



**insync™**

# Value of Customer Reliability Pilot Survey report

**5 September 2019**

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## Private and confidential

George Huang  
Director  
Australian Energy Regulator  
Level 20, 175 Pitt St  
Sydney 2000

Dear Mr Huang,

### Value of Customer Reliability (VCR) Pilot Survey Report

KPMG were engaged by the Australian Energy Regulator (AER) in collaboration with Insync to provide survey and analysis to support the calculation of the Value of Customer Reliability (VCR). Insync is responsible for survey design, delivery and analysis of results, while KPMG is managing the overall project and providing the choice modelling component of the survey.

### Procedures

Our work has been performed in accordance with the scope of work in your Order for Service dated 16 January 2019 and varied on 7 May 2019. To meet this scope, we will complete our work in two stages:

1. Design and undertake pilot VCR residential and business customer surveys, and prepare a report summarising findings and recommendations
2. Design and undertake main VCR residential, business and direct connect customer surveys, and prepare a report outlining results and findings

This report provides a description of the development of the Pilot Survey and its results. The report includes recommendations for changes to the design of the Main survey.

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### Distribution

This Final Report has been prepared exclusively for the AER in relation to the VCR. The Report must not be used for any other purpose or distributed to any other person or party, except as set out in our engagement letter, or as otherwise agreed by us in writing.

Yours sincerely

**Sabine Schleicher**  
Partner, Infrastructure Projects Group





## **Important Notice**

### **Inherent Limitations**

This report has been prepared as outlined in the Objective, Scope and Approach Section. The services provided in connection with this engagement comprise an advisory engagement, which is not subject to assurance or other standards issued by the Australian Auditing and Assurance Standards Board and, consequently, no opinions or conclusions intended to convey assurance have been expressed.

KPMG have indicated within this report the sources of information provided. We have not sought to independently verify those sources unless otherwise noted within the report.

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The findings in this report have been formed on the above basis.

### **Third party reliance**

This report has been prepared at the request of Australian Energy Regulator in accordance with the terms of KPMG's engagement contract dated 16 January 2019 and varied on 7 May 2019 and is not to be used for any other purpose or distributed to, or relied upon by, any other party without our prior written consent.

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# Executive Summary





## Introduction

In January 2019, KPMG were engaged by the Australian Energy Regulator (AER) in collaboration with Insync to provide survey and analysis to support the calculation of the Value of Customer Reliability (VCR). Insync is responsible for survey design, delivery and analysis of results, while KPMG is managing the overall project and providing the choice modelling component of the survey. The AER must publish its first calculated VCRs by 31 December 2019.

The engagement is in two phases; a Pilot Survey and a Main Survey. The Pilot survey tests the survey design before the larger Main Survey is released. The results of the Pilot are used to make recommendations to improve the Main Survey.

The purpose of this report is to provide high level results of the main quantitative elements of the Pilot Survey and to recommend improvements to be made in the Main Survey.

## Survey Methodology

The methodology for the Pilot Survey was based on AEMO’s National Electricity Market (NEM)-wide VCR study undertaken in 2014. Consistent with this approach, a contingent valuation (stated preference) question was used to assess willingness to pay (WTP) and a choice model to assess the value of outage scenarios with differing characteristics.

Alternative methodologies, such as revealed preference exercises, were not pursued for the Pilot Survey for a number of reasons. There was not sufficient time to design and scope a new methodology, especially where there is no precedent to compare against. The risk of a significant variance from prior VCR studies was recognised as requiring significant time to prepare and execute.

## Survey Design

The language of the survey was revised to ensure consistent understanding of the questions. This was based on a validation exercise involving eight focus groups and 24 in-depth interviews across Australia.

Willingness to pay questions using cost prompts<sup>1</sup> used by AEMO in 2014 were removed from the revised Pilot Survey in favour of an open-ended WTP question.

The choice model for the Pilot Survey was based on the AEMO 2014 approach. Many changes were made to simplify the definitions in the choice model based on the survey validation process:

- The hours for a peak outage were updated to reflect changes in peak system demand and customer usage
- Question wording was made less technical to improve accessibility for respondents with lower literacy levels
- Definitions of choice model attributes were simplified
- Language around seasonality was changed to cater for respondents in tropical Australia
- Design/font changes were made to direct respondents to the attributes that were variable in the choice model
- The definitions of “localised” and “widespread” were improved
- Behaviours that might alter the value of reliability were tested and redundant/unused items were deleted from the survey

Overall, the 2019 Revised Pilot Survey was shorter, more accessible and had improved psychometric reliability and validity.

## Splitting of pilot survey

The residential Pilot Survey was run in two streams; a control group answered a survey which included the WTP and choice model questions as per the AEMO 2014 survey. The rest of the sample answered the updated version. The contextual and demographic questions were common to both surveys.

Number of responses by survey version and state			
	Residential Control	Residential Revised	Business
NSW/ACT	209	209	123
Victoria		272	106
Qld		227	69
SA		105	20
<b>TOTAL</b>	<b>209</b>	<b>813</b>	<b>318</b>



1. Cost prompt questions are phrased “Would you be willing to pay \$x to...?” Open-ended questions ask “How much would you be willing to pay to...?”



# Role of survey results in calculating VCR

Willingness to Pay result establishes the value the baseline outage



Baseline outage



Choice modelling establishes the variance from the baseline for chosen characteristics

## Survey Results

The purpose of the Pilot Survey is to test the survey design and methodology, not to calculate a VCR.

Changes in average WTP relative to AEMO’s 2014 study may not directly translate into proportional changes in VCR, as the effect will be combined with changes in demand and outage probability. This means that a reduction in WTP may not translate to an equivalent reduction in the VCR, or a reduction at all.

The Main Survey data will be converted into \$/kWh based on outage probability, demand profile and regional load weighting. The final VCRs will be presented as a \$/kWh value.

