AEMC

INFORMATION

Fact sheet: NSW customer survey on electricity reliability

We have undertaken a survey of almost 1,300 electricity customers in NSW to understand the value they place on a reliable supply of electricity. Survey results have been used by the AEMC to provide information to the NSW Government on options for the future level of reliability which could be provided by the NSW electricity distribution networks.

Why is the AEMC interested in valuing electricity reliability?

The AEMC has been asked to provide advice to the NSW Government on the future level of reliability that could be provided by electricity distribution networks. We have now published our Final Report which sets out our advice.

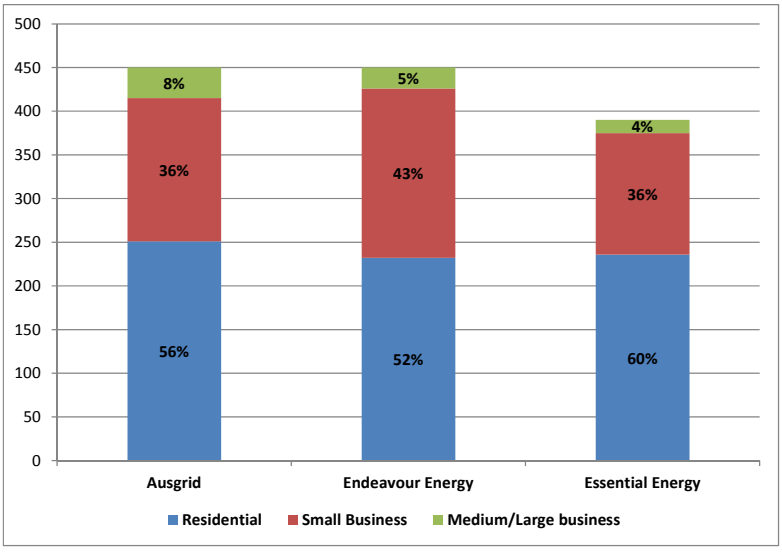
In developing our advice, we have considered four scenarios for the future level of reliability in NSW and examined the trade offs between changes in electricity prices and power outages for each scenario. This advice provides information for the NSW Government's consideration of the reliability requirements placed on electricity distribution networks in NSW.

As part of our advice, we have undertaken a survey of NSW customers to help us understand the value placed on reliability by different customers. This survey suggests that NSW customers place a relatively high value on a reliable electricity supply. The survey results have been used to understand the impact of changes to reliability on customers. This has allowed us to compare the costs and benefits of our four reliability scenarios.

How is the survey used to value customer reliability?

The AEMC asked 1,288 customers from across NSW how they would manage power outages of differing lengths, to understand the costs to customers of outages and the customer value of a reliable supply of electricity. **Figure 1** shows the number of customers in each NSW distribution network that were surveyed.

Figure 1: Number of survey respondents by distribution network



Residential customers were asked to choose from a list of possible actions they would take if an outage occurred with an estimated cost provided for each action. For example, for shorter outages, customers were asked if they would use candles, while for longer outages they were asked if they would go out for a meal or stay at a hotel.

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NSW electricity customers place a high value on a reliable supply of electricity to their homes and businesses. More than half of the residential customers surveyed said they would be willing to pay more for improved reliability.

Business customers were asked to provide their own estimates of the costs of different outages. For example, a one hour outage for a café may include the value of lost sales plus any spoiled food.

The value of customer reliability we have developed from our survey responses is set out in **Table 1**.

Table 1: Results of the estimated value of customer reliability for NSW

Customer type	NSW average ($/MWh)	Ausgrid ($/MWh)	Endeavour Energy ($/MWh)	Essential Energy ($/MWh)
Residential	$20,710	$22,770	$19,750	$17,820
Small business <160 MWh pa	$413,120	$408,480	$563,460	$202,820
Medium/large business ≥160MWh pa	$53,300	$34,830	$33,990*	$130,570*
NSW average	**$94,990**	**$86,790**	**$110,710**	**$90,710**

(*) Note that these groups have a small sample size and there is a risk of greater sampling error

Does this mean customers want to pay more for a higher level of electricity reliability?

The value of customer reliability in Table 1 reflects the costs to NSW customers of a power outage. To complement these results, we also asked customers whether they were willing to pay more for a higher level of reliability and whether they were willing to accept a lower level of reliability for a discount on their electricity bill.

These results are broadly in line with the value of customer reliability we developed, and also suggest NSW customers place a high value on a reliable electricity supply.

Willingness to pay more for improved reliability

The survey asked residential customers about their willingness to pay at least 1% more on their electricity bill to have their total power outages decreased by 60 minutes each year.

Figure 2: Willingness to pay for 60 minutes less outages a year

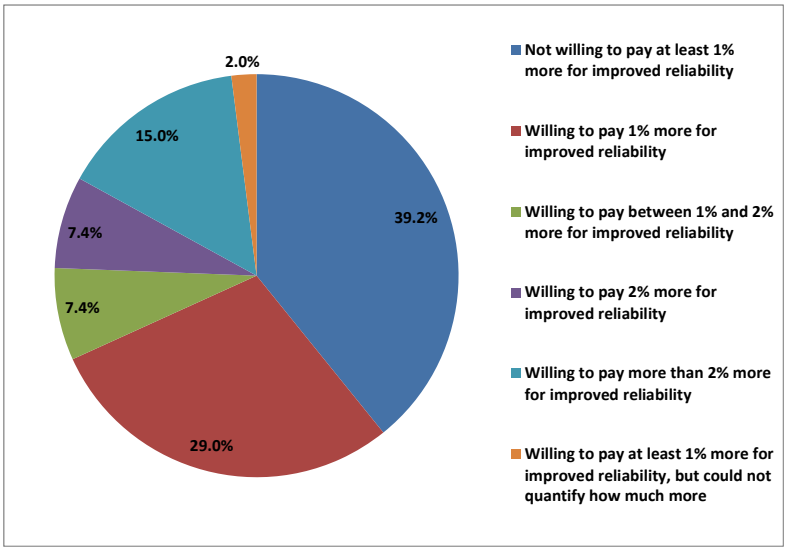

Figure 2 shows that 60.8% of those surveyed said they would be willing to pay at least 1% more for improved reliability, with 22% willing to pay 2% or more.

