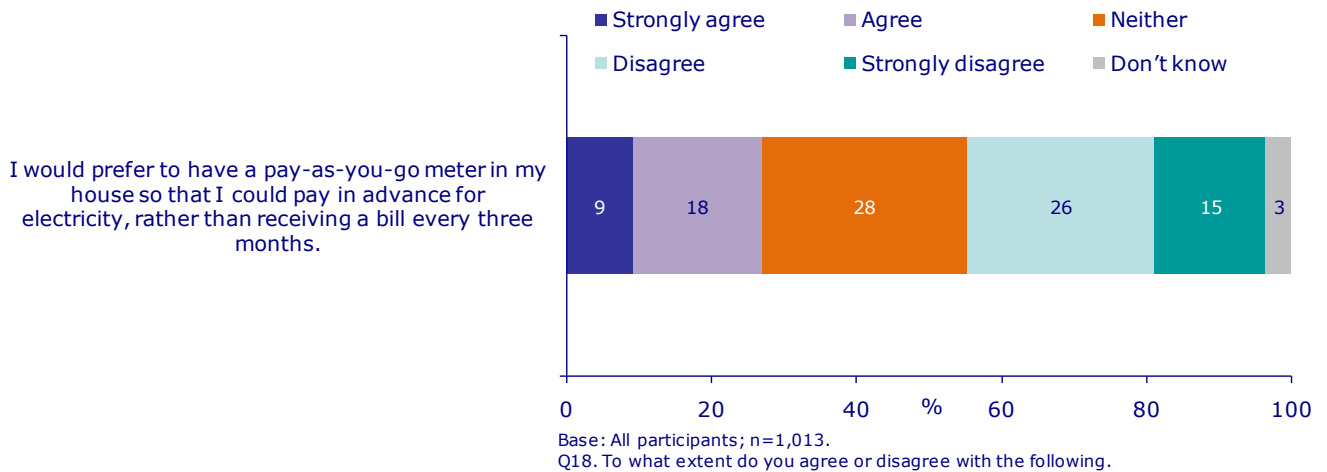
*I don't know, like that's me just putting the responsibility back on the company to hand on a reduction a lot of the times that doesn't really happen. It's like even the governments they promise stuff and it doesn't happen so ... I just ... you have got to take the responsibility yourself I think. Rural customers, Wagga Wagga*

Small business customers were the least positive about taking up a controlled load tariff. As mentioned earlier, small businesses reported that they needed a high level of control over the times at which they use appliances due to customer demand.

There was a very limited range of appliances that participants would allow Essential Energy to control, and washing machines and dishwashers were the main appliances. These appliances were most often mentioned because their time of use could be modified without impacting lifestyle or comfort greatly. Participants were more reticent lose control of air conditioners and ovens due to the potential impacts on their routine and their comfort.

## Pay-as-you-go meters

Figure 16: Preference for pay-as-you-go meters



Opinion was divided about the preference for pay-as-you-go meters that would enable customers to pay for electricity in advance: 27% agreed with the notion, and 41% disagreed. Over a quarter neither agreed nor disagreed (28%).

- Younger participants tended to agree more strongly than older participants that they would prefer a pay-as-you-go meter in their house rather than receiving a quarterly bill.
- Female participants tended to agree more strongly than male participants that they would prefer a pay-as-you-go meter in their house rather than receiving a quarterly bill.
- Participants from vulnerable households tended to agree more strongly than other participants that they would prefer a pay-as-you-go meter in their house rather than receiving a quarterly bill.

### 3.6 Vulnerable households

Findings in this section explore attitudes towards the assistance provided to households that are having trouble paying their electricity bills, including:

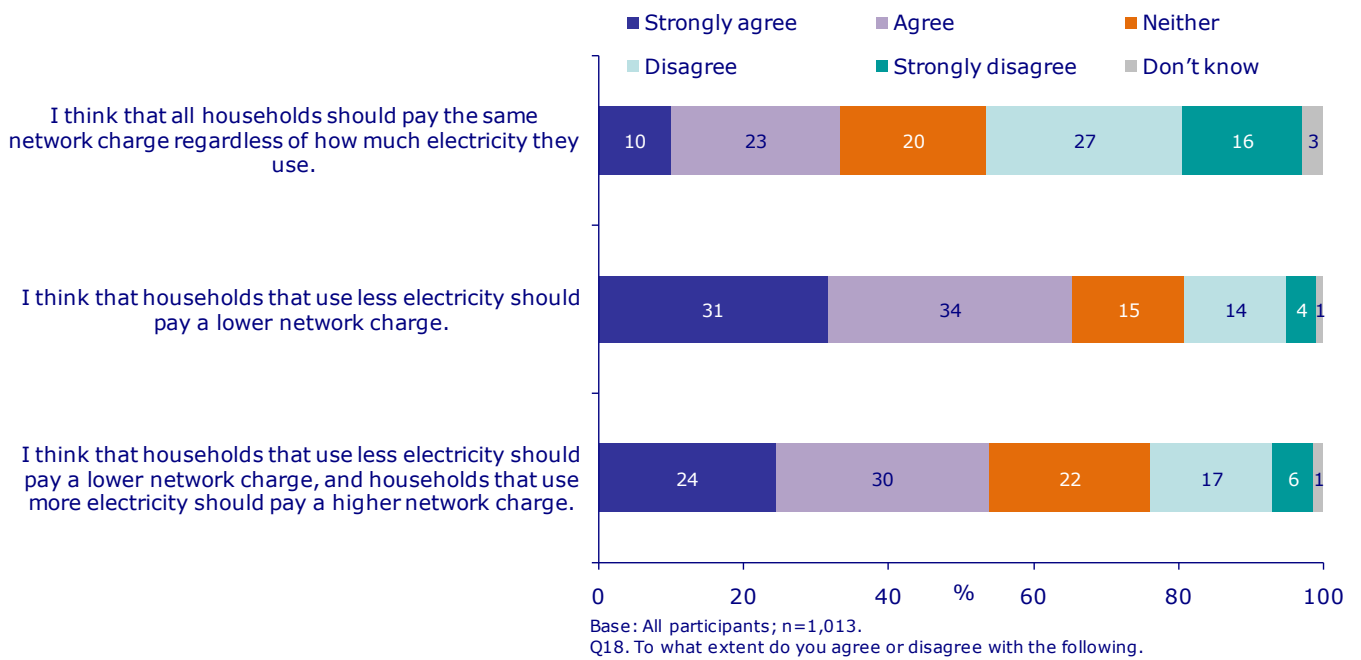
- How network charges should be calculated
- Level of support for vulnerable households

#### Network charges

Participants were asked to indicate the extent of their agreement with three statements regarding the calculation of network charges (Figure 17 **Error! Reference source not found.**).



**Figure 17: Level of agreement with statements regarding network charges**



***'I think that all households should pay the same network charge regardless of how much electricity they use'***

A third of participants (33%) agreed with the statement, and more disagreed (43%).

- Male participants tended to agree more strongly than female participants that all households should pay the same network charge regardless of how much electricity they use.

A third of customers think that all household should pay the same network charge.

- Participants from households with higher electricity bills tended to agree more strongly than those with lower bills that all households should pay the same network charge regardless of how much electricity they use.

***'I think that households that use less electricity should pay a lower network charge'***

Almost two-thirds of participants (65%) agreed with the notion that households that use less electricity should pay a lower network charge. Eighteen percent disagreed (18%).

- Female participants tended to agree more strongly than male participants that households that use less electricity should pay a lower network charge.
- Participants from smaller households tended to agree more strongly that households that use less electricity should pay a lower network charge.
- Participants from households with lower bills tended to agree more strongly that households that use less electricity should pay a lower network charge.
- Participants from households with lower incomes tended to agree more strongly that households that use less electricity should pay a lower network charge.

- Participants from vulnerable households tended to agree more strongly than others that households that use less electricity should pay a lower network charge.

***'I think that households that use less electricity should pay a lower network charge, and households that use more electricity should pay a higher network charge'***

A smaller proportion (54%) agreed with the notion that households that use less electricity should pay lower network charges *and* households that use more electricity should pay higher network charges. Nearly a quarter disagreed (23%).

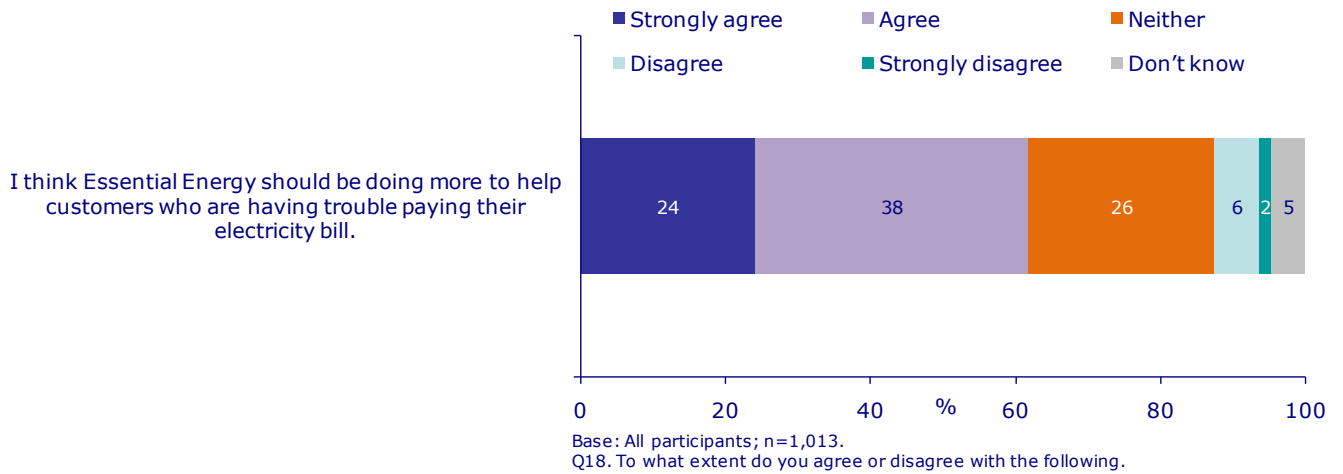
Just over half of customers think that network charges should depend entirely on usage.

- Participants from smaller households tended to agree more strongly that households that use less electricity should pay a lower network charge, and households that use more electricity should pay a higher network charge.
- Participants from households with more people home during the day tended to agree more strongly that households that use less electricity should pay a lower network charge, and households that use more electricity should pay a higher network charge, apart from those households with no one home during the day.
- Participants from households with lower bills tended to agree more strongly that households that use less electricity should pay a lower network charge, and households that use more electricity should pay a higher network charge.
- Participants from households with lower incomes tended to agree more strongly that households that use less electricity should pay a lower network charge, and households that use more electricity should pay a higher network charge.
- Older participants tended to agree more strongly than younger participants that households that use less electricity should pay a lower network charge, and households that use more electricity should pay a higher network charge.

## Support for vulnerable households

Participants were asked to indicate their level of agreement with two further statements relating to support and billing for vulnerable households.

**Figure 18: Level of agreement with statements regarding electricity billing**



Almost two-thirds of participants (62%) indicated that they believed Essential Energy should be giving customers that have trouble paying their electricity bill additional support.

Two-thirds of customers think that Essential Energy should be doing more to support vulnerable households.

- Female participants tended to agree more strongly than male participants that Essential Energy should be doing more to help customers who are having trouble paying their bills.
- Participants from households that had higher electricity bills tended to agree more strongly than those with low bills that Essential Energy should be doing more to help customers who are having trouble paying their bills.
- Participants from households with lower incomes tended to agree more strongly than other participants that Essential Energy should be doing more to help customers who are having trouble paying their bills.
- Participants from vulnerable households tended to agree more strongly than other households that Essential Energy should be doing more to help customers who are having trouble paying their bills.

**Qualitative research findings**

Although there was general support for the notion of helping genuinely vulnerable customers to pay for their electricity, there was a widely and strongly expressed view that people would be able to take advantage of the system to gain an unfair benefit if Essential Energy were to provide help to some customers.

Participants initially expressed the opinion that people in vulnerable situations already get a reasonable amount of support from the Australian Government, and therefore do not require further support from Essential Energy. Some participants also expressed the view that it is the role of government, rather than service providers, to provide support for more vulnerable segments of the population. A few participants stated that Centrelink provides a rebate service on energy bills for some clients, although almost all were unaware of any programs run by Essential Energy targeted at helping vulnerable customers.

There was a view that many people struggle to pay their electricity bills, so allowing some people to be supported at the expense of others was unfair on those who had to pay.

*Participant 1:* That's the thing, there is so many things out there they can go to welfare things, they can go to this, they can go to that, government things and that to try and get over these ... things. They don't use any of them but as soon as they got a power bill or something that's high they scream poor.

*Participant 2:* .. They have got every avenue to pay it, to learn how to pay it ... **Rural customers, Wagga Wagga**

Most groups came to the conclusion there are likely to be some genuinely vulnerable people in the community who deserve to receive some form of support to pay their energy bills. Despite acknowledging this, there remained concerns that a program for vulnerable customers would be open to abuse.

*I think there should be some help for people who are really battling, in dire straits for some reason. But the problem is you would have to have some kind of ... to actually find out the situation. **Vulnerable customer, Batemans Bay***

*Say for pensioners or low income people, maybe they should get some sort of reduction on their rental cost **Small general customer, Coffs Harbour***

There was a view that where a genuine case of vulnerability or hardship could be proven, some form of support program was appropriate.

The question of how to ensure that vulnerability or hardship could be proven was raised by some participants. Some suggested that the solution was for programs providing such support to be government-managed and administered, whereas others were of the opinion that they could be run by Essential Energy with input from government agencies such as Centrelink.

Some participants also said that they thought that a program which educated vulnerable customers would be more useful instead or alongside a program which provided rebates.

## 3.7 Communications

Findings in this section explore participants' attitudes towards and preferences for communications from Essential Energy, including:

- Information needs
- Communication channel preferences
- Use of mobile technology

### Communications preferences

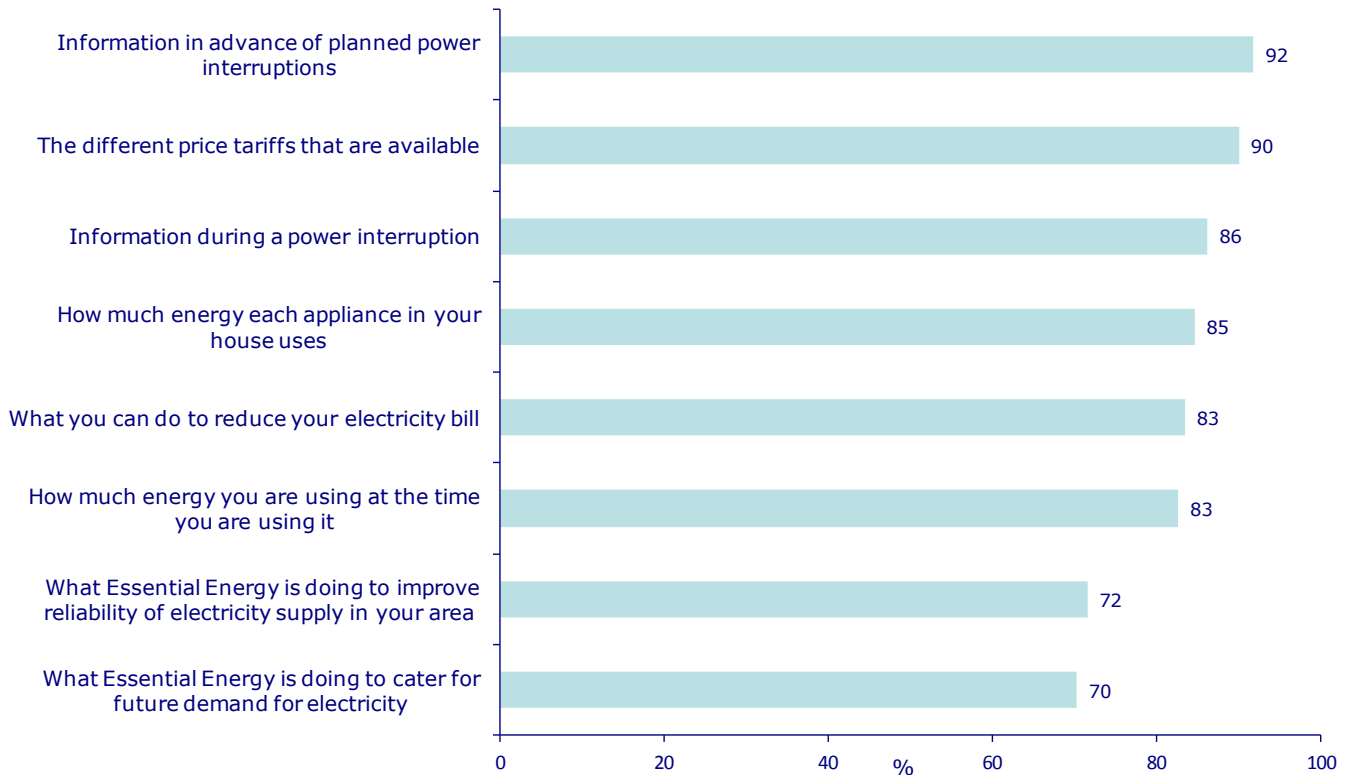
Participants were asked about the facets of electricity supply that they would like to receive more information about. Most participants indicated that they wanted to receive more information about each of the aspects listed.

The vast majority of participants indicated that they would like more information in advance of planned power interruptions (92%) and the different price tariffs that are available (90%). Over four fifths would like more information during a power interruption (86%), the amount of energy each appliance in their house uses (85%), what can be done to reduce their electricity bill (83%) and how much energy they are using at the time they are using it (83%).

The majority of participants want more information on interruptions, tariffs and usage.

At least seven in ten participants were interested in receiving more information about what Essential Energy is doing to improve reliability in their area (72%), and what it is going to cater for future demand (70%).

**Figure 19: Facets of electricity supply participants would like to receive more information about**



Base: All participants; n=1,013.  
Q21a. Which of the following would you like to receive more information about, regarding your electricity supply?

- Participants from households of four or more people were more likely to be interested in more information on how much energy they are using at the time they are using it (87%).
- Participants from households with no one home during the day were more likely to be interested in more information on how much energy they are using at the time they are using it (92%).
- Participants whose last bill was less than \$400 were less likely to be interested in more information about how to reduce their electricity bill (80%).
- Participants with low household incomes (\$15,000-\$20,000) were more likely to be interested in information on what Essential Energy is doing to improve supply in their area (80%), but less likely to want more information on how much energy they are using at the time they are using it (77%).