### Willingness to Pay

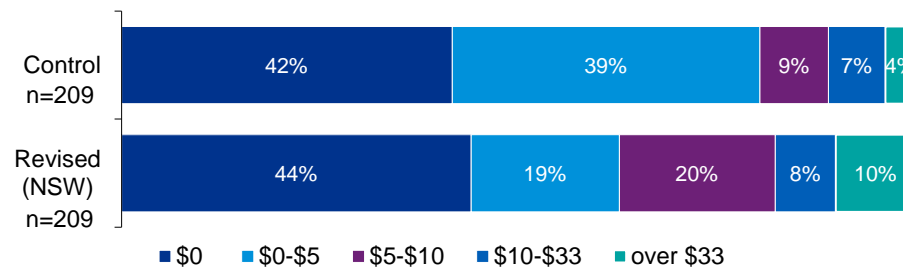
All the survey versions have an open-ended question asking customers to provide the additional amount they would pay on their bill to avoid the baseline outage. Residential customers are asked to provide their response in dollars, while business customers provide their answer as a percentage increase.

The baseline outage has the same characteristics across all surveys:

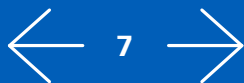
- **Localised, one hour outage, twice a year, in winter, off-peak on a weekday**

Illustrating the effect of the change in survey design, the figure below shows the distribution of open-ended WTP responses for NSW residential respondents in the control group and those who received the revised version of the survey. The respondents were recruited from the same pool, but contrary to the revised survey, the Control group answered two questions with cost prompts before the open ended question.

Over 40 per cent of customers have a willingness to pay of zero, regardless of the survey methodology. The distribution of responses above zero implies that the cost prompts have an effect on respondents’ idea of a ‘reasonable’ amount if they are willing to pay above zero.



Note: Percentages may not add up to 100 due to rounding

**Table 1: Average residential WTP under different methodologies (\$/month)**

		Survey Version	
		Control (n=209)	Revised (n=813)
Methodology	Description		
1. Uncapped	Simple average of input value	\$10.26	\$19.27
2. Capped average	Simple average of Input value. Max input capped at \$33 <sup>2</sup> per month	\$4.30	\$5.99
3. AEMO	Input values not used. WTP derived from cost prompts and Y/N responses as per 2014 study	\$2.39	na

**Table 2: Average Business WTP by Sector**

	No. of responses	WTP (% bill increase)
Agriculture	5	7.6
Manufacturing and Construction	53	15.1
Energy, Supply Chain Logistics	45	15.8
Retail, Hospitality, Arts and Recreation	70	12.5
Professional, Administrative and Education Services	114	13.7
Critical Health and Safety Services	25	9.1
Other	6	7.0
<b>Overall</b>	<b>318</b>	<b>13.4</b>

2. \$33 was set as the cap for analysis of the Pilot survey results. The value of the cap may be revised as the methodology is developed for the Main survey.

## Average Willingness to Pay - Residential

There are a number of ways to calculate the average WTP from the survey results. For comparison, this report includes three methodologies<sup>3</sup> to understand the effect of different approaches.

Table 1 includes average WTP results based on the different methodologies, and split by the version of the survey taken.

Average WTP to avoid the baseline outage for residential customers ranges between \$2.39 and \$19.27 for residential customers depending on the version of the survey taken and methodology used (as described in Table 1).

Average WTP was lower for respondents who received the Control Survey, indicating that the presence of cost prompts may have an effect on the answer to the open-ended question.

The change in the result from capping illustrates how a small number of high WTP responses can drive the average. The cap is applied to only four per cent of responses to the control survey, but reduces the average by sixty per cent.

## Average Willingness to Pay - Business

Due to the greater variance in electricity costs for businesses, WTP for this cohort is expressed as a percentage increase in the total bill. The average WTP to avoid the baseline outage is a 13% increase in bills, although the results vary by sector (see Table 2).

## Choice modelling

The choice model provided statistically significant results, although findings were influenced by respondents who repeatedly selected the baseline option (22 per cent of respondents selected the baseline in all of the eight choices presented to them). A wider distribution of choices may have provided better results. A number of recommendations to the presentation of the choice model have been provided on the following page to minimise the residual risk of this happening again in the Main Survey.

3. The methodologies are described in detail on page 25.





### Recommendations – Willingness to Pay

To provide the greatest flexibility for the main survey, we recommend including the two closed questions (cost prompts) followed by an open question to gather WTP data. The response to the open question can be used to calculate average WTP, however values exceeding a set amount can be capped. The cap represents the approximate value of private investment required to avoid the baseline outage<sup>4</sup>.

The open question provides more granular data in comparison with AEMO’s approach in 2014 and does not make assumptions about WTP based on the string of closed question answers.

Appreciating that respondents may be biased by the cost prompts presented, they serve the purpose of framing a realistic range of values. Focus group and interview participants have suggested that many respondents will need the closed questions as a guide and found the question far easier to answer after seeing the cost prompts. This is evidenced by a higher incidence of larger WTP amounts in the revised pilot survey that employed only the open-ended approach.

### Recommendations – choice model

We recommend three changes to the choice model to increase respondents’ engagement with the choices and trade-offs on offer.

- The range of discounts offered in the choice model should be raised from \$3, \$7, \$15 per month. A focus group could be employed to set more realistic values, or the discounts could be raised in line with the average increase in retail electricity prices over the period.
- In the Pilot Survey, the baseline was always provided as Option 1. For the Main Survey, we suggest placing the baseline option in different positions on screen.
- For the Main Survey, we recommend putting the discount at the top of the menu, so that customers are evaluating the other attributes of the outages more consciously against the discount.

#### 3. Move discount to the top of the list

Localised/widespread
Duration
Frequency
Summer/winter
Weekday/weekend
Time of day
Change in your quarterly (every three months) electricity bills

#### 2. Randomise the position of the baseline option

Option 1	Option 2	Option 3
Localised	Widespread	Widespread
1 hour	3 hours	3 hours
Twice a year	Twice a year	Twice a year
Winter	Winter	Summer
Weekdays	Weekdays	Weekends
Off-Peak	Peak (7-10am and 5-8pm)	Peak (7-10am and 5-8pm)
No change	\$9 lower	\$21 lower

#### 1. Increase the value of the discounts



4. \$33 was set as the cap for analysis of the Pilot survey results. The value of the cap may be revised as the methodology is developed for the Main survey.