NSW customers want to see electricity networks invest in having fewer power outages over reducing the length of an outage or systems to let customers know how long an outage will last.

Willingness to accept poorer reliability for lower bills

The survey also asked customers if they were willing to accept an increase in power outages of 60 minutes each year in exchange for a discount on their electricity bill.

Figure 3: Willingness to accept 60 minutes more outages a year for a bill discount

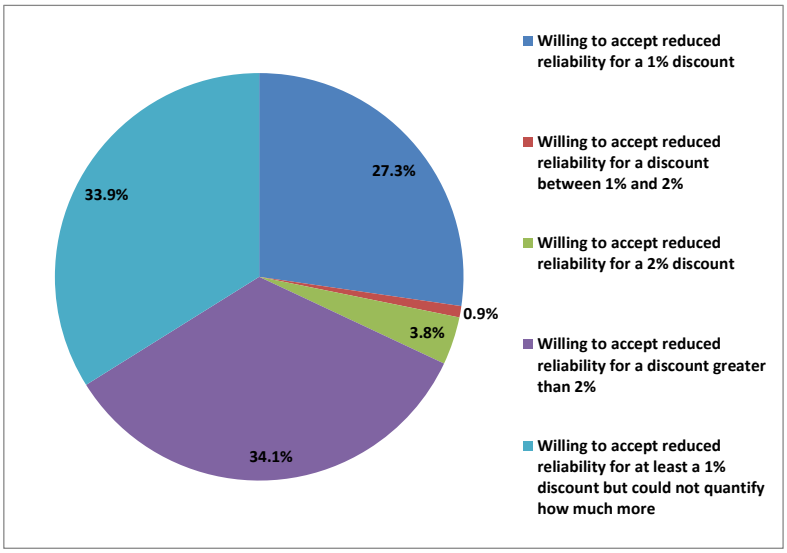

Figure 3 indicates that customers would require a significant discount on their bill to accept poorer reliability.

What investments would customers prefer distribution networks make?

Residential customers were also asked about their preferences for electricity network investment. They were provided with three options for distribution investment and asked which they would prefer:

- infrastructure to reduce the number of outages that occur;
- systems to reduce how long outages last when they do occur; or
- communications systems to let customers know how long an outage is likely to last.

The results suggest that the majority of surveyed customers would prefer investment to reduce the number of outages. These results are consistent across NSW.

Table 2: Customer preferences for network investment.

	Total	Ausgrid	Endeavour Energy	Essential Energy
Reduce number of outages	59.0%	61.4%	57.8%	57.7%
Reduce length of outages	16.8%	16.9%	17.0%	16.2%
Information on how long an outage will last	24.2%	22.0%	25.2%	26.2%

Does the value of customer reliability differ for low income households?

The survey also collected information on household income to test whether the ability of low income households to deal with power outages is more limited than other households. To examine this, we compared the proportion of low income customers who suggested they would "do nothing" in response to a power outage to all other households. Low income households were defined as those having an annual household income of $50,000 or less and in receipt of concessions on their electricity bill.

The table below shows the differences between low income households compared to other households that chose to do nothing in response to an outage.

Table 3: Proportion of customers who would "do nothing" in response to an outage

Household type	Outage of 5 minutes to 1 hour	Outage of 1 hour to 4 hours	Outage of 4 hours to 8 hours	Outage of 8 hours to 24 hours
Low income	53%	43%	30%	18%
All other households	56%	29%	9%	6%

These results suggest that low income households may be less able to deal with power outages, particularly longer outages, compared to other households. This may reflect that low income households may find it difficult to manage the costs of dealing with longer power outage, such as going out for a meal or staying at a hotel.

What do the survey results mean for the AEMC's advice?

The results of the customer survey show that there are significant impacts on customers when there is a power outage and that NSW customers place a high value on a reliable supply of electricity.

However, even when taking this value of customer reliability into account, our analysis suggests that the cost savings of reducing reliability levels are larger than the costs to customers of reduced reliability levels. In other words, a relatively small reduction in reliability can lead to a large reduction in the investment required by electricity distribution networks. This suggests that there may be large benefits in slightly reducing the level of reliability provided to customers.

The potential impact on customer bills from any reductions to the level of reliability are likely to be relatively modest though, as retail electricity bills are affected by a variety of other drivers and investment to meet current reliability requirements has already been committed.

Further information can be found in our Final Report on how the customer survey results have been used in our advice to the NSW Government on the future level of reliability that could be provided by the NSW electricity distribution networks. More detailed information on the customer survey results can be found in Oakley Greenwood's consultant report, which can be found on the AEMC website.

The AEMC's Review of distribution reliability outcomes and standards – NSW workstream has provided advice on the costs and benefits of potential changes to the current reliability requirements.

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