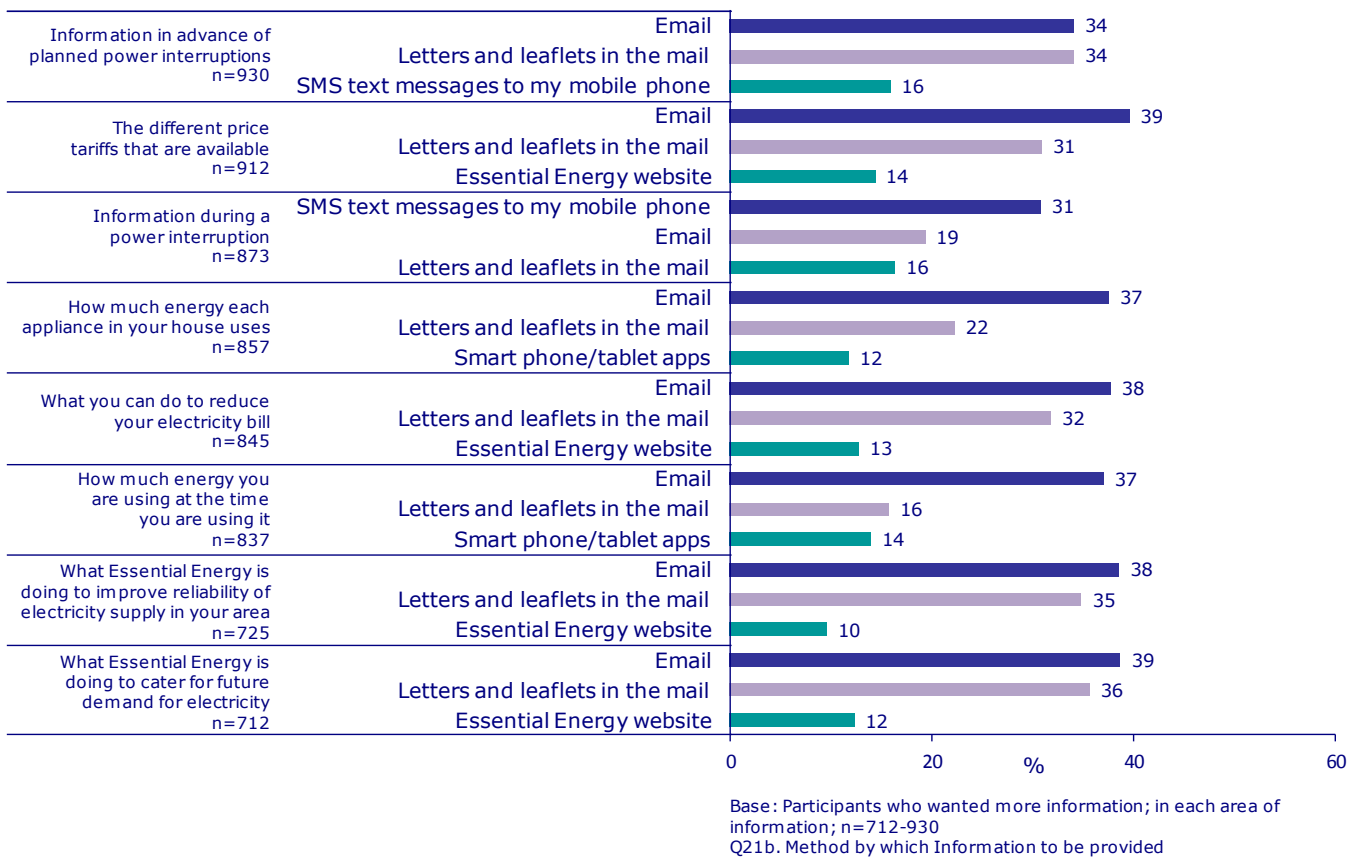
- Participants from vulnerable households were more likely to be interested in information on how much energy they are using at the time they are using it (87%), how much energy each appliance in the house uses (90%), what they can do to reduce their electricity bill (87%) and the different price tariffs available (93%).

## Communication channels

For each of the areas they wanted to receive more information about, participants were asked which communication channel they would prefer to get the information through. Figure 20 shows the top two preferences for each area of information. The three most popular communication methods for each area of information are show in Figure 20 below, and full charts can be found in Appendix 1.

Email is the preferred method of communication, followed by letters and leaflets.

**Figure 20: Communication channel preferences for each area of information**



Email was the preferred communication channel for almost all areas of information, followed by letters and leaflets in the mail. Email was preferred by at least a third (33%) of all participants in most areas of information. Preference for letters and leaflets was more variable, with between 16% and 36% preferring it in each area of information.

The exception to this rule was *information during a power interruption*, for which 31% of participants preferred SMS text messages to their mobile phone and 19% preferred email.

Almost a third of customers would like to receive text messages about interruptions.

## Use of mobile technology

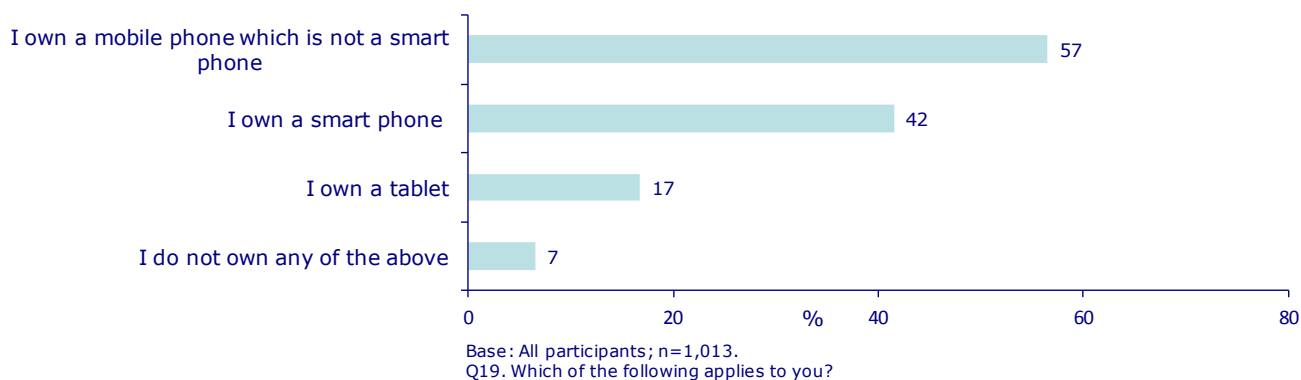
42% of customers own a smartphone.

Participants were asked about the forms of mobile technology that they owned

(Figure 21). While more than four in ten (42%) owned a smartphone, well over half (57%) owned a mobile phone which was not a smartphone. Nearly one in five participants (17%) owned a tablet.

Seven percent of participants did not own any form of mobile phone or tablet.

**Figure 21: Participants' ownership of mobile phones, smartphones and tablets**

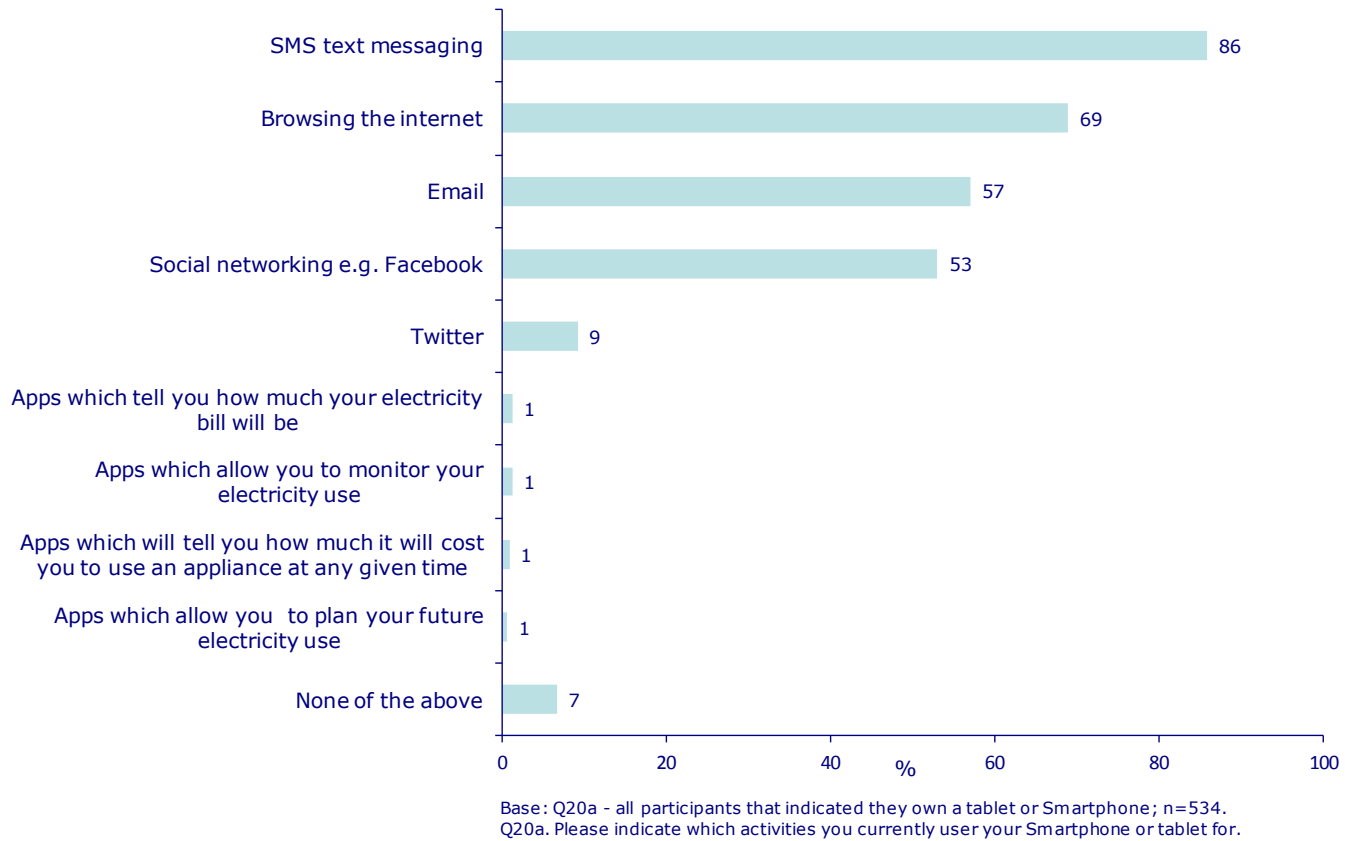


- Younger participants (i.e. those aged 18-34) were more likely to own tablets (24%) and smartphones (76%). Those aged 55-64 (66%) and those over 65 (70%) were more likely to own mobile phones which are not smartphones. Those aged over 65 were also more likely not to own a mobile phone or tablet (11%).
- Participants who lived in one-person households were less likely to own tablets (11%) and smartphones (30%), but more likely to own phone which is not a smartphone (63%). They were also more likely not to own a mobile phone or tablet (10%).
- Participants who lived in households with no one home during the day were more likely to own a smartphone (56%), as were those who lived in households with three or more people home during the day (53%).
- Participants whose last electricity bill was below \$400 were less likely to own a tablet (14%) or a smartphone (34%). Those whose bill was \$800 or more were more likely to own a tablet (42%).
- Significant differences were found in the ownership of mobile technology according to household income:
  - Participants from households with an income of \$15,000-\$20,000 were less likely to own tablets (11%) and smartphones (26%). They were more likely to own mobiles which are not smartphones (69%) or not own a mobile phone or tablet (10%). Those with household incomes of \$25,000-40,000 were also less likely to own smartphones (33%).
  - Participants from higher-income households were more likely to own smart devices. Those whose household income was \$60,000-\$100,000 and those whose household income was above \$100,000 were more like to own smartphones (53% and 70% respectively). Those with a household income above \$100,000 were more likely to own a tablet (30%).

- Participants from vulnerable households (i.e. those who had struggled to pay their last electricity bill or paid it late) were more likely to own a smartphone (46%).

Participants who owned a smartphone were asked about the types of activities that they used their smartphone for (Figure 22). The majority of users utilised their smartphone for communications or the internet including SMS text messaging (86%), browsing the internet (69%), email (57%) or social networking (53%). One percent of participants indicated that they used their smartphone for each of the activities relating to electricity use (1%).

**Figure 22: Current usage of smartphones and tablets**



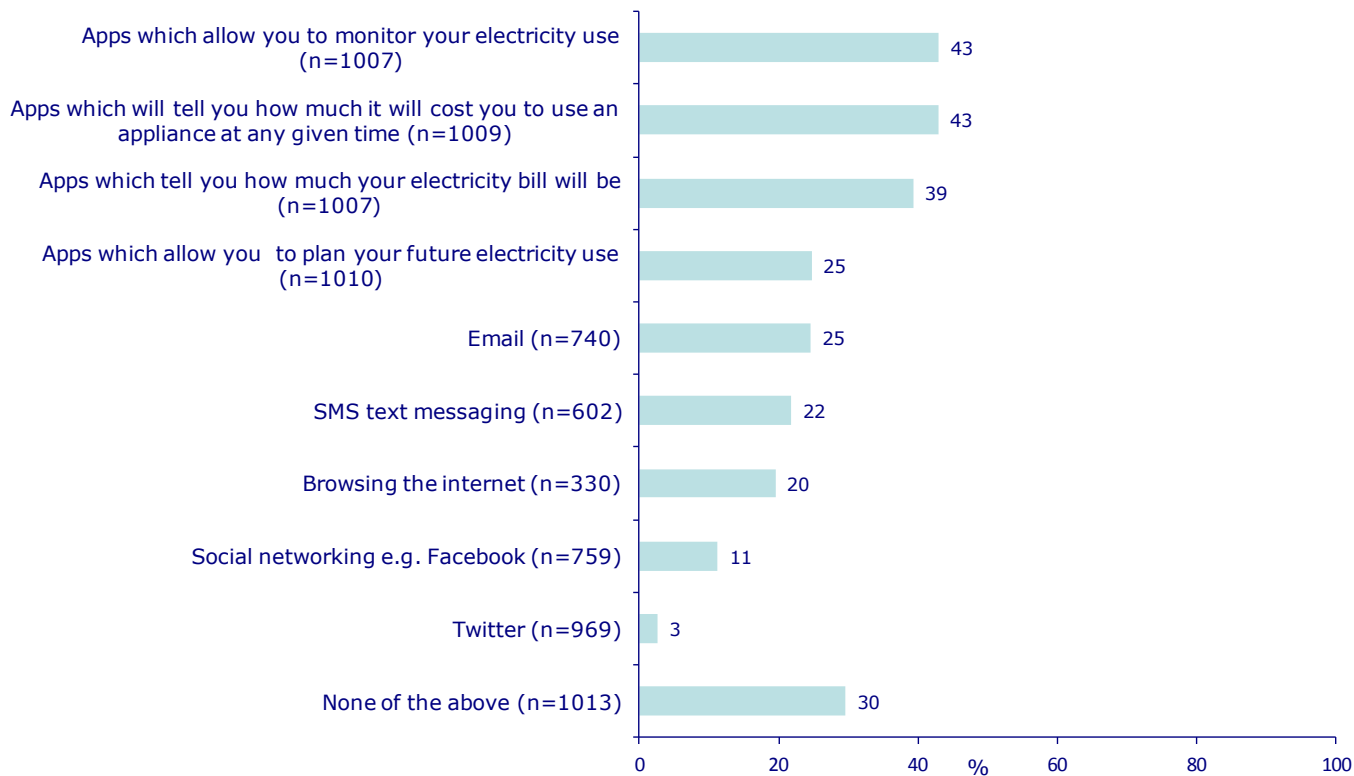
- Younger participants (those aged 18-34) were more likely to use their smartphone/tablet for SMS text messaging (95%), email (72%), browsing the internet (87%), social networking such as Facebook (82%) and Twitter (16%). Those aged 35-54 years were also more likely to use their smartphone/tablet for SMS text messaging (92%), and browsing the internet (78%). Those 65 years and over were more like to report not using their phone for any of the reasons listed.
- Participants whose last electricity bill was less than \$400 were less likely to use their smartphone/tablet for browsing the internet (57%) and social networking (44%).
- Participants whose household income was \$15,000-\$20,000 were less likely to use their smartphone/tablet for email (44%) or browsing the internet (54%). Participants whose household income was more than \$100,000 were more likely to use their smartphone/tablet for email (72%) or browsing the internet (63%).



All participants were then asked about the activities that they would like to be able to use a smartphone/tablet for (Figure 23). Around four in ten participants indicated that they would like to be able to use their smartphone/tablet to monitor their electricity use (43%), to tell them how much it costs them to use a particular appliance (43%) or to tell them how much their electricity will be (39%).

A large proportion of customers are interested in using their smartphone or tablet to access information about electricity use.

**Figure 23: Activities participants would like to use their smartphone or tablet for**



Base: Participants not already using medium.  
 Q20b. Please indicate which activities you would like to be able to use a Smartphone or tablet for [or currently use one for].

**Qualitative research findings**

Most participants in the group discussions said they would like more information about their electricity use than they already received. This desire for more information covered most aspects of consumption, including power interruptions, tariff options, energy efficiency and network information.

*Just communicate with us. Please communicate. **Small general customer, Coffs Harbour***

*But there are perhaps other things out there if maybe you could be informed I don't know, maybe with ads or other things... Companies could really help us with providing energy maybe as leaflets with bills or during TV ads or stuff like that perhaps **Rural customer, Wagga Wagga***

*And education. I keep saying, educate. The companies need to educate the people. They really do. Got to educate the people. **Small general customer, Coffs Harbour***

*Like, I'm not long out of home. It's my first time doing this, so I'm just breaking even with it. It's hard. It is. It's hard, it's really hard....I don't even understand any of this, so .. I'm just forking money out of my pocket, pretty much going, okay, here you go, I've got a roof over my head, my electricity, water, you know, here you go.*

***Vulnerable customer, Wagga Wagga***

Although there was a strong desire for more information about electricity supply and usage, participants expressed a need for clear and simple information. Information these customers were currently being provided with was viewed as overly detailed, difficult to understand and too technical.

*It doesn't matter how complicated it is, if it's explained and clearly set out in a way that's designed for use by non technical people. It's that simple. **Small general customer, Coffs Harbour***

*... what happens is, you get something in writing and 50% of it is blah, blah, blah. **Small general customer, Coffs Harbour***

Many participants had searched previously for information on energy consumption and energy efficiency. Sources mentioned for finding such information included the internet, in-home audits and energy companies. Business customers tended to report having carried out more search behaviours than household customers. Information that was tailored to their own situation and house was viewed as particularly useful, and interest in individual energy audits and face to face advice was high.

Independent advice on how to save electricity was particularly cherished by participants, as many did not trust the information given by equipment suppliers and sellers about how much can be saved by installing energy saving devices. Trusted sources of independent information included electricians, energy auditors and the internet.

*I just rely on him [the electrician]. Because like we put all new light bulbs in our house and I just ask him what light bulbs are the best to get.... he said well this is a big room, you are probably better off getting this bulb... I rely on my Johnno the electrician, he knows everything. **Rural customer, Wagga Wagga***

*For younger people like me it'd be excellent, because I'm new at this and I do ... I don't have much of an idea what I'm doing and I'm new at this, pretty much, yes. **Vulnerable customer, Wagga Wagga***

As discussed earlier, information around planned and unplanned power interruptions was important to participants. The availability of up-to-date information increased the acceptability of the interruption because it allowed participants to make alternative plans during extended interruptions.

Time of use data for both households and businesses was seen by many participants as being extremely useful, as it would allow them to manage their consumption to save energy. Many participants stated that they could see immediate benefits to having such information at their fingertips. Indeed, the idea of real time consumption data was brought up spontaneously in several of the groups. In-home displays showing usage data in an easily understandable format were most often thought to be the best feedback method, but participants also reacted positively to the idea of receiving information via their PC or applications on smartphones or tablets.