# Introduction





## Background

In July 2018, the Australian Energy Market Commission (AEMC) amended the National Electricity Rules (NER) to give the AER responsibility for determining the VCR. VCRs seek to reflect the value different types of customers place on reliable electricity supply under different conditions and are usually expressed in dollars per kWh of unserved energy. The VCR links efficiency and reliability, playing a pivotal role in network planning and investment and informs the design of market and network price caps and incentives, such as for network reliability.

The AER must publish its first calculated VCRs by 31 December 2019.

In January 2019, KPMG and Insync were engaged by the AER to provide survey and analysis to support the VCR's calculation.

## Scope of work

The engagement is in two phases; a Pilot Survey followed by a Main Survey. KPMG/Insync has been requested to:

- Design and undertake pilot VCR residential and business customer surveys, and prepare a report summarising findings and recommendations
- Design and undertake main VCR residential, business and direct connect customer surveys, and prepare a report outlining results and findings

## Purpose

The purpose of this report is to provide high level results of the main quantitative elements of the Pilot Survey and to recommend improvements to be made in the Main Survey.

The Pilot Survey results will not be converted into \$/kWh. The purpose of the Pilot Survey is to test the survey design and methodology, not to calculate VCRs.

## Structure of the Report

The report structure follows the stages of development of the Pilot survey and is structured as follows:

Section 1 - Survey Methodology

Section 2 - Survey Design

Section 3 - Survey Results – WTP and Choice model

Section 4 – Recommendations

Section 5 – Survey Results – Demographic and contextual

Appendix A – Survey questionnaires

# Survey methodology





## AEMO 2014 approach

The methodology for the pilot study was based on AEMO's NEM-wide VCR study undertaken in 2014. The methodology adopted by AEMO for that study is consistent with good practice, and market leading in terms of existing precedent.

A high-level summary of the approach taken by AEMO in 2014 is as follows:

### Sample size

- 1499 business customer responses
- 1416 residential customer responses
- Direct connect customers separately targeted (13 surveyed)

### Method of recruiting respondents

- Online panel and CATI recruitment (phone) fieldwork method

### Survey construct (main elements) – residential customers

- Outage experiences over the last 12 months
- Choice experiment used to assess value of outage scenarios with differing characteristics (each respondent presented with eight different scenarios, each with three options, selecting their “preferred power outage option”):
- Contingent valuation (stated preference) used to assess willingness to pay for baseline outage scenario (1 hour, twice a year, weekday, Winter, off-peak and localised)

- Willingness to pay question repeated for “rare but long power outages” and “power outages during an extreme heatwave”
- Respondent demographics, including NMI and alternate energy sources
- Exploration of energy use and appetite for reducing usage

### Business customers

In addition to the above, the business customers' survey explored the potential damage to a business resulting from power outages.



## Opportunities for improvement

Consistent with AEMO's approach in 2014, the Pilot Survey for the AER in 2019 was designed in three main parts:

- an assessment of the respondent's willingness to pay to avoid a baseline outage
- a series of choice responses to provide statistical data on how the respondent values specific attributes of outages
- demographic and contextual data

## Survey validation process

As part of the development of the Pilot Survey, Insync ran a survey validation process to test the language and format of the 2014 AEMO survey with everyday customers to ensure that the interpretation and understanding of each question was consistent.

The validation process involved eight focus groups and 24 in-depth interviews across Australia. Following this process a revised version of the survey was designed which maintained the same methodology, but using different language.

Changes were made to the demographic and contextual questions in order to provide more useful background data and to improve the likelihood of completion.

## Residential Control Group

A risk to the acceptance of the revised survey approach is a material change in the resulting output metric. This variation may be the result of the different methodology, or the fact that respondents' values have changed over time. To better understand these differences, it was decided to split the Pilot Survey between a reproduction of the 2014 AEMO methodology and the revised survey methodology.

The residential Pilot Survey was run in two streams; a control group answered a survey which included WTP and choice model questions taken from the AEMO 2014 survey<sup>5</sup>. The rest of the sample answered the updated 2019 version. The contextual and demographic questions were common to both surveys.

## Business customers 2019

Business customers all answered the same survey, with WTP and choice model questions similar to the updated 2019 residential version.

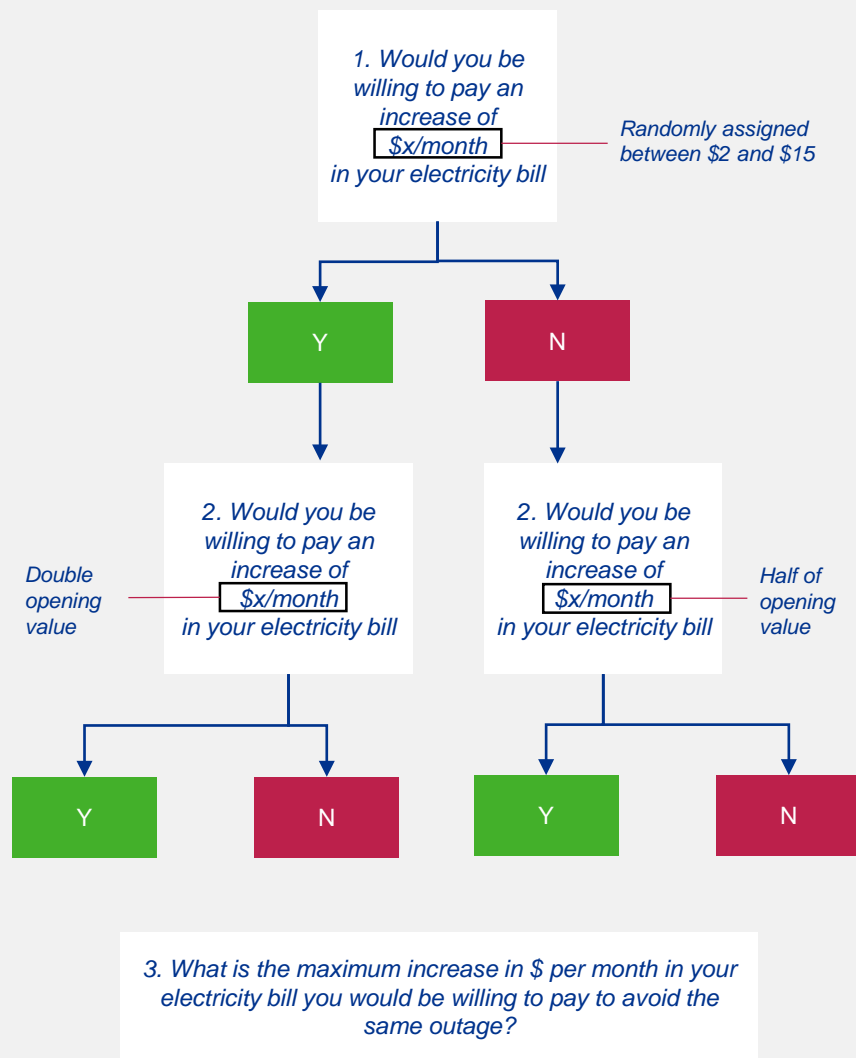
5. The WTP in the control group included two closed prompt questions followed by an open-ended question.