*So if you could point your iphone at that appliance right now it is costing ... it took a five second average for an hour, that would be awesome. **Rural customer, Wagga Wagga***

*I think it'd be good to have something that you can look at on a daily basis to say 'Hang on a minute. This thing's drawing at such and such,' and then it alerts you to something 'Hey, something might be wrong. It normally sits at ten at this time every day and today it's at 15. What's going on?' and straight away you can rectify a problem if it happens rather than just have wastage. **Rural customer, Tamworth***

*I thought oh I wonder how much the dryer will cost? So I plugged it into the dryer. So yeah \$0.55 it costs...Doing something like that I will bear in mind that that's what it costs. So like I said I want to go out to that shed and plug it into three freezers and see.. **Rural customer, Wagga Wagga***

*It would be great to have a little dial over there, little thingo over there to say you have used so much today and ..... this is what you will be at the end of the month and blah, blah. **Rural customer, Wagga Wagga***

Owners of smart devices were generally enthusiastic about idea of a smartphone/tablet application that allows customers to interact with Essential Energy. Many participants suggested uses such as the reporting of faults, receiving information on interruptions, and looking at usage and billing data. The convenience and immediacy of receiving information through apps was seen as their key advantage over other media.

*Reporting a problem, like if you see for example a car collide with a pole right outside your house you could say, well I just saw this happen submit it as a problem. **Small business customer, Tamworth***

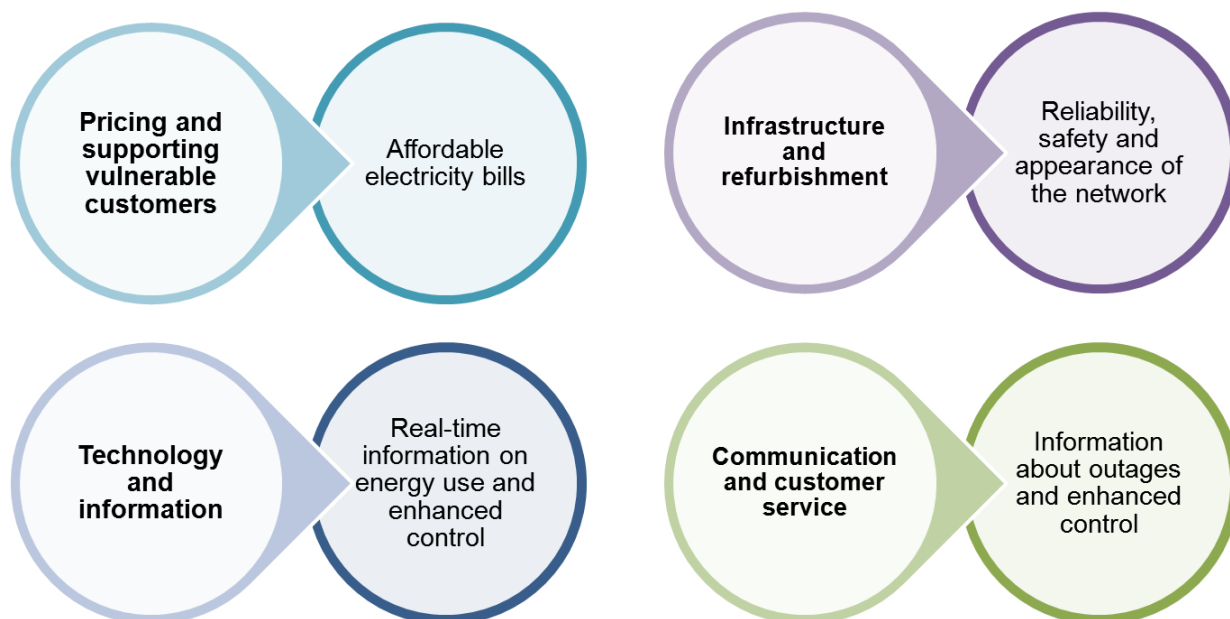
# 4. Customer priorities for investment

It is increasingly important for Essential Energy to understand and measure the impacts of its investments in the network on the customers it serves, as it progressively becomes a more customer focused organisation. This chapter discusses in more detail, the priorities customers identified, how this varied by different types of customer, how these relate to Essential Energy's investment areas.

## 4.1 Customer outcomes of investment in the network

In order to understand the impact of network investments on customers, the customer outcomes of investment must be identified. That is, the tangible differences in the service the customer receives, as a result of Essential Energy's investments. Figure 24 maps some of Essential Energy's broad investment areas to the customer priorities (or customer outcomes of investment) asked about in the customer survey.

**Figure 24 Investment areas and customer outcomes**



Customer priorities, which are tied into each investment area, are considered in detail in the following sections, based on analysis of the customer survey data.

## 4.2 Relative importance of each customer outcome

The customer survey asked respondents to identify the three factors which were most important to them, in the supply of electricity to their household. These factors (as shown above) comprise some key customer outcomes of investment in the network.

The top three priorities identified by customers were price (89% placed it in their top three), a reliable supply (76% placed it in their top three), and a safe network (44% placed it in their top three). Figure 25 shows the top three priorities by customer priorities.

**Figure 25 Top three priorities for household electricity supply, by customer group**

ALL CUSTOMERS		Vulnerable households	
1 Price	89%	1 Price	93%
2 Reliability	76%	2 Reliability	70%
3 Safe network	44%	3 Information on usage at time of use	44%
1 person households		4 person households	
1 Price	90%	1 Price	91%
2 Reliability	75%	2 Reliability	75%
3 Safe network	43%	3 Information on usage at time of use	47%
Households with small bills (\$0-\$400/qtr)		Households with large bills (\$800/per qtr)	
1 Price	87%	1 Price	89%
2 Reliability	75%	2 Reliability	78%
3 Safe network	43%	3 Information on usage at time of use	39%
Major Cities of Australia		Remote Australia	
1 Price	85%	1 Reliability	92%
2 Reliability	77%	2 Price	75%
3 Safe network	49%	3 Safe network	50%

Base: All participants; n=1,013 Q1 Thinking about the supply of electricity to your household, which are the three most important factors to you?

## 4.3 Pricing and supporting vulnerable customers: Affordable electricity bills

Although pricing in itself cannot be described as investment in the network (although there is a relationship between network investment and the price of electricity), the relationship of price with other customer priorities is important. The relationship between reliability and price is interesting as most respondents are not willing to sacrifice current reliability standards in exchange for reduced prices, despite stating that price is the most important factor to them (as discussed earlier in this report).

When asked what their priorities for their household electricity supply were, most customers identified price as one of their top priorities. Almost nine out of ten customers placed price in their top three priorities (89%), and for one in six it was the number one priority above all else (59%).

**Table 4 Importance placed on reliability, safety and appearance of the network**

		Top 3 priorities	Top priority
1	Price	89%	59%
2	Reliability	76%	25%
3	Safety	44%	10%
4	Information on usage at time of use	41%	5%
5	Information about planned interruptions	20%	1%
6	Information during unplanned interruptions	16%	1%
7	Appearance of the network	2%	0%
	Base (n)	1013	1013

Q1 Thinking about the supply of electricity to your household, which are the three most important factors to you?

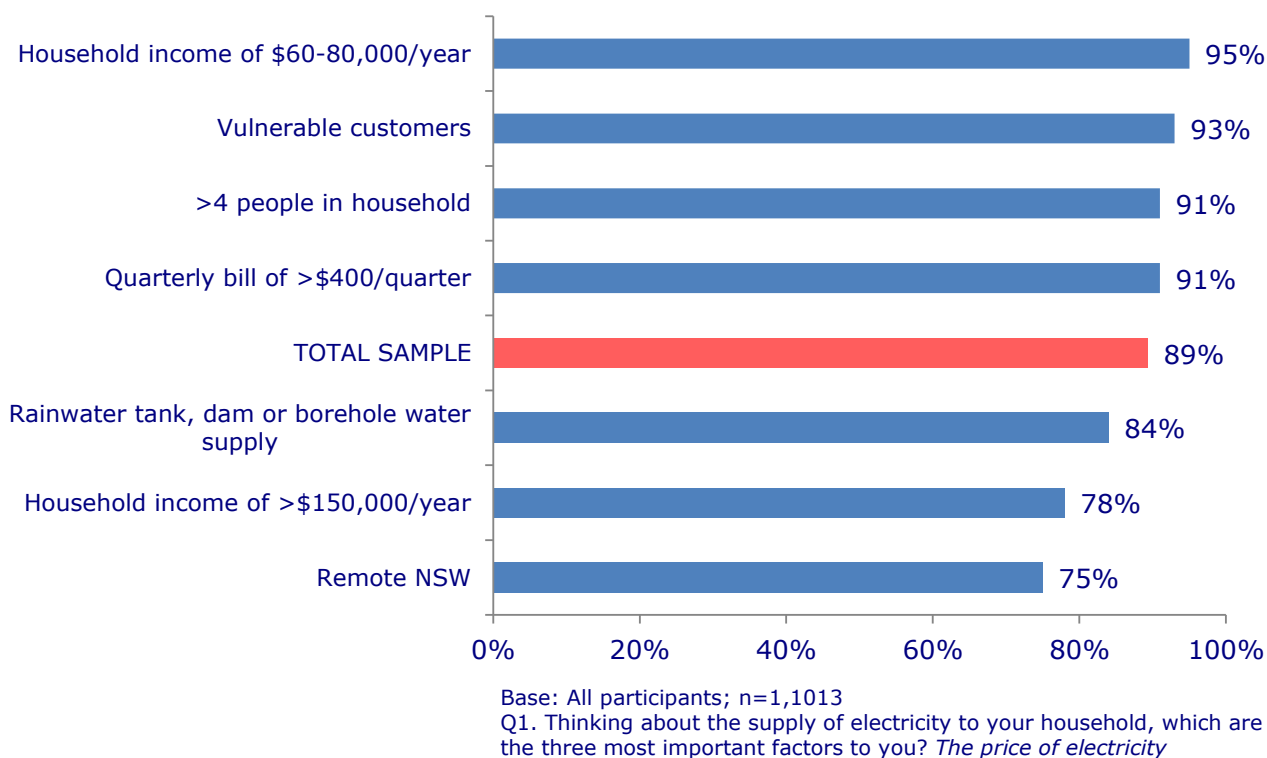
Vulnerable customers were significantly more likely to prioritise price (93% included price in their top three priorities).

The following customers were also slightly more likely to place price in their top three priorities:

- Customers with larger quarterly household electricity bills (of over \$400) (91%)
- Larger households (with 4 or more people) (91%)
- Full time students, casual workers and the unemployed (100%, 96%, and 93%, respectively)
- Customers with household incomes of \$60-80,000 per year (95%); and those with incomes of over \$150,000 placed lower priority on price (78%).

Those in the most remote locations are least likely to prioritise price (75%), whilst those in regional locations are most likely to prioritise price. Supporting this finding is that customers who are not on town water supply (i.e. are too remote) have price lower in their priorities than those who are connected to town water (84% compared with 90%), as competing factors such as reliability take priority.

**Figure 26 Price of electricity in top three priorities for household supply of electricity**



Overall, nearly two thirds of customers said that Essential Energy should be doing more to help customers who are having trouble paying their bill (62%). Those who prioritised price were significantly more likely to agree that Essential Energy should be doing more to help customers who are having trouble paying their electricity bill (67% compared with 48% of others).

## 4.4 Infrastructure and refurbishment: Reliability, safety and appearance of the network

Customer outcomes which relate to investment in infrastructure, including new infrastructure, upgrades and refurbishments, include a reliable electricity supply and a safe supply of electricity to the home. Investment in infrastructure also impacts on the visual appearance of the physical network (i.e. the poles and wires), which forms another customer interface with the network.

Reliability was ranked second overall by customers, in terms of the aspects of their electricity supply that are most important to them. In-depth discussions with customers revealed that there was a level of understanding among customers that ensuring on-going high standards of reliability inevitably requires investment in the network on maintenance activities and so on. Despite prioritising price above reliability, most customers were not willing to accept more power interruptions if their bill was reduced, due to the inconvenience (and for small businesses, the high cost) of power interruptions, especially for those in rural locations who relied on electricity for their water pumps.

Safety was included in the top priorities by far fewer respondents than price and reliability were. The qualitative research with customers shed light on this: safety is taken for granted. Rather than being considered as a

negotiable feature of their electricity supply, safety was viewed as a given and as overriding all other aspects, and therefore difficult to prioritise alongside other aspects.

The appearance of the network was the lowest priority for customers, of all of the characteristics listed. The appearance of the network is not at the forefront of customers' minds; however those living near electricity infrastructure were more aware of it and placed more priority on it than other customers did.

**Table 5 Importance placed on reliability, safety and appearance of the network**

		Top 3 priorities	Top priority
1	Price	89%	59%
2	Reliability	76%	25%
3	Safety	44%	10%
4	Information on usage at time of use	41%	5%
5	Information about planned interruptions	20%	1%
6	Information during unplanned interruptions	16%	1%
7	Appearance of the network	2%	0%
	Base (n)	1013	1013

Q1 Thinking about the supply of electricity to your household, which are the three most important factors to you? Q2 Which is the most important factor to you?

## Reliability

The following customer groups were slightly more likely to place reliability in their top three priorities:

- Customers living in remote areas (92%)
- Customers with an annual household income of over \$80,000 (81%)
- Customers aged over 55 years (78%)

In addition, unsurprisingly, customers who had experienced the most unreliable electricity supply were slightly more likely to prioritise reliability. This includes customers who had experienced six or more power outages in the past year (84%), and those who had experienced ten or more brownouts (81%). Customers who found the number and duration of unplanned power interruptions over the past year unacceptable placed a higher priority on reliability. However, this was not the case for planned power interruptions: customers who found the number and duration of planned power interruptions unacceptable were no more likely than others to prioritise reliability. This, and the qualitative research with customers, indicates that unreliability of supply is associated with unplanned interruptions rather than planned outages. Planned outages, when communicated in advance, are seen as inevitable and reasonable in order to perform necessary maintenance and repairs. Information plays a key role in perceptions of interruptions, which is discussed later in this section.

Similarly, customers who perceived reliability to have worsened were slightly more likely to prioritise reliability. This includes those who thought that unplanned power interruptions over the past year had lasted longer than in the past. Customers who thought there had been improvements in reliability prioritised other aspects.

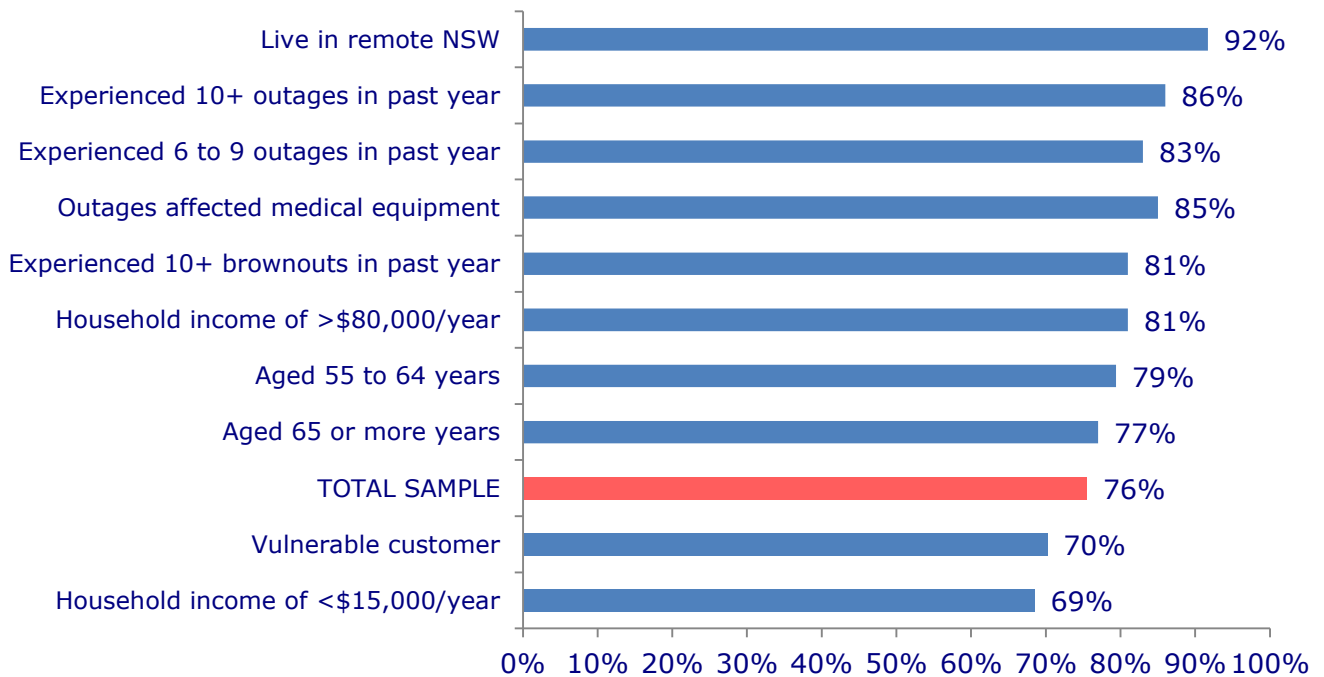


If customers had been severely impacted by power interruptions, they were slightly more likely to prioritise reliability. For example, those who had experienced power interruptions which had affected important medical equipment in the household (e.g. dialysis or life support) placed a higher priority on a reliable supply (85%).

The priority placed on reliability of course depended on its relative importance compared to other aspects, mainly the price of electricity. Vulnerable customers were significantly less likely to prioritise reliability (70%), because price was the key factor for these customers.

When presented with the scenario of more power interruptions in exchange for a reduced electricity bill, those who place high importance on reliability were unsurprisingly significantly less willing to accept this trade-off.

**Figure 27 Reliable supply of electricity in top three priorities for household supply of electricity**



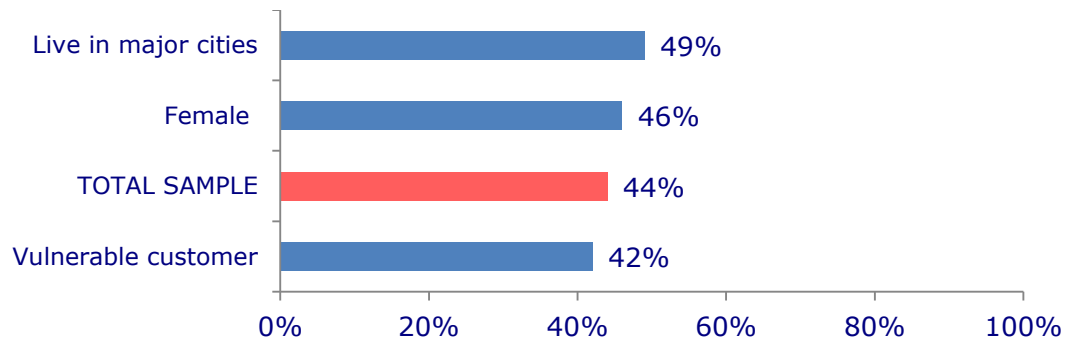
Base: All participants; n=1,1013

Q1. Thinking about the supply of electricity to your household, which are the three most important factors to you? *A reliable supply of electricity (i.e. little or no interruption to the power supply)*

## Safety

Over two fifths of customers said that a safe network was in the top three most important factors of their electricity supply (44%). There were no significant differences between customer groups in terms of the priority placed on safety, except that female customers were more likely to place safety in their top three priorities than male customers were (46% compared with 39%). Those living in major cities (and closer to the infrastructure) placed a slightly higher emphasis on safety (49%). As with reliability, vulnerable customers placed slightly less priority on safety (42%).

**Figure 28 Safe electricity network in top three priorities for household supply of electricity**



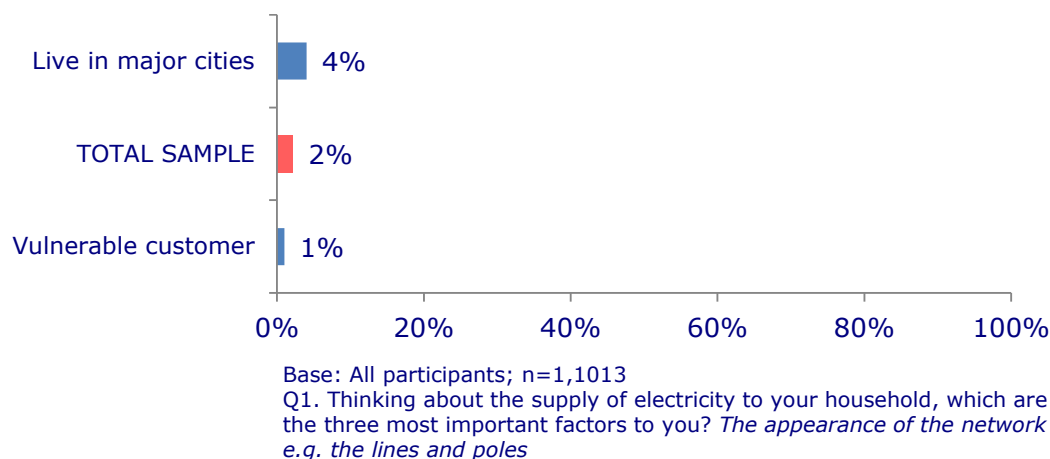
Base: All participants; n=1,1013

Q1. Thinking about the supply of electricity to your household, which are the three most important factors to you? *A safe electricity network*

## Appearance of the network

The appearance of the network was a low priority for most customers (2% placed it in their top three priorities). Vulnerable customers were significantly less likely to place the appearance of the network in their top three priorities (1%), again, due to the greater importance of other factors to these customers. Residents living in major cities (and closer to the infrastructure, presumably) were slightly more likely to prioritise the network's appearance (4%).

**Figure 29 Appearance of the network in top three priorities for household supply of electricity**



## 4.5 Technology and information: Real-time information on energy use and enhanced control

One of the ways in which investment in smart-grid technology manifests itself to customers is in the provision of real-time usage information.

The provision of information on energy use at the time of use was among the top three priorities for over two in five customers (41%).

In the qualitative research, customers explained how having information about how much they are using at any one time or with any one appliance, when they are using it, empowers them to make informed choices about their energy use. There were many misconceptions about which appliances used the most or the least electricity, without much knowledge about the kinds of power saving activities that would have the most impact on their overall usage and ultimately their bills. Some particularly well-informed and engaged customers had installed devices on appliances in their homes and had found that since learning about the different power consumption of the various appliances, they had altered their behaviour and reduced their usage. As well as financial savings, more than anything, this provided these customers with a sense of control they relished: control over their usage and therefore control over the size of their electricity bills.

**Table 6 Importance placed on real-time information on energy use**

		<b>Top 3 priorities</b>	<b>Top priority</b>
<b>1</b>	Price	89%	59%
<b>2</b>	Reliability	76%	25%
<b>3</b>	Safety	44%	10%
<b>4</b>	<b>Information on usage at time of use</b>	<b>41%</b>	<b>5%</b>
<b>5</b>	Information about planned interruptions	20%	1%
<b>6</b>	Information during unplanned interruptions	16%	1%
<b>7</b>	Appearance of the network	2%	0%
	Base (n)	1013	1013

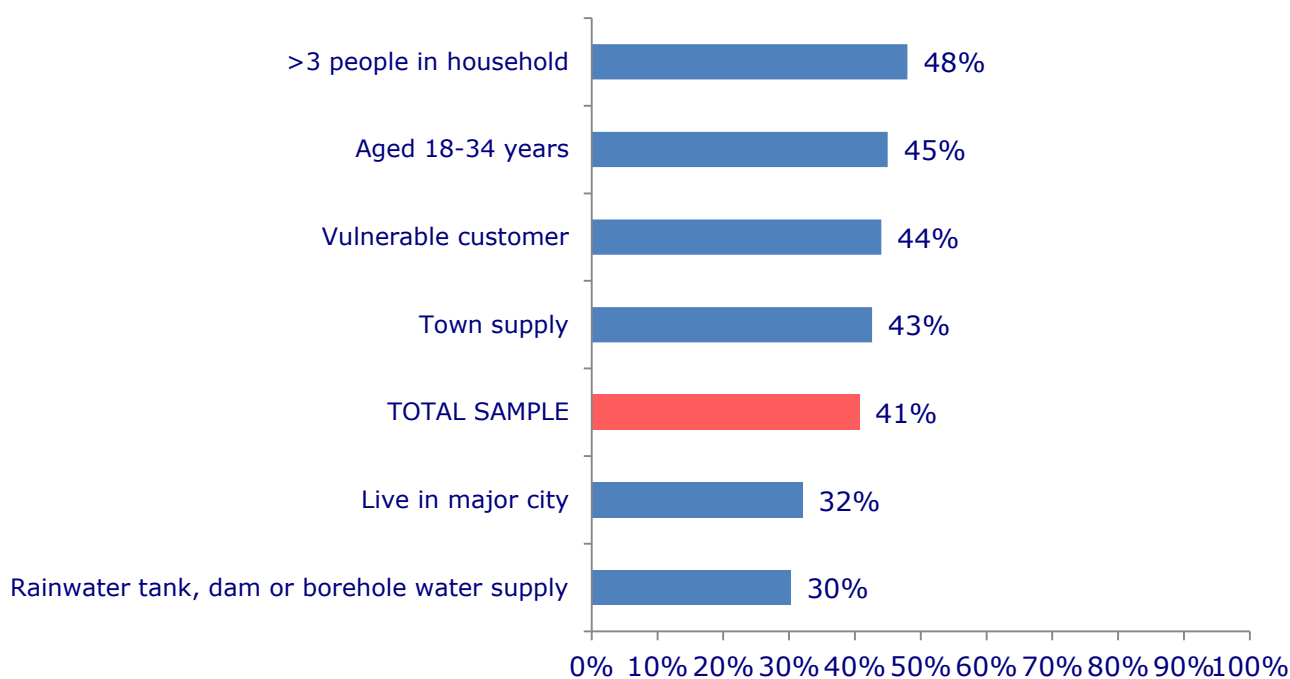
Q1 Thinking about the supply of electricity to your household, which are the three most important factors to you? Q2 Which is the most important factor to you?

Customers significantly more likely to prioritise real-time usage information were:

- Households connected to a town water supply (43%), indicating that remote customers (who rely on their own tank/borehole/dam) have other priorities (such as reliability). Regional customers were slightly more likely to prioritise real-time usage information than those in major cities were.
- Those in households of three or more people (48%).

Customers aged 18-34 years and vulnerable customers were also slightly more likely to prioritise real-time usage information (45% and 44%, respectively).

**Figure 30 Information about energy usage at time of use in top three priorities for household supply of electricity**



Base: All participants; n=1,1013

Q1. Thinking about the supply of electricity to your household, which are the three most important factors to you? *Having information about how much energy you are using when you are using it*

More than two in five customers (46%) said that there was not currently enough information available to them to make informed decisions about their electricity usage. Those who were more likely to say this were:

- Customers aged 35-54 years (53%) (however those aged 65-plus years were more likely to find they do have enough information)
- Vulnerable customers (59%)
- Households with very high bills (over \$800 per quarter)

Large households of four or more people were also slightly more likely to find there is not currently enough information available to them to make informed decisions about their electricity usage (51%).

As would be expected, those who prioritised real-time usage information were more likely to feel that there is not currently enough information available to them about their electricity usage (48%). When asked about the kinds of aspects of the electricity supply they wanted more information about, customers who prioritised real-time usage information were significantly more likely to want more information about:

- The different price tariffs that are available (93%, compared with 88% of others)
- How much energy they are using at the time they are using it (91%, compared with 77% of others)
- How much energy each appliance in the house uses (90%, compared with 81% of others)
- What can be done to reduce my electricity bill (87%, compared with 81% of others)

Those who prioritised real-time usage information were also significantly more likely to agree that they would prefer to have a pay-as-you-go meter in their house so that they could pay in advance for electricity, rather than receiving a bill every three months (35% agree, compared with 23% of others).

## 4.6 Communication and customer service: Information about outages and enhanced control

One of the customer outcomes of investment in effective communication with customers and high quality customer service is having enough information about power outages.

Information about planned interruptions was a top three priority for one in five customers (20%), and information during unplanned interruptions was a top three priority for slightly fewer (16%).

The qualitative research found that being well informed about the reason for and likely duration of power outages, like having information about energy usage, empowers customers and provides them with a sense of control that is lacking if information provision is inadequate. A clear relationship was revealed between information and the acceptability of power outages, with both planned and unplanned interruptions being seen as more acceptable if there was clear information about the time, reasons for and duration of the interruptions.

**Table 7 Importance placed on real-time information on energy use**

		<b>Top 3 priorities</b>	<b>Top priority</b>
<b>1</b>	Price	89%	59%
<b>2</b>	Reliability	76%	25%
<b>3</b>	Safety	44%	10%
<b>4</b>	Information on usage at time of use	41%	5%
<b>5</b>	<b>Information about planned interruptions</b>	<b>20%</b>	<b>1%</b>
<b>6</b>	<b>Information during unplanned interruptions</b>	<b>16%</b>	<b>1%</b>
<b>7</b>	Appearance of the network	2%	0%
	Base (n)	1013	1013

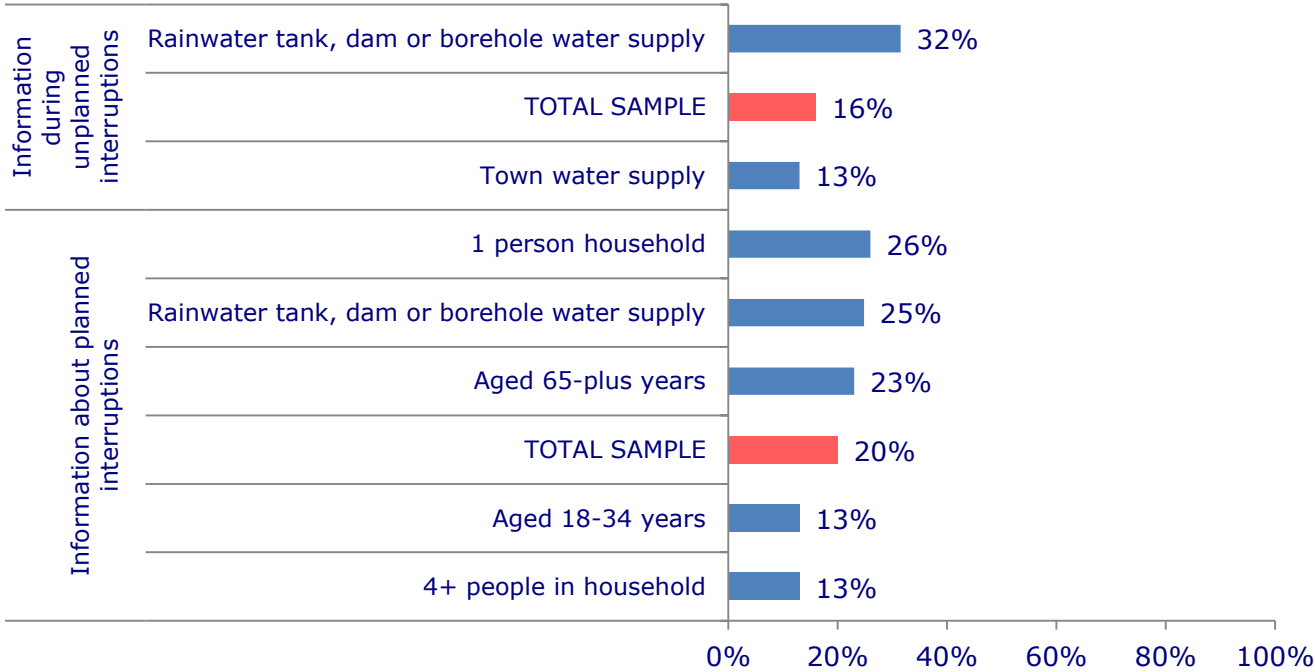
Q1 Thinking about the supply of electricity to your household, which are the three most important factors to you? Q2 Which is the most important factor to you?

Information during unplanned interruptions was equally important across all age groups; however significantly more customers aged 65-plus placed this in their top three priorities (23%).

One person households were significantly more likely to place information during planned interruptions in their top three priorities (26%), and larger households of four or more people were significantly less likely to (13%).

Information during unplanned interruptions was significantly more important to those with their own water supply (dams, bore holes and tanks) who are likely to need electricity for their water pumps (32%). Information during planned interruptions was also slightly more important to these respondents (25%).

**Figure 31 Information about planned and unplanned power interruptions in top three priorities for household supply of electricity**



Base: All participants; n=1,1013

Q1. Thinking about the supply of electricity to your household, which are the three most important factors to you?  
*Having information during unplanned power interruptions; Having information about planned power interruptions*

Those who prioritise information about planned interruptions said that they would find planned interruptions more acceptable if there was information about the time and duration of them (81%, compared with 72% of others).

Similarly, those who prioritise information about unplanned interruptions said that they would find unplanned interruptions more acceptable if there was clear information about the reasons for and duration of the interruptions (70%, compared with 65% of others).

## 4.7 Factors that influence customer priorities

Detailed analysis of the relative importance placed by customers on the various customer outcomes of investment in the network has not only highlight customer priorities, but has also demonstrated how and where priorities differ between different customer groups.

The key factors that influence customer priorities are:

- Financial situation: The relative importance of price and reliability is different for vulnerable customers, who place less importance on reliability, because cost is the primary concern.

- Experiences of reliability: For customers who have experienced a high number of interruptions or who perceive the frequency and/or duration interruptions to have worsened are more aware of reliability and give it higher priority.
- Reliance on electricity: Customers who rely on a constant supply of electricity for their water supply, their medical equipment, or for the profitable function of their business, will of course prioritise reliability more highly.
- Proximity to network: Although there is not a strong pattern emerging, the data indicates that there may be a relationship between the priority placed on safety and network appearance and location; with customers living in major cities (and probably in closer proximity to the infrastructure) placing higher priority on a safe network and the appearance of the network.

Figure 32 summarises how different customer groups prioritise the customer outcomes of investment in the network.



**Figure 32 Top priorities for household electricity supply, by customer group**

Investment area	Customer outcome	Priority	Most important to:
Pricing and supporting vulnerable customers	Affordable electricity bills	1 <sup>st</sup>	<ul style="list-style-type: none"> <li>• <b>Vulnerable customers</b></li> <li>• Customers with large bills (&gt;\$400/qtr)</li> <li>• Large households (4+)</li> <li>• Students, casual workers, unemployed</li> <li>• Incomes of \$60-80k</li> <li>• Regional customers</li> </ul>
Infrastructure and refurbishment	Reliable supply of electricity	2 <sup>nd</sup>	<ul style="list-style-type: none"> <li>• <b>Remote customers</b></li> <li>• <b>High income (&gt;\$80k)</b></li> <li>• <b>Aged 55+</b></li> <li>• Experienced high numbers of interruptions</li> <li>• Severely affected by interruptions</li> </ul>
	Safe electricity network	3 <sup>rd</sup>	<ul style="list-style-type: none"> <li>• Female customers</li> <li>• Customers in major cities</li> </ul>
	Appearance of the network	7 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Customers in major cities</li> </ul>
Technology and information	Real-time usage information and enhanced control	4 <sup>th</sup>	<ul style="list-style-type: none"> <li>• <b>Larger households (3+)</b></li> <li>• <b>Town water supply</b></li> <li>• Regional customers</li> <li>• Aged 18-34</li> <li>• Vulnerable customers</li> <li>• Prefer PAYG meter</li> <li>• Want more information on tariffs, use, and how to reduce use</li> </ul>
Communication and customer service	Information about planned outages and enhanced control	5 <sup>th</sup>	<ul style="list-style-type: none"> <li>• <b>One person households</b></li> <li>• Not on town water</li> </ul>
	Information about unplanned outages and enhanced control	6 <sup>th</sup>	<ul style="list-style-type: none"> <li>• <b>Aged 65+</b></li> <li>• <b>Not on town water</b></li> </ul>

# 5. Conclusions

The themes that this customer research has provided insight into are:

**Affordability:** Customers lack understanding of why prices are rising but accept it as inevitable and out of their control.

**Reliability:** Constancy of supply is paramount to customers, and for most, a reduction in price would not compensate for reduced reliability.

**Control:** Customers place a very high value on being able to control when and how they use and pay for electricity and are unwilling to sacrifice this control.

**Information:** The provision of clear information makes interruptions more acceptable, enables changes in patterns of use, and gives customers more control over their electricity usage.

## 5.1 Affordability

Most people are doing something to try and reduce their electricity bills (but there is very low awareness about what to do for the most significant reductions and a thirst for information about this). Price was important to all, and was most important to vulnerable customers. Rising prices were a concern but customers felt that this was inevitable and out of their control: a constant electricity supply was viewed as essential and something they would have to pay for no matter what the price.

Customers' initial reaction was to support the notion that households who use less electricity should pay a lower network charge, until it became clear that this resulted in those who use more having to pay a higher charge. Smaller households, customers with lower incomes and lower bills, were supportive of this notion but others were not. The current system of charging a flat rate was deemed to be the only reasonable option.

### Support for vulnerable customers

There was general support for the notion of Essential Energy providing help to vulnerable customers - two-thirds of customers said that Essential Energy should be doing more to support vulnerable households. However this support was on the proviso that it reaches those who genuinely need it and is not open to abuse. There was also a view that support should be provided by the Government (such as via Centrelink) rather than by the network company.

## 5.2 Reliability

Reliability and price were clearly the most important features of electricity supply among customers in the research. Constancy of the service was viewed as highly important among all customer groups (and especially small businesses).

Most thought that there were either fewer power interruptions now than in the past, or did not know (over two-fifths did not know, suggesting that interruptions were not important or were not an issue for them). Urban customers were more likely to say that the number of power interruptions had reduced.

For most household customers, the impacts of power interruptions focussed around the inconvenience caused, such as not being able to cook or use their computers when they wanted to. Nearly a quarter of those customers who deemed the number of power interruptions unacceptable, said that they had needed to use their cordless telephone during the outage (23%). Customers are encouraged to inform Essential Energy by telephone of power interruptions; however these customers would have been unable to do so.

The number of planned power interruptions was deemed acceptable by most, with this dropping for unplanned interruptions. Customers in regional and remote areas were less likely to find the number and duration of power cuts acceptable.

## The relationship between price and reliability

The concept of reducing reliability for a reduction in prices was fairly unpopular. However half of those surveyed said either that they would be willing to accept more interruptions for a reduction in their bill, or that they were unsure whether they would or not (and half said that they would not be willing to accept this scenario). In-depth discussions with customers showed that on reflection, reliability was paramount and constancy of supply was an expectation, and that a price reduction would not make reduced reliability acceptable (obviously this would depend on the magnitude of any reductions and the extent of reliability sacrificed).

## The relationship between information and reliability

The provision of information about the time, duration and reasons for interruptions makes power interruptions more acceptable for the majority of customers. Being able to plan ahead was of high importance and lessened the impacts of interruptions to supply. This helps explain why the number of unplanned interruptions was less acceptable to customers than the number of planned interruptions, as information in advance facilitates planning. Information becomes more important the longer an interruption is likely to last, as it allows customers to manage its impacts, and this was particularly important for rural customers who rely on power for their water supply, and small business customers who cannot function profitably without power.