# Survey design





# AEMO 2014 WTP Questions



## Pilot Survey Design – Willingness to Pay (WTP)

The structure of the willingness to pay questions was changed for the 2019 Pilot survey.

In the AEMO 2014 survey respondents were asked two questions based on cost prompts:

**Would you be willing to pay an increase of \$x/month in your electricity bill (over six months this is a total of \$x) to avoid this type of outage?**

The question is then repeated with a second value; if the response was yes, the x is doubled, if the response was no, the x is halved.

The opening \$x is assigned randomly from a value between \$2 and \$15

After this, the AEMO survey presented an open ended question<sup>6</sup>:

**What is the maximum increase in \$ per month in your electricity bill you would be willing to pay to avoid the same outage?**

There are two main issues with this approach

1. The cost prompts may anchor a respondent's answer to the open-ended question
2. A respondent's answer to the open-ended question may not align with their responses to the cost prompts

The 2019 Revised version of the residential and business Surveys did not include cost prompt questions. (A Residential Control survey included cost prompt questions). The Revised Surveys had one open-ended question on willingness to pay:

**How much of an increase would you be willing to pay in your monthly/quarterly electricity bill to avoid the power outages described in the above scenario?**

The Pilot Survey included a new question for all respondents to estimate their willingness to pay to avoid momentary outages:

**How much would you be willing to pay in \$ to avoid one momentary outage?**

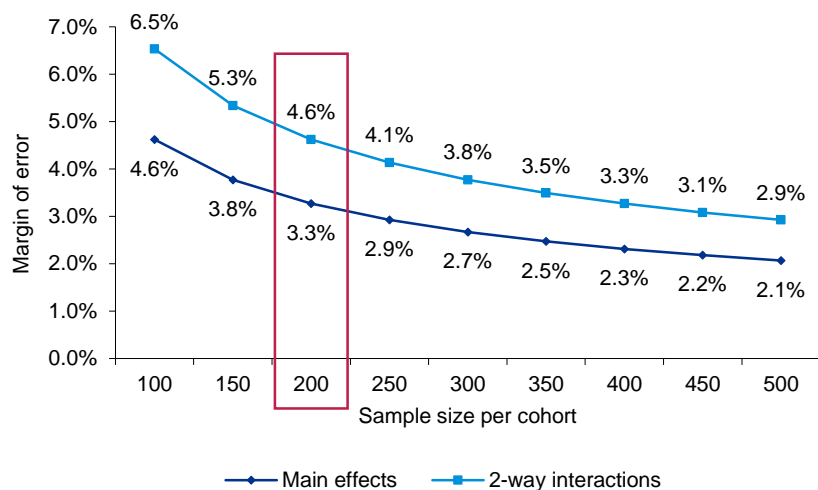
6. It is understood from the published survey questionnaire that the closed questions were followed by an open question, although no results from the open question are included in the final report.





# Sample size

Sample size vs Margin of Error (CI 95%)



## Pilot Survey Design – Choice Model

The role of the choice model in the VCR’s calculation is to determine the different value that customers place on various attributes of an electricity outage; such as duration, time of day and season.

Choice modelling involves asking respondents repeatedly to select a preferred option from a set of scenarios. Over a number of choices and with a large enough sample, statistical analysis can calculate the relative value of the attributes across the group.

The Pilot Survey choice model largely replicated the model used by AEMO in 2014. A more detailed description of the model attributes is on Page 17.

A minimum number of responses is required to achieve a statistically valid result with the choice model. A minimum sample size of 200 per group was determined for the Pilot survey. This was derived in accordance with established formulae from industry research papers<sup>7,8</sup>.

The chart on the left shows that a sample size of 200 per cohort will be sufficient to ensure a margin of error within 5 per cent when allowing for 2-way interactions between choice set attributes. Further, we note that this is consistent with “rule-of-thumb” practical guidelines from the same authors, which recommend a minimum of 200 per group when the intention is to compare groups of respondents, as is the case for this survey

7. Johnson, Rich, and Bryan Orme. "Getting the most from CBC" *Sequim: Sawtooth Software Research Paper Series*, Sawtooth Software (2003)

8. Orme, B (2010) *Getting Started with Conjoint Analysis: Strategies for Product Design and Pricing Research* Second Edition, Madison, Wis.: Research Publishers LLC



# Choice Model definitions

Choice Model Design Hierarchy	
Choice Block	Respondents are randomly assigned one of five different choice blocks. Each Block contains 8 Choice Sets (also called Choice Cards).
Choice Set/Card	Each Choice Set/Card has three options to choose from.
Attributes	Each Option describes six different attributes of an outage (see details below)
Levels	Attributes take two to four values, known as 'levels'.