## 5.3 Control

Whilst most customers were willing in principal to limit their use of large appliances at set times in exchange for a reduction in their bill (as in a time of use tariff/rebate), the face-to-face discussions with customers revealed an unwillingness to limit use at times that would be inconvenient – most often peak demand times – such as when they wanted to cook their evening meal, or on hot days when they want to use air conditioning. Families with young children were least willing to change usage patterns and felt they had no flexibility, along with small business customers. These customers would not make savings from time of use tariffs/rebates, and the network would not benefit.

Support for appliances to be switched off remotely by Essential Energy (as in a controlled load tariff) was lower.

The reasons for low support for time of use or remotely-controlled load rebates were based on a lack of willingness among customers to relinquish control. Predictability, constancy of supply, and routine were incredibly important to customers, and sacrificing any of these was generally not a viable or attractive option – even in exchange for a reduction in price. The lack of knowledge and understanding of electricity pricing and billing meant that many customers were reluctant to adopt what was viewed as a more complicated tariff, and preferred the certainty of a flat rate tariff.

The desire among customers to retain and increase control of their electricity usage and bill is also demonstrated in the findings about information regarding their electricity supply and usage. Over a quarter of customers surveyed would prefer a pay-as-you-go meter, and those most likely to want this were the young, females, and vulnerable customers. This was seen as a way of staying informed of how much they were spending on electricity at the time rather than at the end of the quarter, again, popular because it would increase their control over their usage.

## 5.4 Information

There was widespread lack of knowledge and understanding of electricity bills, tariffs, demand management, and the relationship between electricity generation, network operation and retail organisations. This lack of understanding and fear of being overwhelmed with detailed technical information was preventing customers from making informed choices about their electricity supply and reduced their ability to reduce their usage and bills.

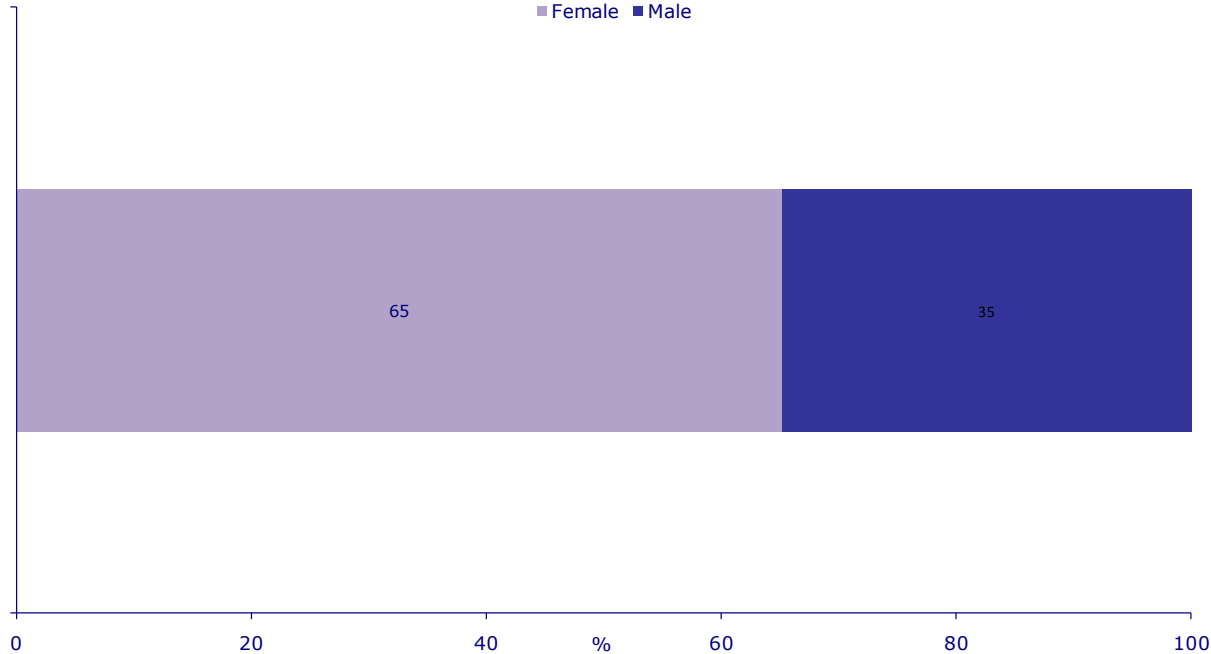
There was a strong desire among customers for more information about their electricity supply in general, and specifically for information about tariffs, how to reduce electricity use, and real-time information about how much electricity is being used (particularly among vulnerable customers).

A desire was expressed for information to be available when and where customers need it, through communications channels that are convenient for them. Two fifths of customers own a smartphone, showing that there has been a fairly high level of adoption of mobile technology in the areas serviced by Essential Energy. In addition to this, there is strong support for more information to be provided via mobile technology in the future, including monitoring electricity use and bills.

As well as identifying demand for more information about their own electricity use, the customer research also revealed a demand for information about what Essential Energy is doing to improve reliability and cater for future demand (at least seven out of ten customer asked wanted more information about these things). Email and information in the post were generally the preferred means for receiving information (with the exception of information during power interruptions which more customers wanted to find out about via SMS text messages).

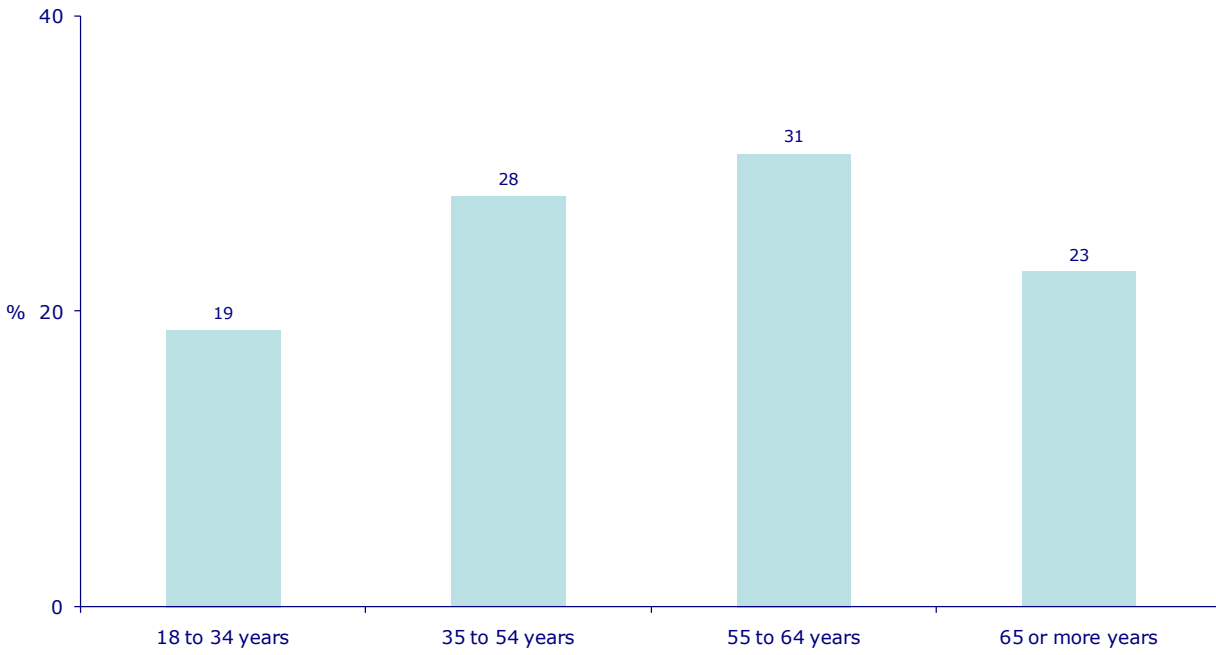
# Appendix 1: Survey sample profile

Figure 33: Gender



Base: All participants; n=1,013.  
SQ2. Are you...

**Figure 34: Age**



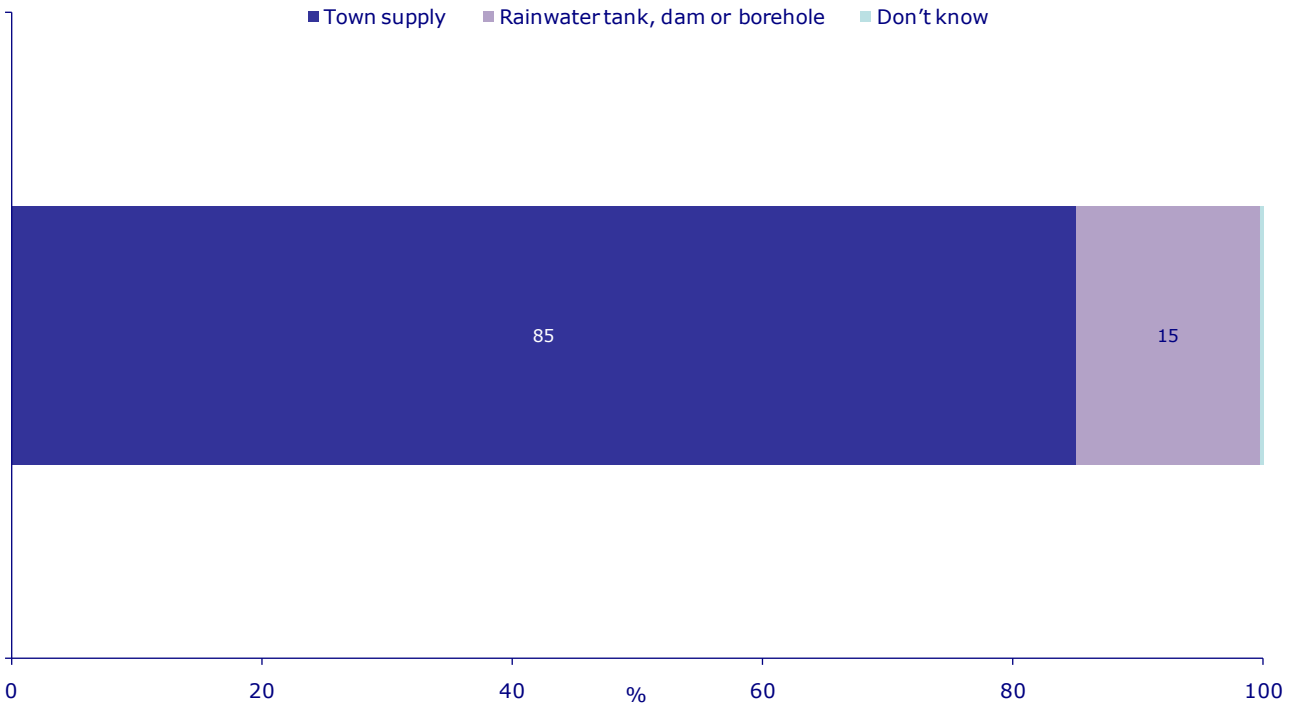
Base: All participants; n=1,013.  
SQ3. Which of the following age groups are you in?

**Figure 35: ARIA Plus classification of remoteness**



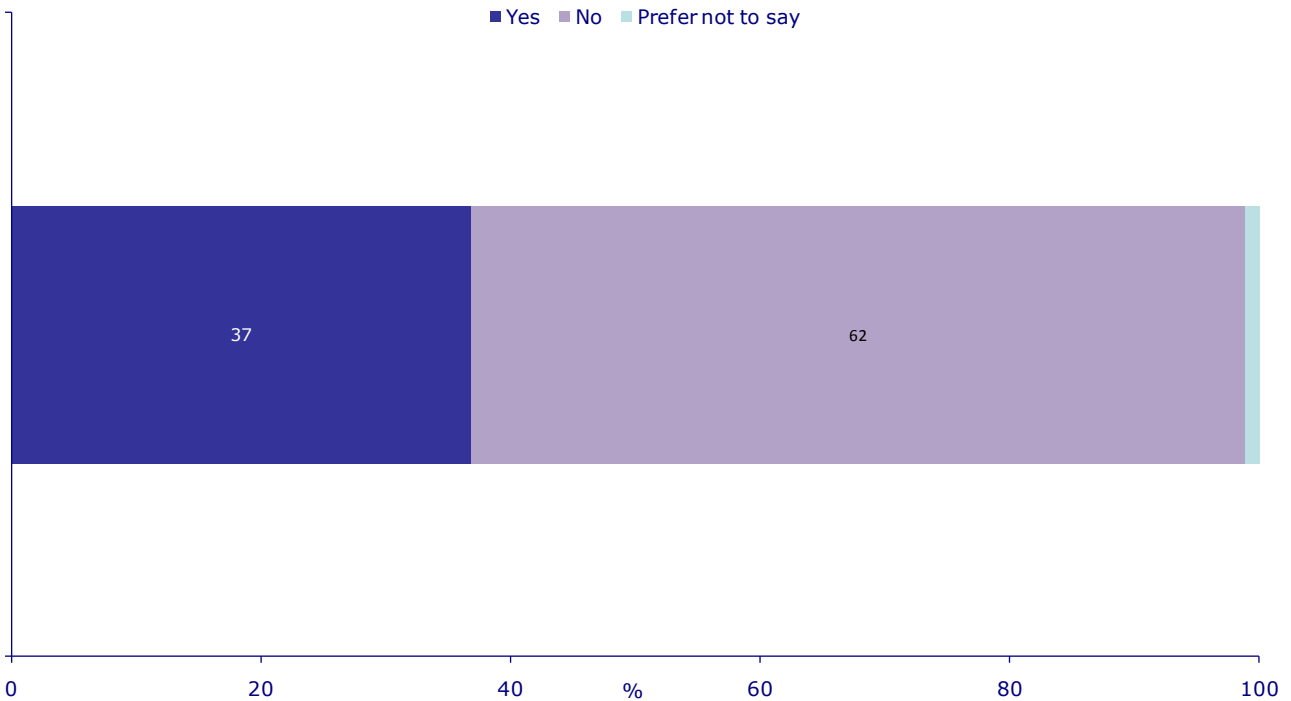
Base: All participants; n=1,013.  
SQ4. ARIA Plus classification of remoteness

**Figure 36: Water supply**



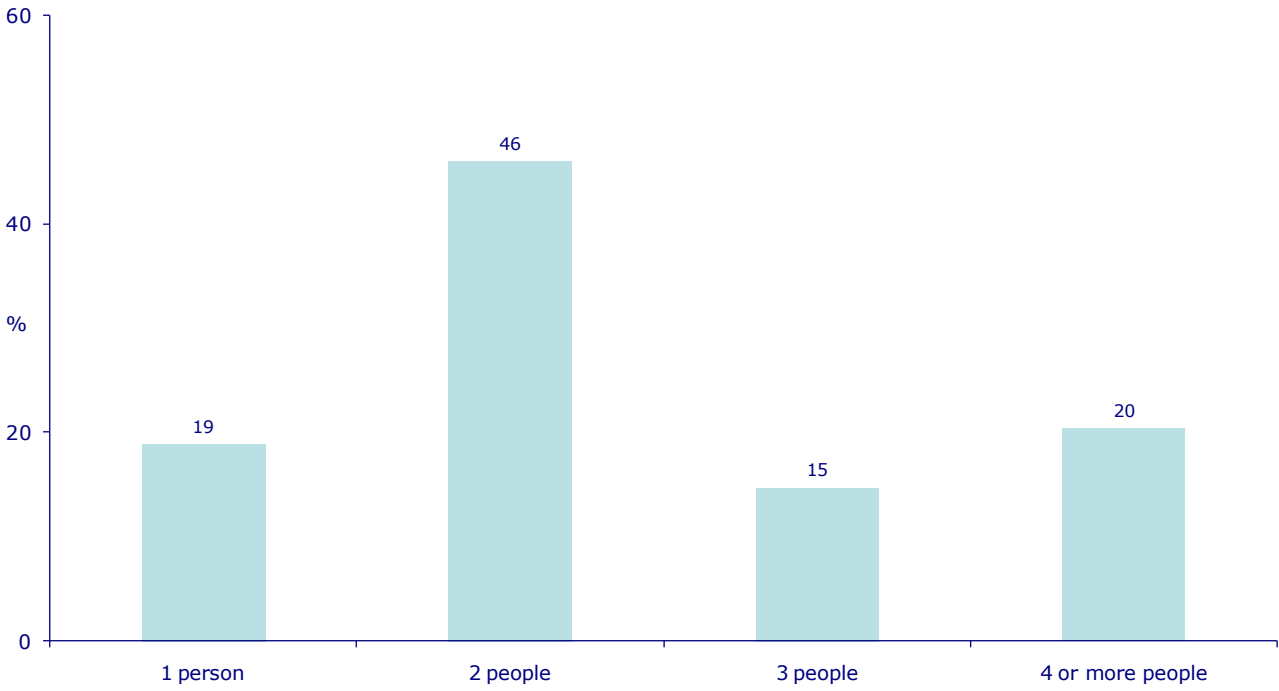
Base: All participants; n=1,013.  
SQ6. Is your house connected to a town water supply or does your property have its own rainwater tank, dam or borehole to supply water?

**Figure 37: Difficulty paying bills (vulnerable households)**



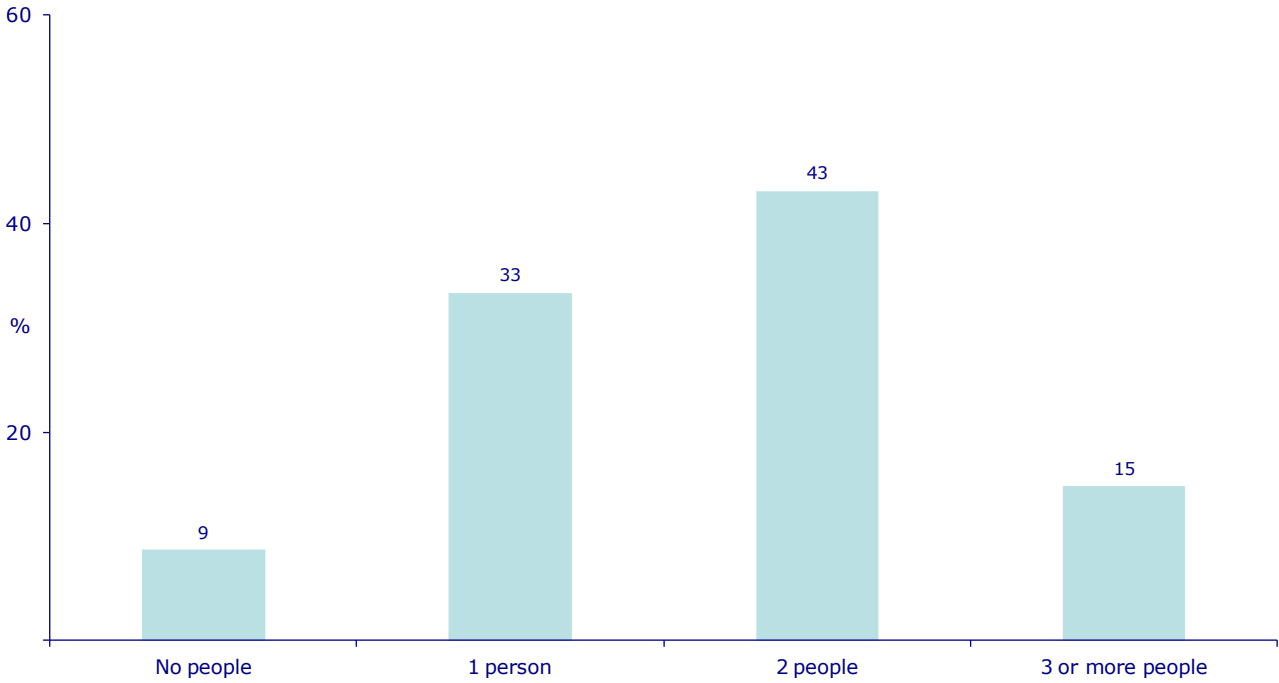
Base: All participants; n=1,013.  
SQ7. In the last three months have you struggled to pay your electricity bill or been late paying it?

**Figure 38: Household size**



Base: All participants; n=1,013.  
Q22. Firstly, how many people are there living in your household in total, including yourself?

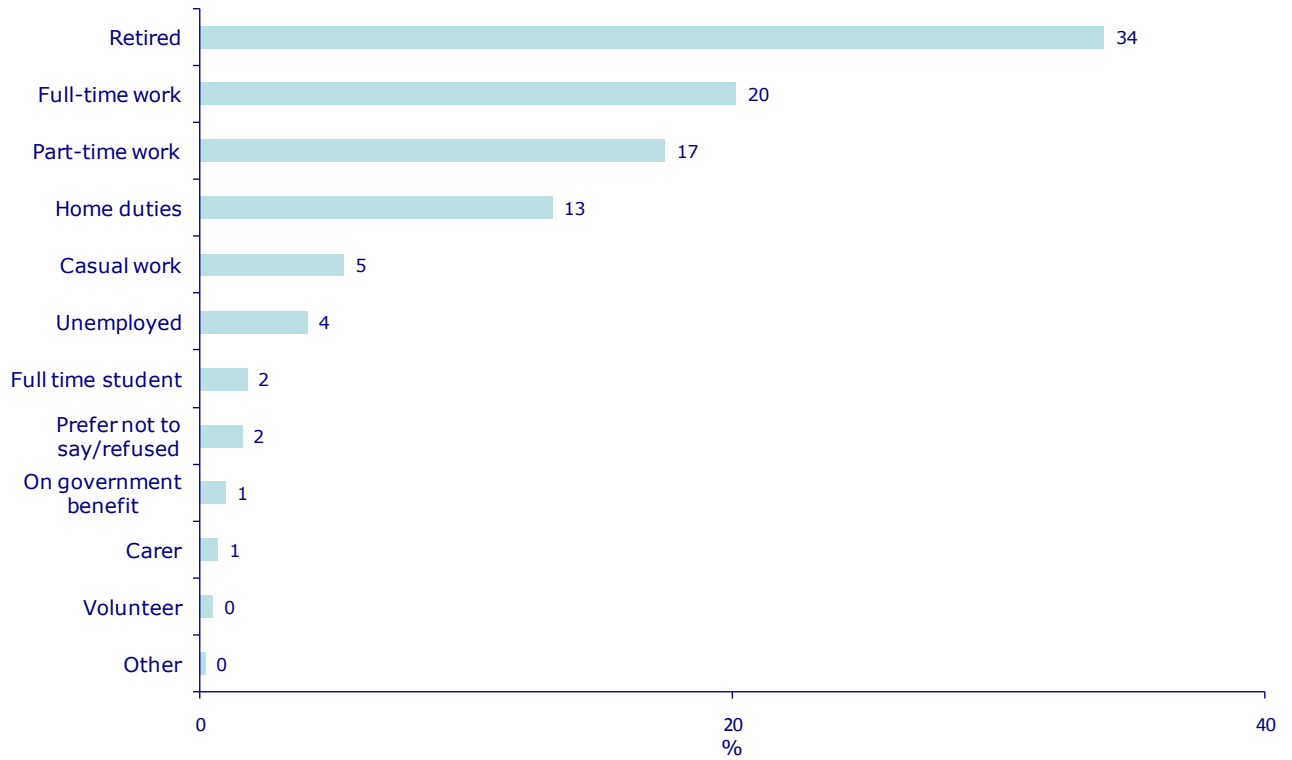
**Figure 39: Number of people home during the day**



Base: All participants; n=1,013.  
Q23. And how many people are usually in the house during the day (during the week, i.e. Monday to Friday)?

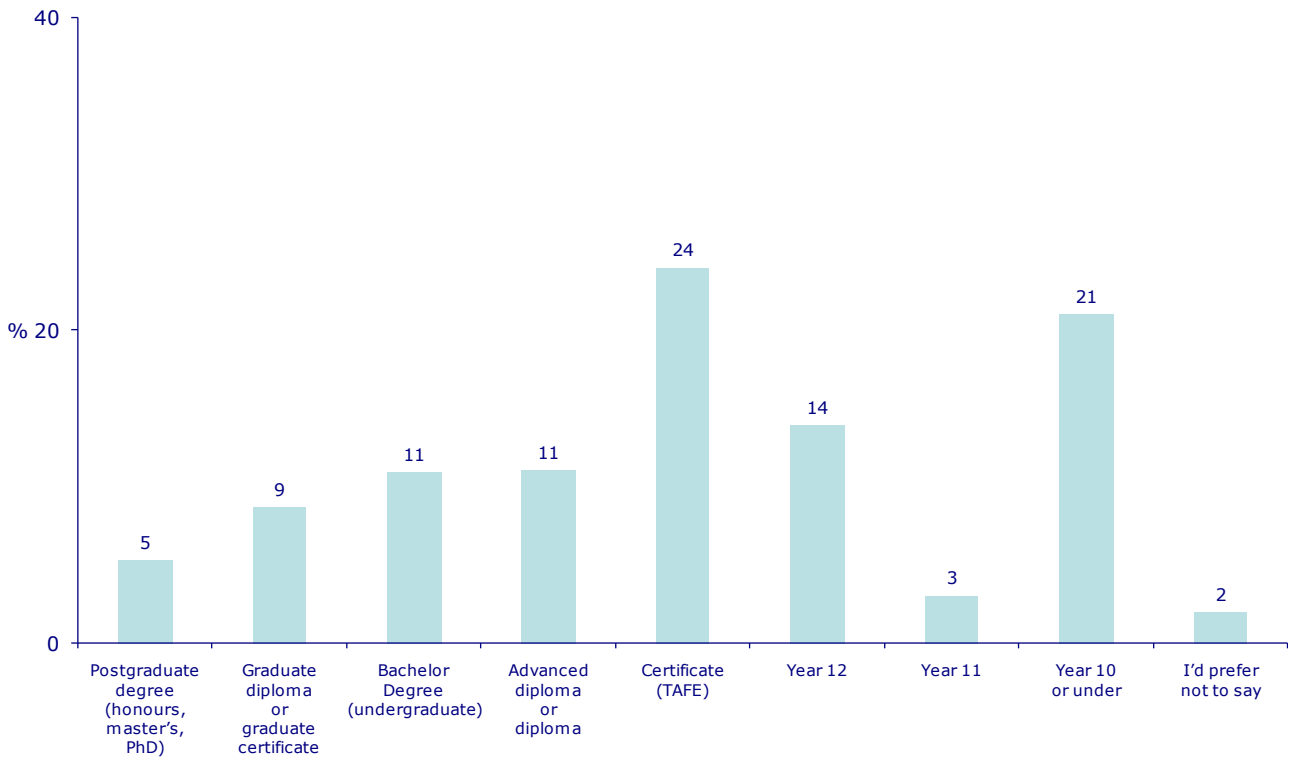


**Figure 40: Work status**



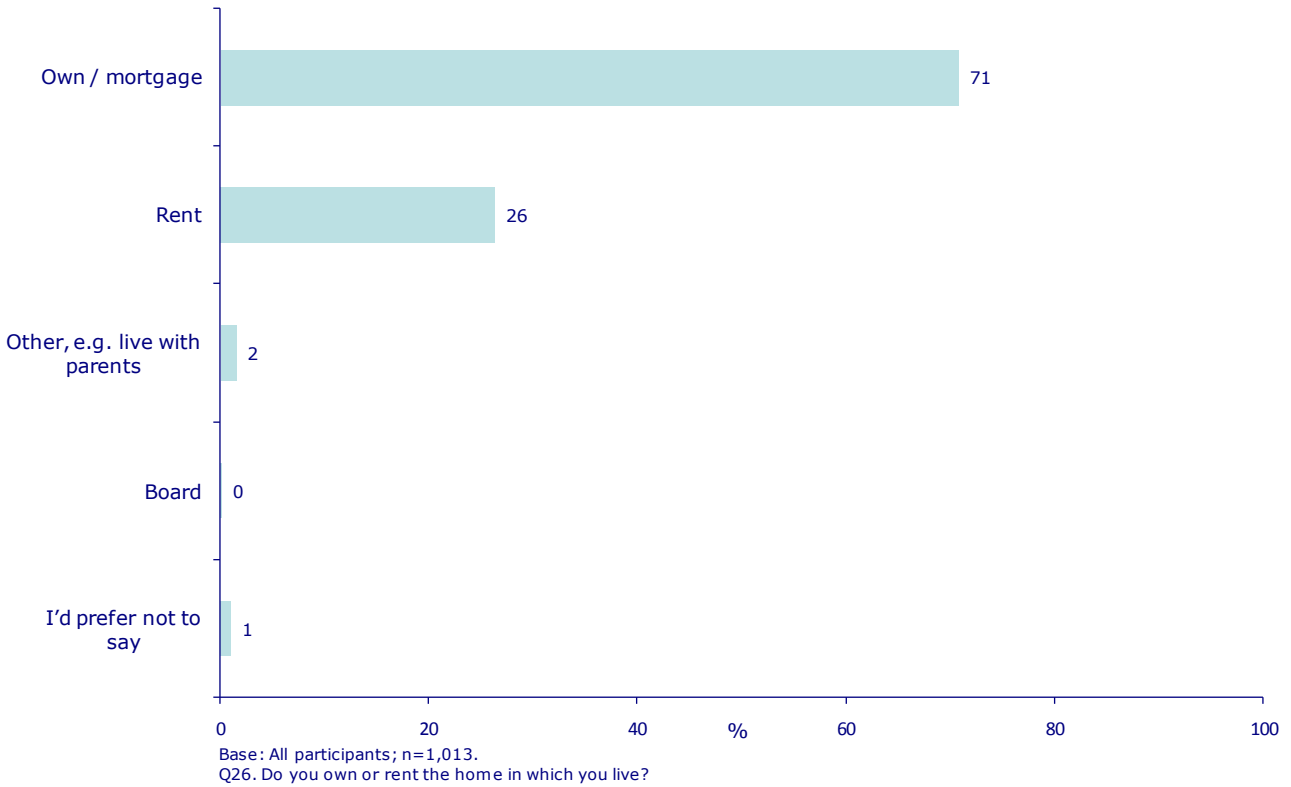
Base: All participants; n=1,013.  
 Q24. Which of the following best describes your work status?

**Figure 41: Highest level of education**

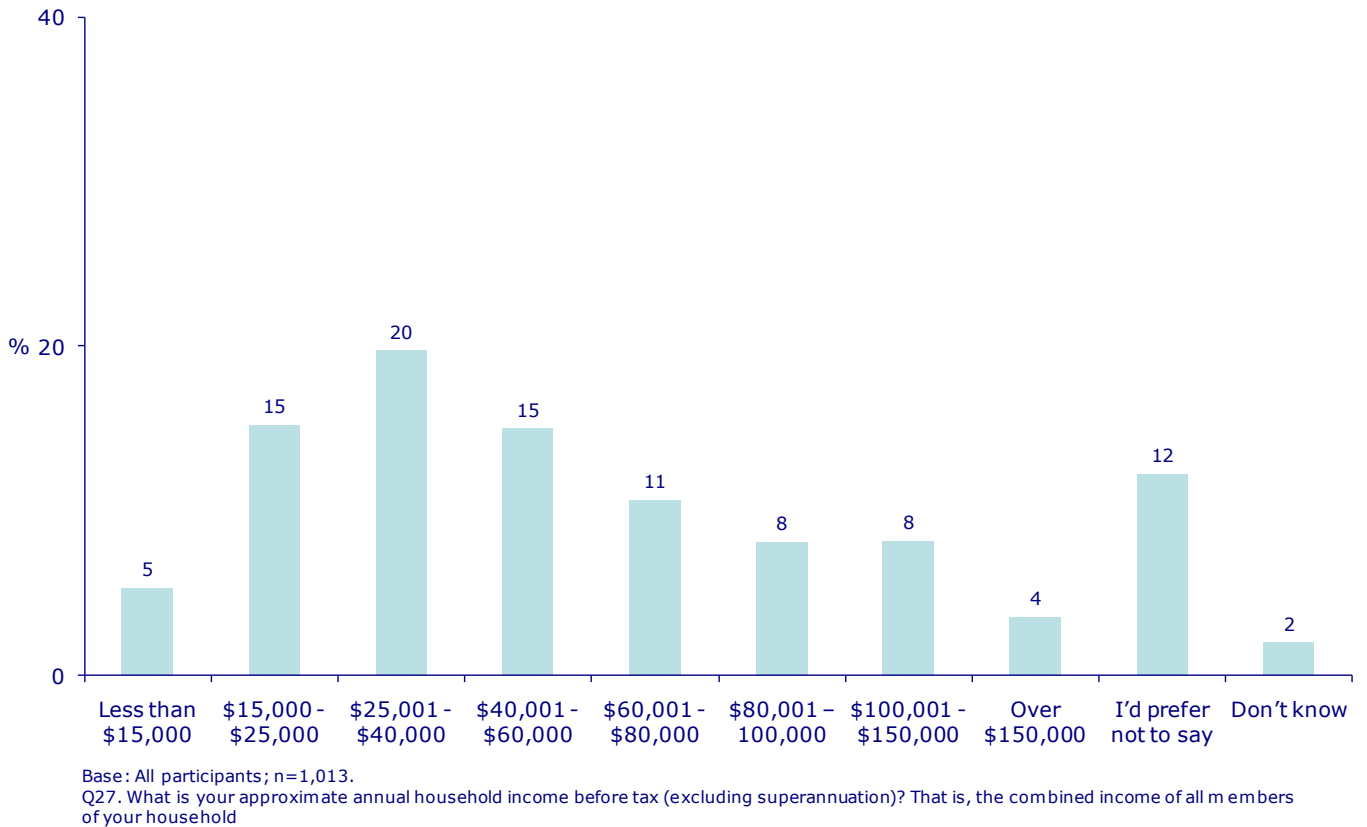


Base: All participants; n=1,013.  
 Q25. What is the highest level of education that you have completed?

**Figure 42: Home ownership**



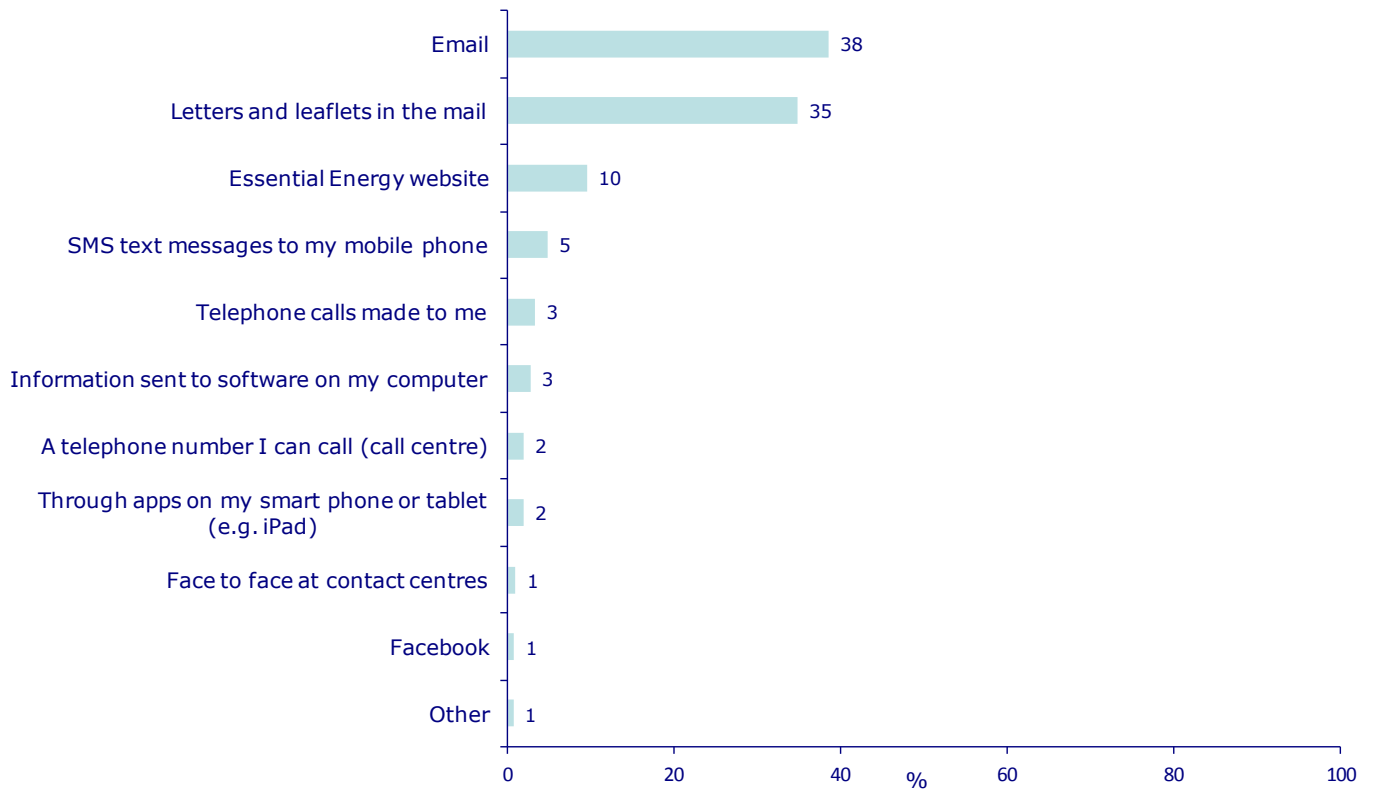
**Figure 43: Household income**





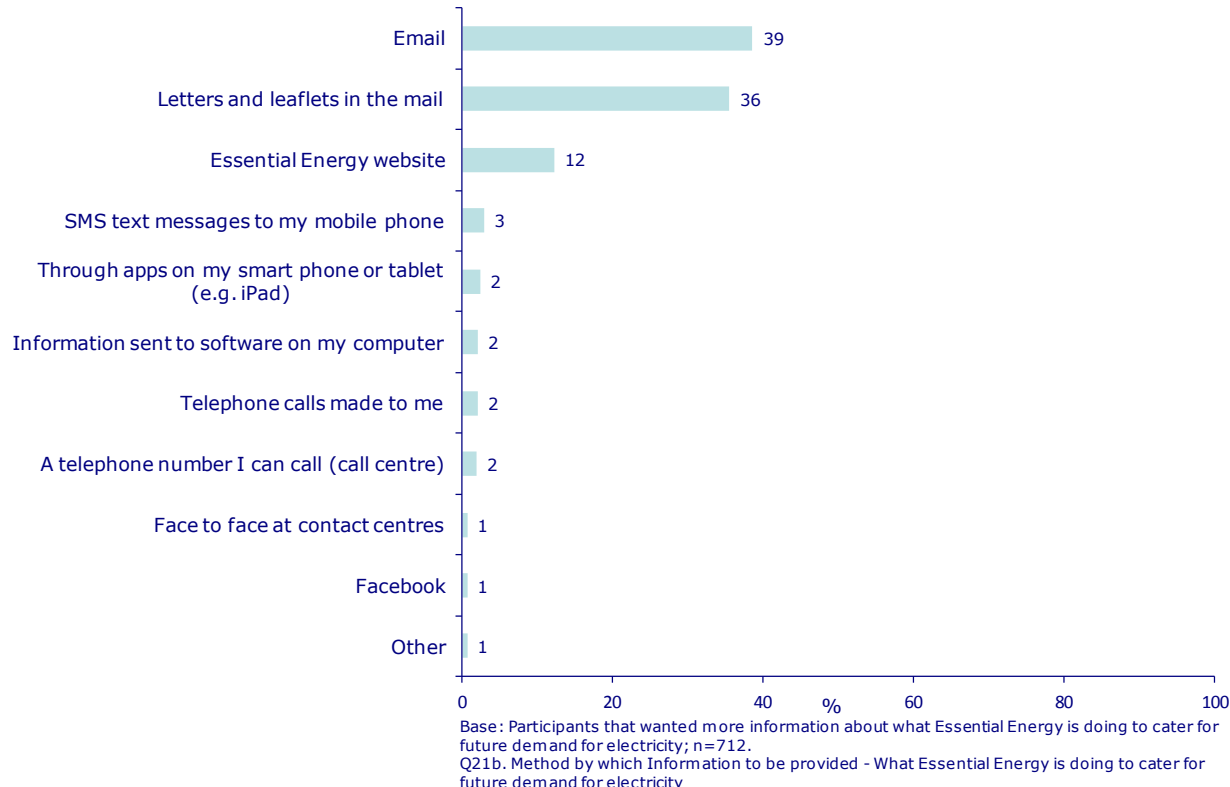
# Appendix 2: Communication channels

Figure 44: Preferred communication channel for information about: What Essential Energy is doing to improve reliability of electricity supply in your area