Attributes	Levels
Severity	Localised/Widespread
Duration	1hr, 3hr, 6hr, 12hr
Season	Summer/Winter
Time of Day	Off-peak/Peak
Time of week	Weekday/Weekend
Discount	0,3,7,15 dollars per month (residential) 0, 1,2,3 % lower (business)

## Pilot Survey Design – Choice Model

### Choice Model Design Process

The model for the Pilot survey consists of a number of blocks, each containing eight choice sets (sometimes referred to as 'cards'), with three Options to choose from. Every choice set includes the baseline option. Five different blocks of choice sets were required to provide suitable variety of choices for analysis.

Generating the choice sets for the model was a combined automated and manual process.

#### 1. Generating the Blocks and Sets

The different blocks were generated with code in R<sup>9</sup> that would optimise the selection process. The code used Federov's algorithm to return a table of selected choice sets. This algorithm optimises data variation to make a statistically efficient model (i.e. with as large as possible variations to explain the full factorial dataset). In any process to develop a statistically efficient model, it does not ensure against implausible situations or very obvious choices.

#### 2. Sense check

This choice sets were subsequently reviewed manually to ensure "common sense" trade-offs between concepts such as severity and discounts. This scrutiny led to the revision of several choice sets where the options required rebalancing to provide choices that would provide discounts more consistent with the attributes presented in relation to the baseline.

#### 3. Test distribution of levels

Following this, an assessment was undertaken to ensure that no levels were under or over represented in non-baseline choices, and any required changes made.

#### 4. Sense check

As a result of the modifications undertaken as part of points 2 and 3, a subsequent sense check was undertaken on the choice sets.

9. R is a programming language and software environment for statistical computing



### Choice Model - Definitions

The figures below show the definitions presented to respondents for the choice model attributes<sup>10</sup>.

The table on the left is taken from the AEMO 2014 survey. The Residential control group were presented with the AEMO 2014 version of the definitions in the choice model.

The table on the right shows the definitions presented to the Residential revised group and the business customers.

#### AEMO 2014 Survey/Residential Control Group

Term	Definition
<b>Localised/widespread:</b>	<p>If you live in a high density area, a localised outage is a power outage affecting your property and your neighbourhood. You may notice that surrounding residential dwellings, nearby shops and nearby schools are affected by the outage but your neighbours living in adjacent suburbs are unaffected.</p> <p>If you live in a low density area, a localised outage is a power outage affecting your property and entire town. Local residences, businesses and essential amenities are affected but your neighbours living in adjacent towns are unaffected. Widespread outages affect a larger proportion of the regional electricity grid than localised outages. They are usually caused by major storms (e.g. from tree branches falling on major power lines) or explosions caused by overheated electricity equipment.</p> <p>If you live in a high density area, a widespread outage is a power outage affecting several neighbourhoods at once, an entire city, or even several cities within a region.</p> <p>If you live in a low density area, a widespread outage is a power outage affecting several neighbouring suburbs at once within a region.</p>
<b>Duration</b>	An outage can last for various lengths of time. We describe duration in hours over which electricity is not delivered to you.
<b>Frequency</b>	The number of times outages are expected to occur in a year.
<b>Summer/Winter</b>	Electricity is important all year round, but it is typically more valuable in either summer because we want to keep cool or in winter because we want to keep warm. In spring and autumn heating and cooling are less important.
<b>Weekday/weekend</b>	A power cut during the weekend might affect you differently from one during the working week.
<b>Peak/off-peak</b>	A peak time power cut will include some or all the peak time for the grid, which takes place in the intervals 7-10am and 3-6pm.
<b>Monthly bill decrease</b>	We are asking you to consider accepting a rebate or discount on the bill for suffering the unexpected power outage. Please imagine the following scenario: power outages are inevitable but new regulation requires your electricity provider to compensate you with a bill rebate for the inconvenience caused to you by specific power outages.

### Choice Model – Changes to definitions

Several changes were made to the appearance and context for the choice model based on the survey validation process. For example:

- The definitions of Localised/widespread, Duration and Summer/Winter were simplified
- The evening peak hours were changed from 3-6pm to 5-8pm
- The description of the Discount (Change to your bill) was revised and shown differently on screen, with reference to the respondent’s billing frequency.

#### Revised Survey

Term	Definition
<b>Localised/Widespread outage</b>	<b>Localised</b> means a power outage that is limited to homes and businesses in your street and surrounding streets. <b>Widespread</b> means your suburb and the surrounding suburbs.
<b>Duration</b>	<b>Duration</b> is the number of hours your home and affected area is without power.
<b>Frequency</b>	<b>Frequency</b> is the number of outages each year.
<b>Summer/Winter</b>	Electricity is important all year round, but is often more valuable at some times of the year due to the need for heating or cooling. <b>Summer</b> = December, January and February. <b>Winter</b> = June, July and August.
<b>Weekday/Weekend</b>	You may use more or less electricity on weekends compared to weekdays.
<b>Time of day</b>	In this survey, <b>Peak time</b> occurs between 7-10am and 5-8pm every day. <b>Off-peak time</b> occurs anytime except 7-10am and 5-8pm every day.
<b>Change in your quarterly (every three months) electricity bills</b>	To answer these questions consider whether you would accept less reliable electricity supply if you received lower electricity bills. This may mean you experience more severe unexpected power outages.