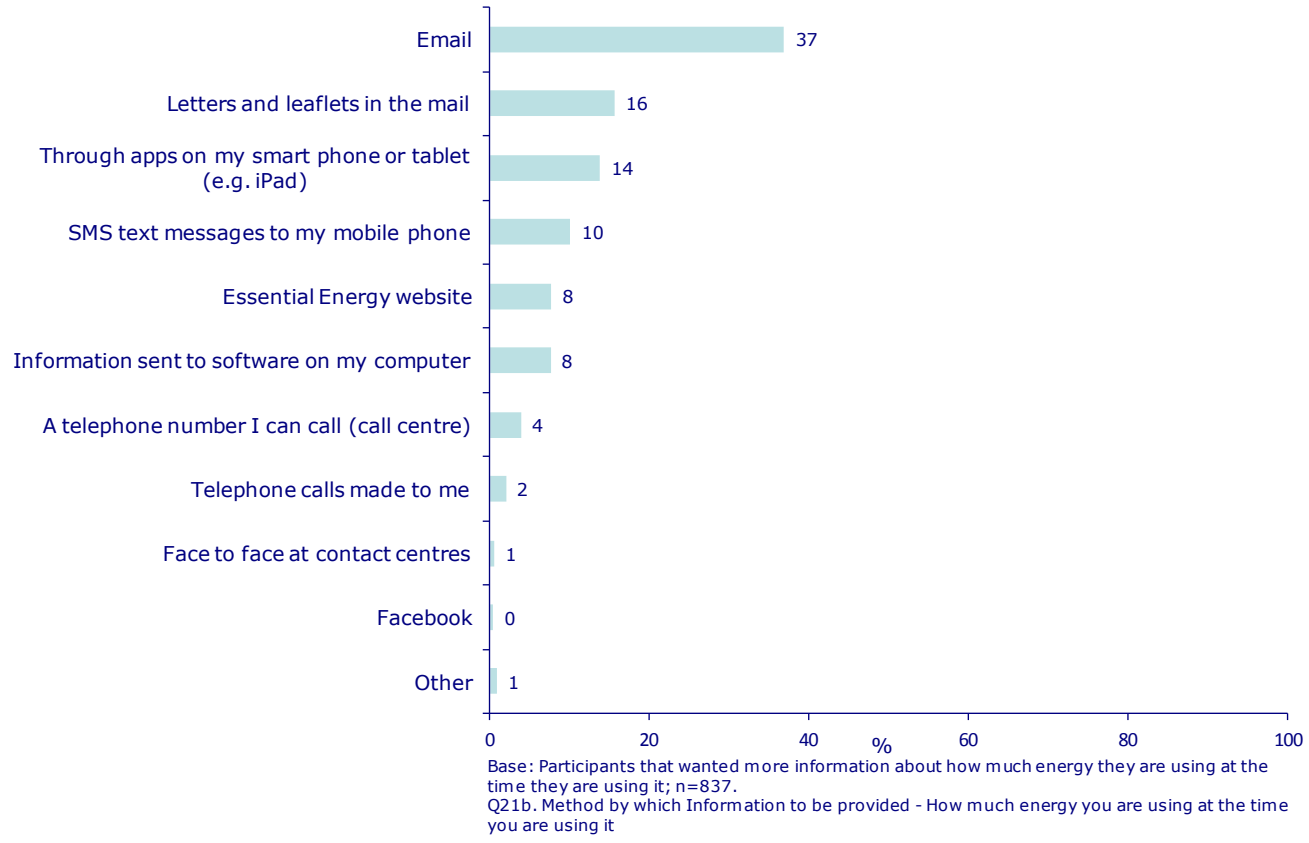


Base: Participants that wanted more information about what Essential Energy is doing to improve reliability of electricity supply in your area; n=725.  
Q21b. Method by which Information to be provided - What Essential Energy is doing to improve reliability of electricity supply in your area

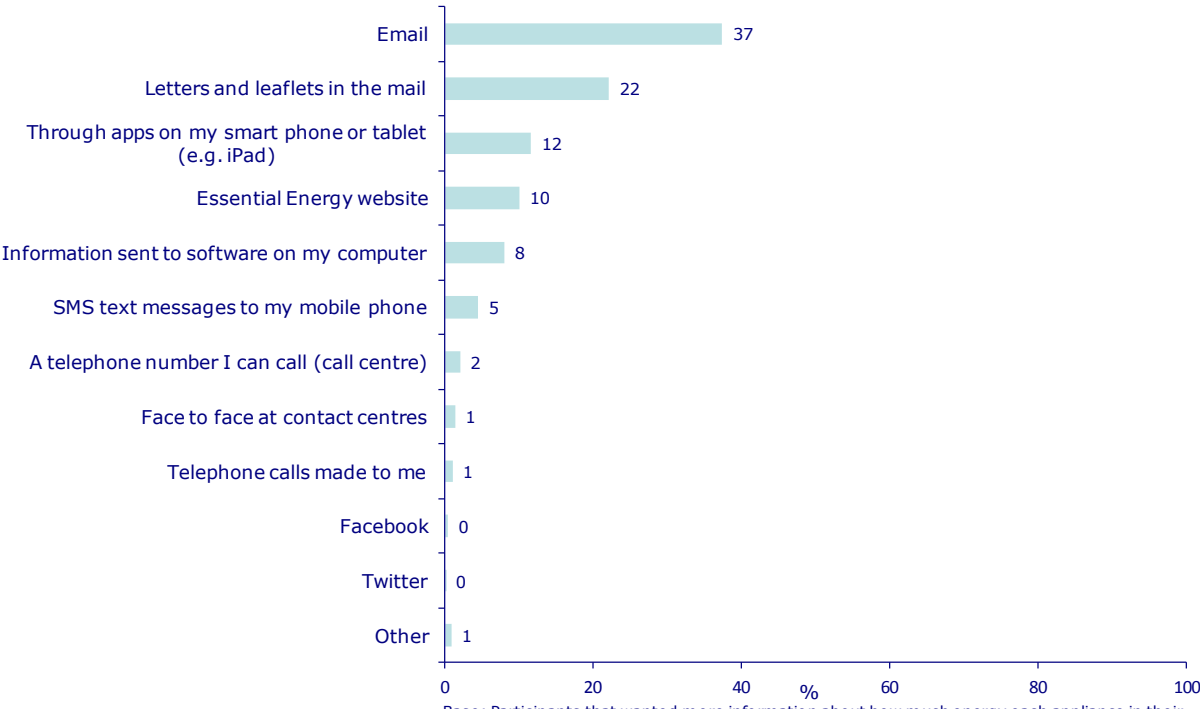
**Figure 45: Preferred communication channel for information about: What Essential Energy is doing to cater for future demand for electricity**



**Figure 46: Preferred communication channel for information about: How much energy you are using at the time you are using it**

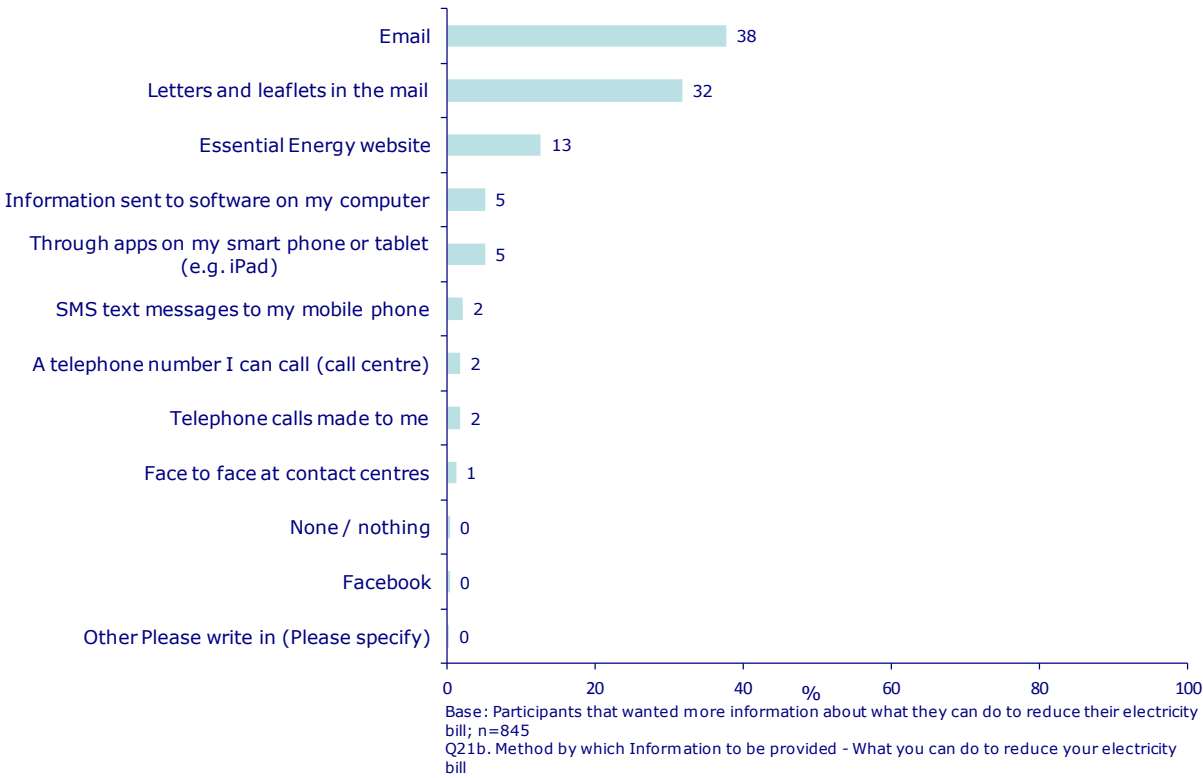


**Figure 47: Preferred communication channel for information about: How much energy each appliance in your house uses**

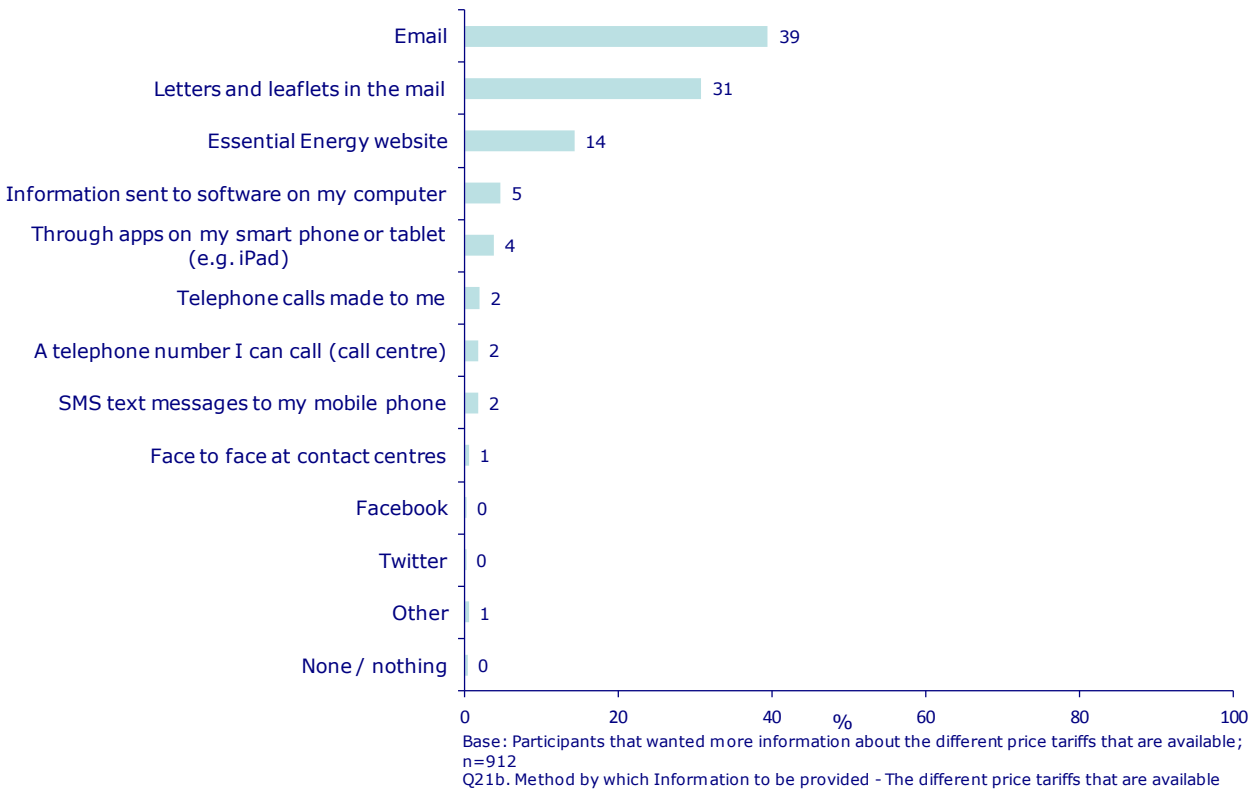


Base: Participants that wanted more information about how much energy each appliance in their house uses; n=857  
Q21b. Method by which Information to be provided - How much energy each appliance in your house uses

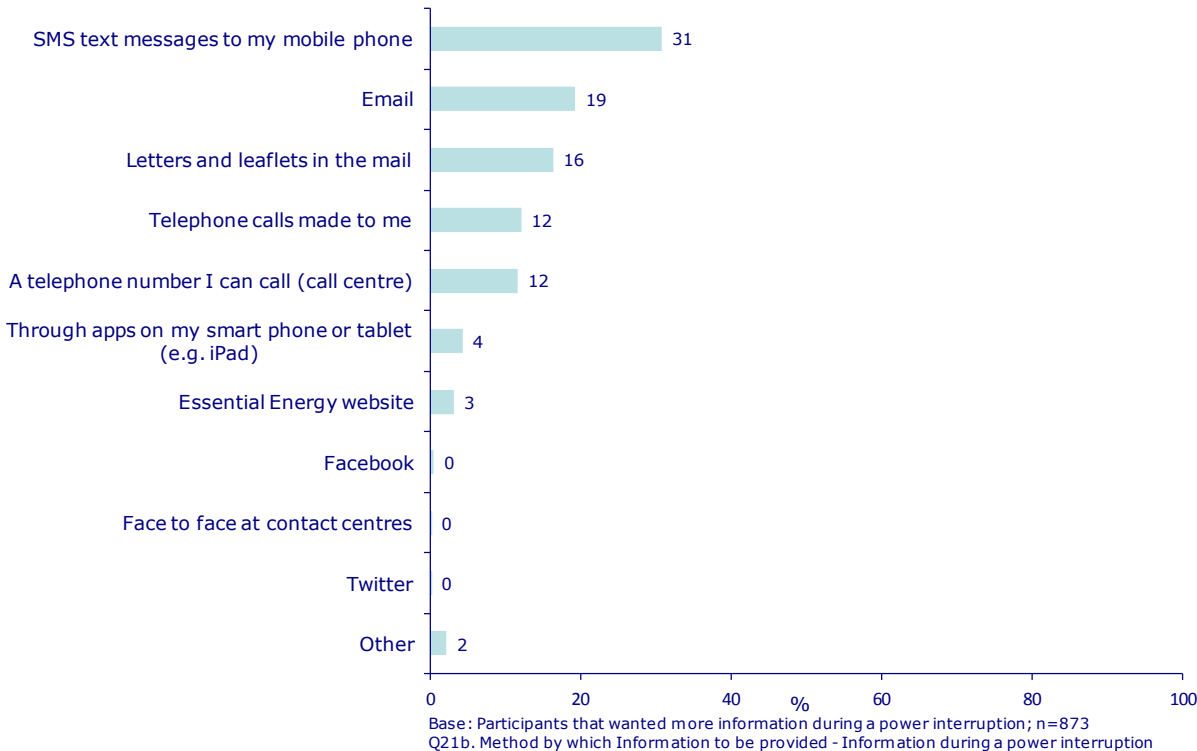
**Figure 48: Preferred communication channel for information about: What you can do to reduce your electricity bill**