10. Full versions of the surveys are included at Appendix A.



# Residential Choice Cards

## AEMO 2014 Survey

### Residential Control Group

### Question 7 out of 8

Localised/widespread  
 Duration  
 Frequency  
 Summer/winter  
 Weekday/weekend  
 Peak/Off-peak  
 Monthly bill decrease

Option 1 <input type="radio"/>	Option 2 <input type="radio"/>	Option 3 <input type="radio"/>
Localised	Widespread	Localised
1 hour	1 hour	3 hours
Twice a year	Twice a year	Twice a year
Winter	Winter	Winter
Weekdays	Weekends	Weekends
Off-Peak	Off-Peak	Peak (7-10am and 3-6pm)
No change	\$7/month	\$3/month

## Revised Survey

### Question 3 out of 8

Localised/widespread  
 Duration  
 Frequency  
 Summer/winter  
 Weekday/weekend  
 Time of day  
 Change in your quarterly (every three months) electricity bills

Option 1 <input type="radio"/>	Option 2 <input type="radio"/>	Option 3 <input type="radio"/>
Localised	Widespread	Widespread
1 hour	3 hours	3 hours
Twice a year	Twice a year	Twice a year
Winter	Winter	Summer
Weekdays	Weekdays	Weekends
Off-Peak	Peak (7-10am and 5-8pm)	Peak (7-10am and 5-8pm)
No change	\$9 lower	\$21 lower

1. Peak Hours changed

2. Discounts presented differently and scaled to match billing frequency





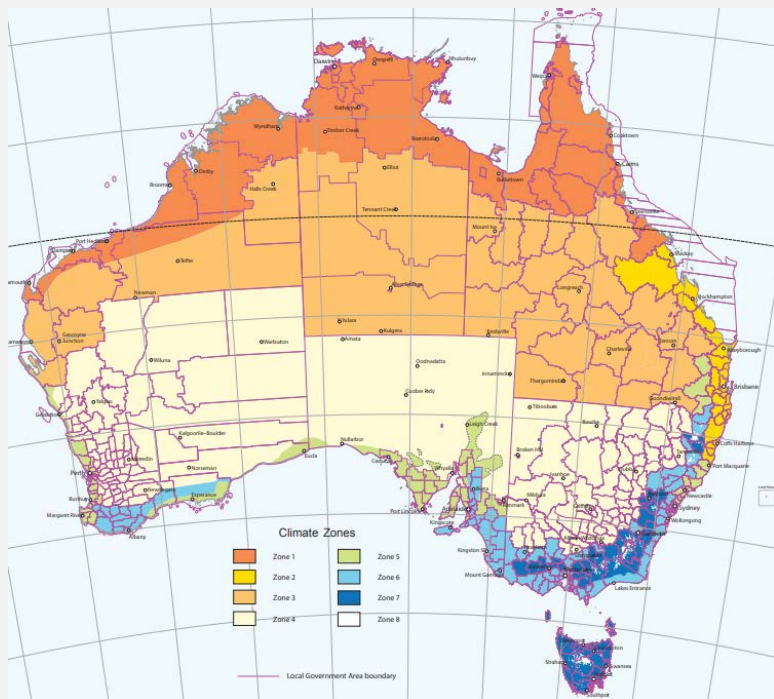
### Pilot Survey Design – Demographic and contextual questions

Minor changes were also implemented to demographic and contextual questions.

The order in which items are presented to respondents was also reviewed, with the aim of placing choice model items as early as possible in the survey, to minimise the impact of fatigue on items that require the greatest attention from respondents.



# Sample size



Climate zone	Major city	Survey Responses (no.)	Survey Responses (%)	Population (%)
1		12	1%	3%
2	Brisbane	237	23%	21%
3		1	0%	1%
4		39	4%	5%
5	Sydney Adelaide	301	29%	26%
6	Melbourne	393	38%	37%
7	Hobart, Canberra	39	4%	8%

## Pilot Survey Design – Sample plan

Three factors drove the sample plan for the Pilot Survey:

1. Large, granular sample plan for the Main Survey
2. Experimental changes to survey design
3. Decision to split the residential Pilot

The AER intends to survey 10,000 consumers in 2019 to estimate the VCR, including coverage across regional and rural Australia. Some of the target sample areas are traditionally difficult to recruit survey participants from. When the decision was made to split the pilot, it was a known risk that some Pilot Survey results may end up being incompatible with the Main Survey responses and would have to be disregarded. To mitigate against wastage of responses from the most difficult to reach groups, the pilot was targeted at capital cities on the understanding that this sample could reliably be filled again with new respondents for the Main Survey.

Small businesses are very difficult to recruit for surveys. To increase the number of small business responses, the survey opened with two questions that directed respondents to the business survey if they indicated they were employed and had input in to the electricity spending at their place of work. This boosted the small business response.

The Pilot survey had a target sample of 1000 residential and 300 businesses.

## Sample plan by climate zone

The AER have suggested a sample plan based on Climate zone boundaries rather than State borders for the calculation of VCR figures in 2019. The table and map to the left includes the results of the Pilot Survey by climate zone compared with the Australian population.

	Survey Version		
	Residential Control	Residential Revised	Business
<b>NSW/ACT</b>	209	209	123
<b>Victoria</b>		272	106
<b>Qld</b>		227	69
<b>SA</b>		105	20
<b>TOTAL</b>	<b>209</b>	<b>813</b>	<b>318</b>



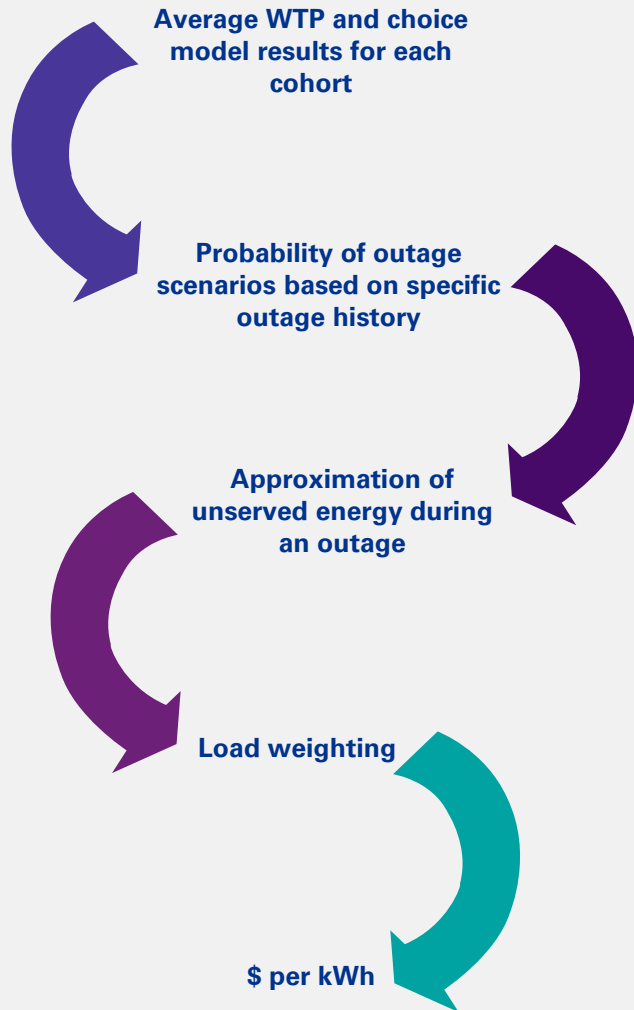
# Survey Results

## WTP & Choice Model





# Conversion of survey data into VCR



## Presentation of results

The Pilot survey results will not be converted into \$/kWh. The purpose of the pilot survey is to test the survey design and methodology, not to calculate a VCR.

The results presented in this report are:

- Average Willingness to Pay (WTP)
- Outputs from the choice model

Changes in average WTP relative to AEMO’s 2014 study may not directly translate into proportional changes in VCR, as the effect will be combined with changes in demand and outage probability. What this means is that a reduction in WTP may not translate to an equivalent reduction in the VCR, or a reduction at all.

The main survey data will be converted into \$/kWh for each cohort based on outage probability, demand profile and regional load weighting. The data to support this transition is sourced from a number of external sources including MSATS, DNSP RINs and ESAA data.

The final VCRs will be presented as a \$/kWh value and there will be more granular results than we have presented in this report. The intention is to segment residential results for each climate zone and remoteness category and calculate separate VCRs where there are adequate responses, and significant statistical differences. Business results will be separated by sector.





Figure 1: Residential Open-ended WTP responses (\$ per month) - NSW only

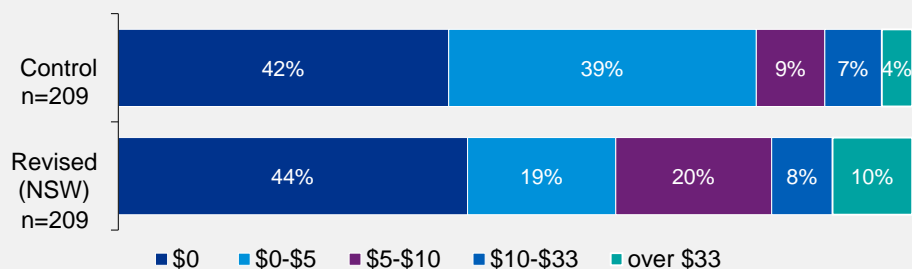
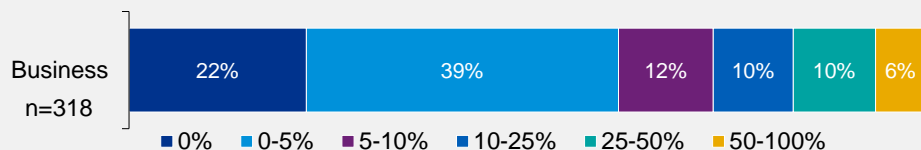
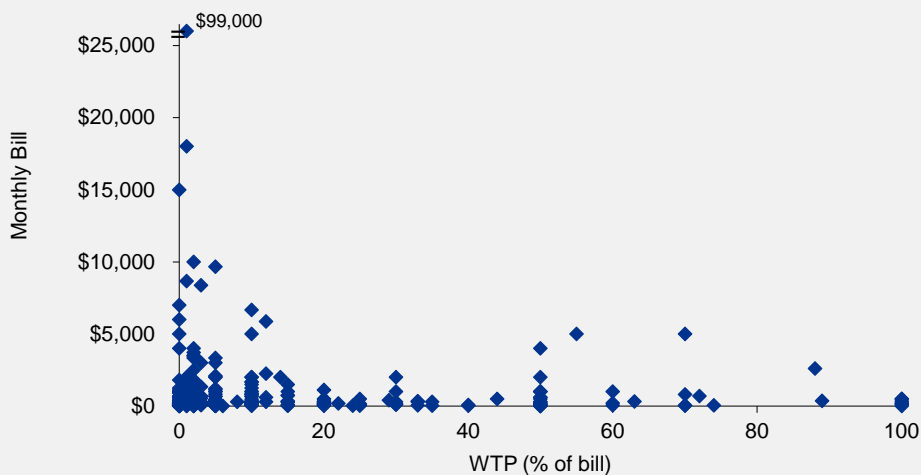


Figure 2: Business Open-ended WTP responses (% of bill)



Note: Percentages may not add up to 100 due to rounding

Figure 3: Business WTP responses against monthly bill



### Open-ended Willingness to Pay (WTP) responses

All the survey versions have an open-ended question asking customers to provide the additional amount they would pay on their bill to avoid the baseline outage. Residential customers are asked to provide their response in dollars, while business customers provide their answer as a percentage increase.

The baseline outage has the same characteristics across all the surveys:

- **Localised, one hour outage, twice a year, in winter, off-peak on a weekday**

Figure 1 shows the effect of the different survey designs on the open-ended WTP response. It compares the Residential control group with the Residential Revised respondents from NSW. These customers were drawn from the same pool, and would be expected to have similar results.

Over 40 per cent of residential respondents stated a WTP of zero regardless of the survey taken.

In the control group 39 per cent of respondents were willing to pay between one cent and \$5, compared with 19 per cent in the equivalent NSW residential group. Nine per cent of respondents to the Residential Control survey were willing to pay between \$5 and \$10 compared with 20 per cent of the Residential Revised group.

Residential respondents to both surveys were equally likely to provide a value between \$10 and \$33, although the control group was less likely to provide a response over \$33.