**Figure 49: Preferred communication channel for information about: The different price tariffs that are available**

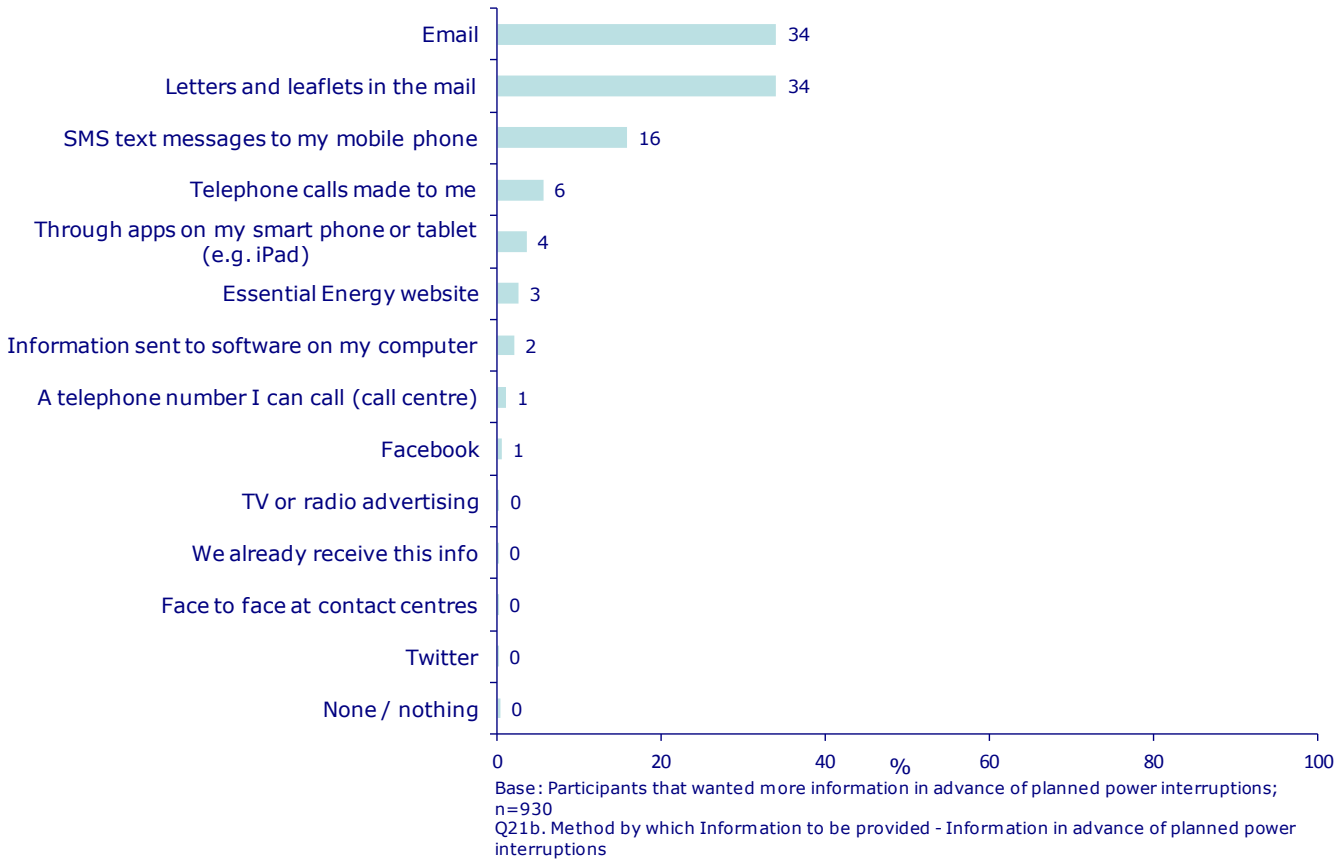


**Figure 50: Preferred communication channels for information about: Information during a power interruption**





**Figure 51: Preferred communication channel for information about: Information in advance of planned power interruptions**



# Appendix 3: Survey questionnaire



## Essential Energy

### Customer Engagement Online Questionnaire

(FINAL Version: 06 June 2012)

Job #: 12-033867-01

BLUE = Computer programming instructions

**[PROGRAMMING NOTE: PLEASE DO NOT INCLUDE SECTION HEADINGS ON SCREEN]**

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

#### SECTION A:

**SQ1.** Do you deal with your household's electricity bill or have any involvement in decisions around your electricity account? **[SINGLE RESPONSE]**

Yes-----01

No-----02**[TERMINATE]**

**SQ2.** Are you... **[SINGLE RESPONSE. RECRUIT TO QUOTA (Quota tab in project specs)]**

Male-----01

Female-----02

**SQ3.** Which of the following age groups are you in?

[SINGLE RESPONSE. RECRUIT TO QUOTA (Quota tab in project specs)]

- 17 years or under ----- 01 [TERMINATE]
- 18-24 years -----02
- 25-34 years -----03
- 35-44 years -----04
- 45-54 years -----05
- 55-64 years -----06
- 65-74 years -----07
- 75-84 years -----08
- 85+ years-----09
- I'd prefer not to say ----- 96[TERMINATE]

**SQ4.** What is the postcode where you live? [RECRUIT TO QUOTA (Quota tab in project specs)]

[PREFER NOT TO SAY = 9999, TERMINATE]

--	--	--	--

[TERMINATE IF POSTCODE NOT LISTED (Regions tab in Project Specs – please tag region to the postcode in data)]

**SQ5.** When did you start living at this address? [SINGLE RESPONSE]

- Before June 2011 (i.e. over a year ago) ----- 01
- During or since June 2011 (i.e. a year ago or less)----- 02

**SQ6.** Is your house connected to a town water supply or does your property have its own rainwater tank, dam or borehole to supply water? [SINGLE RESPONSE]

Town supply-----	01
Rainwater tank, dam or borehole-----	02
Don't know-----	98

**SQ7.** In the last three months have you struggled to pay your electricity bill or been late paying it?

**[SINGLE RESPONSE]**

Yes-----	01
No-----	02
Prefer not to say-----	96

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

**ISSUES AND PRIORITIES**

**Q1.** Thinking about the supply of electricity to your household, which are the **three most important** factors to you?

**[MR UP TO THREE RESPONSES] [ROTATE]**

A <b>reliable</b> supply of electricity (i.e. little or no interruption to the power supply) .....	1
A <b>safe</b> electricity network .....	2
The <b>price</b> of electricity .....	3
Having <b>information</b> during unplanned power interruptions e.g. about when power will be restored ..	4
Having <b>information</b> about planned power interruptions .....	5
The <b>appearance</b> of the network e.g. the lines and poles .....	6
Having information about <b>how much</b> energy you are using when you are using it .....	7

**Q2.** Which is the **most important** factor to you? **[DISPLAY 3 SELECTED AT Q1] [SR][ROTATE ORDER]**

A <b>reliable</b> supply of electricity (i.e. little or no interruption to the power supply) .....	1
A <b>safe</b> electricity network .....	2
The <b>price</b> of electricity .....	3

Having **information** during unplanned power interruptions e.g. about when power will be restored ..4

Having **information** about planned power interruptions .....5

The **appearance** of the network e.g. the lines and poles .....6

Having information about **how much** energy you are using when you are using it .....7

## ELECTRICITY USAGE

The next set of questions relate to your **household** electricity use.

**Q3.** Which of the following appliances do you have in your home? *(Please select all that apply)* **[MULTIPLE RESPONSE]**

- Dish washer-----01
- Washing machine -----02
- Clothes dryer (tumble dryer) -----03
- Air conditioner -----04
- Television-----05
- Electric hot water system -----06
- Electric heating-----07
- Electric stove or oven-----08
- Fridge/freezer-----09
- Other large electrical appliance **[SPECIFY]** -----97
- Don't Know -----98

**Q4.** Approximately how much was your last quarterly household electricity bill?

**[SINGLE RESPONSE]**

- \$0 - \$400 -----01
- \$401 - \$600 -----02
- \$601 - \$800 -----02
- More than \$800 -----03
- Don't know or can't remember -----98

**Q5.** Have you done anything to reduce your electricity bill?

**[SINGLE RESPONSE]**

Yes **[GO TO Q6]** -----01  
 No **[GO TO Q8]** -----02

**Q6. [ASK IF Q5 = 1]** Which of the following have you done to reduce your electricity bill? *(Please select all that apply)*

**[MULTIPLE RESPONSE] [ROTATE 01-07]**

Changed to energy efficient light bulbs -----01  
 Purchased energy efficient appliances-----02  
 Reduced your use of large appliances -----03  
 Switched to another tariff -----04  
 Installed solar panels on your property-----05  
 Switched to non-electric heating systems -----06  
 Insulated your house or installed double glazing -----07  
 Other **[SPECIFY]**-----97  
 Don't Know-----98

**Q7.** [ASK IF Q5 = 1] What effect do you think these actions have had on your electricity bill?

[SINGLE RESPONSE]

Reduced it a lot -----01  
Reduced it a little -----02  
Had no effect -----03  
Increased it a little -----04  
Increased it a lot -----05  
Don't know -----98

**Q8.** Do you feel that there is enough information available to you to make informed decisions about your electricity usage?

[SINGLE RESPONSE]

Yes -----01  
No -----02  
Don't know -----98

## PERCEPTIONS OF RELIABILITY

**Q9.** How many power interruptions would you estimate you have had

**IF SQ5=01:** in the last 12 months since June 2011?

**IF SQ5=02:** since you have lived at this address?

Please include:

- Planned power interruption (e.g. in order to undertake maintenance on the network)
- Unplanned power interruption (e.g. due to accidents and storms)



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

*Please write in number:*

**[LIMIT TO 0-365]**

**Q10.** How many times

**IF SQ5=01:** in the last 12 months since June 2011

**IF SQ5=02:** since you have lived at this address

would you estimate you have experienced dimming, flickering lights, or reduced capacity for appliance use?

*Please write in number:*

**[LIMIT TO 0-365]**

**Q11. [Ask if Q9>0]** How acceptable or unacceptable are each of the following, in your view?

Please give your answer on a scale of zero to ten where zero means it is completely unacceptable and ten means it is completely acceptable. **[SINGLE RESPONSE ON EACH ROW] [ROTATE ROWS]**

		Completely unacceptable					Neither					Completely acceptable	Don't know
A	The <b>number</b> of <b>planned</b> power interruptions you have experienced over the last year	0	1	2	3	4	5	6	7	8	9	10	98
B	The <b>number</b> of <b>unplanned</b> power interruptions you have experienced over the last year	0	1	2	3	4	5	6	7	8	9	10	98
C	The <b>duration</b> of the <b>planned</b> power interruptions you have experienced over the last year	0	1	2	3	4	5	6	7	8	9	10	98
D	The <b>duration</b> of the <b>unplanned</b> power interruptions you have experienced over the last year	0	1	2	3	4	5	6	7	8	9	10	98

**Q12. [ASK IF Q11A OR Q11B OR Q11C OR Q11D = 0-4]** You mentioned that the number and/or duration of power interruptions over the last year has been unacceptable. In which of the following ways were you impacted by the power interruptions? (Please select the three most important to you)

**[MULTIPLE RESPONSE UP TO 3 REPOSSES] [ROTATE 01-13]**

I needed to use my cordless landline telephone but could not charge it -----01

I needed to use my mobile telephone but could not charge it -----02

I needed to use my laptop / computer / tablet -----	03
I needed to use my dish washer -----	04
I needed to use my washing machine -----	05
I needed to use my clothes dryer (tumble dryer)-----	06
I needed to use my air conditioner -----	07
I needed to use my television -----	08
I needed to use my electric hot water system -----	09
I needed to use my electric heating -----	10
I needed to use my electric stove or oven -----	11
My freezer defrosted -----	12
It affected important medical equipment in my household e.g. dialysis or life support -----	13
Other impacts [SPECIFY] -----	97
The power interruptions did not have any impact on me -----	95
Don't Know -----	98

**Q13.** Do you think that the **number** of unplanned power interruptions in the 12 months since June 2011 (IF SQ5=01)/since you have lived here (IF SQ5=02) has been... [SINGLE RESPONSE]

A lot higher than in the past -----	1
A little higher than in the past -----	2
The same as in the past -----	3
A little lower than in the past-----	4
A lot lower than in the past-----	5
Don't know -----	98

**Q14.** [Ask if Q9>0] Thinking about the **duration** of the unplanned power interruptions you had in the last 12 months since June 2011 (IF SQ5=01)/since you have lived here (IF SQ5=02), do you think that they were generally **longer** or **shorter** than in the past? [SINGLE RESPONSE]

Shorter -----	01
About the same length -----	02
Longer -----	03
Can't remember -----	95
Don't know -----	98

## PREFERENCES

**Q15.** To what extent do you agree or disagree with the following statements? **[SR ON EACH ROW] [ROTATE ROWS]**

		Strongly agree	Agree	Neither	Disagree	Strongly disagree	Don't know
A	I would be willing to limit my use of large appliances (e.g. air conditioning) to set times, in exchange for a reduction in my electricity bill.	1	2	3	4	5	98
B	I would be willing to have certain appliances switched off remotely by my network company at short notice, at times of high demand such as on hot days, in exchange for a reduction in my electricity bill.	1	2	3	4	5	98
C	I would be willing to accept more power interruptions if my electricity bill was reduced.	1	2	3	4	5	98
D	If there is clear information about the time and duration of <b>planned</b> power interruptions, these interruptions would be more acceptable.	1	2	3	4	5	98
E	If there is clear information about the reasons for and duration of <b>unplanned</b> power interruptions, these	1	2	3	4	5	98

interruptions would be more acceptable.							
---	--	--	--	--	--	--	--

**Q16. [IF Q15A = 1 or 2 or 3]** Earlier you indicated that you may be willing to limit your electricity use to set times in exchange for a reduction in your bill.

For which large appliance(s) in particular would you be willing to **limit your use of to set times**? **[ROTATE 1-8. MULTIPLE RESPONSE]**

- Dish washer -----01
- Washing machine -----02
- Clothes dryer (tumble dryer)-----03
- Air conditioner-----04
- Television -----05
- Electric hot water system-----06
- Electric heating -----07
- Electric stove or oven -----08
- Other **[SPECIFY]**.....97

**Q17. [IF Q15B = 1 or 2 or 3]** Earlier you indicated that you may be willing have to some appliances **switched off remotely** by your network company in exchange for a reduction in your bill. This would happen most often during times of high demand, such as on hot days.

Which large appliance(s) in particular would you be willing to let your network company switch of remotely? **[RANDOMISE 1-8. MULTIPLE RESPONSE ALLOWED]**

- Dish washer -----01
- Washing machine -----02
- Clothes dryer (tumble dryer)-----03
- Air conditioner-----04
- Television -----05
- Electric hot water system-----06

Electric heating -----07

Electric stove or oven -----08

Other **[SPECIFY]**.....97

**[DISPLAY TEXT]**

Your electricity bill is made up of two charges. One is for the amount of electricity you use. The other is a fixed charge for the building, operation and maintenance of the electricity network and is called the **network charge**. The network company in your area is Essential Energy.

**Q18.** To what extent do you agree or disagree with the following statements? **[SINGLE RESPONSE PER ROW, ROTATE ROWS]**

		Strongly agree	Agree	Neither	Disagree	Strongly disagree	Don't know
A	I think that all households should pay the <b>same</b> network charge regardless of how much electricity they use.	1	2	3	4	5	98
B	I think that households that use less electricity should pay a <b>lower</b> network charge.	1	2	3	4	5	98
C	I think that households that use less electricity should pay a <b>lower</b> network charge, and households that use more electricity should pay a <b>higher</b> network charge.	1	2	3	4	5	98
D	I would prefer to have a pay-as-you-go meter in my house so that I could <b>pay in advance</b> for electricity, rather than receiving a bill every three months.	1	2	3	4	5	98

E	I think Essential Energy should be doing more to help customers who are having trouble paying their electricity bill.	1	2	3	4	5	98
---	---	---	---	---	---	---	----

## INFORMATION PROVISION

**Q19.** Which of the following applies to you? **[MULTI RESPONSE FOR 1-3]**

- I own a tablet e.g. an iPad -----01
- I own a smart phone e.g. an iPhone / Android, etc -----02
- I own a mobile phone which is not a smart phone -----03
- I do not own any of the above-----04

**Q20. a. [IF Q19=01/02]** Please indicate which activities you currently use your Smartphone (e.g. iPhone) or tablet (e.g. iPad) for? *Please tick all that apply.* **[MR in each column]**

		<b>Q20a</b>
		Currently use Smartphone or tablet for
A	SMS text messaging	1
B	Email	2
C	Browsing the internet	3
D	Social networking e.g. Facebook	4
E	Twitter	5
F	Apps which allow you to monitor your electricity use	6
G	Apps which allow you to plan your future electricity use	7
H	Apps which tell you how much your electricity	8



	bill will be	
I	Apps which will tell you how much it will cost you to use an appliance at any given time	9
J	None of the above	99

**b. [ASK ALL]** Please indicate which activities you would like to be able to use a Smartphone (e.g. iPhone) or tablet (e.g. iPad) for? *Please tick all that apply.* **[MR in column. IF Q20a completed, ONLY SHOW OPTIONS NOT SELECTED IN Q20a]**

		<b>Q20b</b>
		Would like to be able to use Smartphone or tablet for
A	SMS text messaging	1
B	Email	2
C	Browsing the internet	3
D	Social networking e.g. Facebook	4
E	Twitter	5
F	Apps which allow you to monitor your electricity use	6
G	Apps which allow you to plan your future electricity use	7
H	Apps which tell you how much your electricity bill will be	8
I	Apps which will tell you how much it will cost you to use an appliance at any given time	9

J	None of the above	99
K	Don't know	98

**Q21. a.** Which of the following would you like to receive more information about, regarding your electricity supply?  
**[ROTATE ROWS] [SR in each column]**

		Yes	No
A	What Essential Energy is doing to improve reliability of electricity supply in your area	1	0
B	What Essential Energy is doing to cater for future demand for electricity	1	0
C	How much energy you are using at the time you are using it	1	0
D	How much energy each appliance in your house uses	1	0
E	What you can do to reduce your electricity bill	1	0
F	The different price tariffs that are available	1	0
G	Information during a power interruption	1	0
H	Information in advance of planned power interruptions	1	0

**Q21. b.** **[If yes to any in Q21a – provide ‘yes’ only in grid format with below list in drop down box for each code]** How would you like this information to be provided to you? **[SR from drop down list for each response to Q21a= 1] [ROTATE 1-11]**

- Letters and leaflets in the mail -----01
- Email -----02
- Essential Energy website -----03
- Twitter-----04
- Facebook-----05
- SMS text messages to my mobile phone -----06

Through apps on my smart phone or tablet (e.g. iPad) -----	07
Face to face at contact centres -----	08
Telephone calls made to me -----	09
A telephone number I can call (call centre) -----	10
Information sent to software on my computer -----	11
Other Please write in <b>[SPECIFY]</b> -----	97

## DEMOGRAPHICS

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

**Q22.** Firstly, how many people are there living in your household in total, **including yourself**? *Please write in*

**[1 or over]**

**Q23.** And how many people are usually in the house during the day (during the week, i.e. Monday to Friday)?

*Please write in*

**[0 or over]**

**Q24.** Which of the following best describes your work status? **[SINGLE RESPONSE]**

Full-time work -----	01
Part-time work -----	02
Casual work -----	03

Unemployed -----	04
Retired -----	05
Home duties -----	06
Full time student -----	07
Prefer not to say/refused -----	96
Other <b>[SPECIFY]</b> -----	97

**Q25.** What is the highest level of education that you have completed?

**[SINGLE RESPONSE]**

Postgraduate degree (honours, master's, PhD) -----	01
Graduate diploma or graduate certificate -----	02
Bachelor Degree (undergraduate) -----	03
Advanced diploma or diploma -----	04
Certificate (TAFE) -----	05
Year 12 -----	06
Year 11 -----	07
Year 10 or under -----	08
I'd prefer not to say -----	96

**Q26.** Do you own or rent the home in which you live?

**[SINGLE RESPONSE]**

Own / mortgage -----	01
Rent -----	02
Board -----	03
Other, e.g. live with parents <b>[SPECIFY]</b> -----	04
I'd prefer not to say -----	96

**Q27.** What is your approximate annual **household** income before tax (excluding superannuation)? *That is, the combined income of all members of your household* [SINGLE RESPONSE]

Less than \$15,000-----	01
\$15,000 - \$25,000-----	02
\$25,001 - \$40,000-----	03
\$40,001 - \$60,000-----	04
\$60,001 - \$80,000-----	05
\$80,001 - 100,000-----	06
\$100,001 - \$150,001-----	07
Over \$150,001-----	08
I'd prefer not to say-----	96
Don't know-----	98

---

[END SCREEN]

**We and Essential Energy greatly appreciate your time with this important survey.**

[Redirect website address <http://www.essentialenergy.com.au/> ]