The control group answered the Yes/No questions with cost prompts before the WTP question. On the basis of the WTP responses there may be an anchoring effect which can affect responses to the open-ended question relative to the prompts. This distribution implies that the cost prompts have an effect on respondents' idea of a 'reasonable' amount if they are willing to pay something above zero.

Figure 2 shows the distribution of WTP responses from businesses. Aside from the 0% responses, the dollars per month implied by the responses will vary depending on the size of the business's electricity bill.

Figure 3 illustrates the range of business responses by WTP and monthly bill showing the wide range of responses, including one business with monthly electricity costs of \$99,000.



### Average residential WTP under each methodology (\$)

		Residential Control N=209	Residential Revised N=813
Methodology	Description		
Uncapped	Simple average of input value	\$10.26	\$19.27
Capped average	Simple average of Input value. Max input capped at \$33/month	\$4.30	\$5.99
AEMO 2014	Input values not used. WTP derived from cost prompts and Y/N as per AEMO 2014	\$2.39	na

#### Key points

- The uncapped average is 2-3 times higher than the capped average, although the cap is applied to less than 10 per cent of responses.
- Under the AEMO 2014 methodology the maximum WTP is constrained by the range of cost-prompts. The highest value possible would be \$30 (for a respondent who received the maximum opening prompt of \$15 and answered Yes-Yes). In the Pilot survey, the highest WTP recorded, when calculated via the cost prompts only, was \$26.
- Under the AEMO 2014 methodology, 67 per cent of responses are set to zero as a result of answering No-No. This is higher than the 42 per cent of respondents who answered zero in the open-ended question. A third of the respondents who answered No-No, entered a willingness to pay that is greater than zero.

### Average Business WTP by Sector

	No. of responses	WTP (% bill increase)
Agriculture	5	7.6
Manufacturing and Construction	53	15.1
Energy, Supply Chain Logistics	45	15.8
Retail, Hospitality, Arts and Recreation	70	12.5
Professional, Administrative and Education Services	114	13.7
Critical Health and Safety Services	25	9.1
Other	6	7.0
<b>Overall</b>	<b>319</b>	<b>13.4</b>

### Average Willingness to Pay (WTP)

This section calculates the willingness to pay to avoid the baseline outage using three approaches.

#### 1. Uncapped Average

This approach is based on respondents' input to the open-ended WTP question. It is a simple average of the responses with no reference to Yes/No questions. High input numbers have a significant impact on this result.

#### 2. Capped Average

This approach takes a simple average of the responses to the open-ended WTP question, after capping responses at a maximum value of \$33 per month. \$33 was considered equivalent to the value of private investment that a consumer would need to make at their premises to install a back-up system sufficient to protect their property from the baseline outage<sup>10</sup>. The cap was applied to 4 per cent of the control group (8 responses) and 65 of the 813 responses to the revised survey.

#### 3. AEMO 2014

This approach is a replication of the methodology used by AEMO in 2014. WTP is implied from the responses to the Yes/No questions.

- 1) a "No-No" implies a zero WTP
- 2) a "No-Yes" implies a WTP = half of the first cost prompt
- 3) a "Yes-No" implies a WTP = the first cost prompt
- 4) a "Yes-Yes" implies a WTP = twice the value of the first cost prompt

For this report we can only apply this methodology to the Residential Control Group as it relies on the cost prompt questions, which were not included in the revised survey. The equivalent result of this methodology in the AEMO 2014 study (for residential customers in NSW) was \$2.32.

Analysis of the outcomes using each methodology allows for the identification of the appropriate methodology to support the Main Survey.

<sup>10</sup>. \$33 was set as the cap for analysis of the Pilot survey results. The value of the cap may be revised as the methodology is developed for the Main survey.



Table 1 Residential Control - all responses				
	Coefficient Estimate	Standard Error	z-value	Pr(> z )
Status Quo	0.565	0.140	4.041	0.000
Severity	0.003	0.086	0.031	0.975
Duration - 3 Hours	-0.493	0.119	-4.137	0.000
Duration - 6 Hours	-0.845	0.124	-6.806	0.000
Duration - 12 Hours	-0.798	0.136	-5.852	0.000
Season - Summer	0.196	0.091	2.159	0.031
Time of day - Peak	-0.281	0.083	-3.405	0.001
Weekend	0.016	0.093	0.169	0.866
Discount	0.031	0.008	3.624	0.000

No. of records : **5016**  
 No. of respondents : **209**

Table 2 Residential Revised - all responses				
	Coefficient Estimate	Standard Error	z-value	Pr(> z )
Status Quo	0.520	0.073	7.150	0.000
Severity	-0.080	0.046	-1.715	0.086
Duration - 3 Hours	-0.749	0.062	-12.114	0.000
Duration - 6 Hours	-1.169	0.064	-18.140	0.000
Duration - 12 Hours	-1.232	0.073	-16.984	0.000
Season - Summer	0.109	0.048	2.262	0.024
Time of day - Peak	-0.408	0.045	-9.144	0.000
Weekend	-0.018	0.050	-0.368	0.713
Discount	0.062	0.004	14.025	0.000

No. of records : **19512**  
 No. of respondents : **813**

Table 3 Business - all responses				
	Coefficient Estimate	Standard Error	z-value	Pr(> z )
Status Quo	0.541	0.117	4.621	0.000
Severity	-0.096	0.070	-1.360	0.174
Duration - 3 Hours	-0.620	0.097	-6.368	0.000
Duration - 6 Hours	-0.916	0.101	-9.104	0.000
Duration - 12 Hours	-0.709	0.108	-6.556	0.000
Season - Summer	-0.010	0.074	-0.132	0.895
Time of day - Peak	-0.194	0.068	-2.838	0.005
Weekend	0.303	0.078	3.885	0.000
Discount	0.071	0.036	1.948	0.051

No. of records : **7656**  
 No. of respondents : **319<sup>11</sup>**

### Choice Model Results

Duration appears to be a significant consideration factor to the preference of outage for both residential and business respondents. Scenarios with 3, 6 and 12 hours of duration displayed large negative directions to outage preferences.

- The duration of the outage attribute is not monotonic, that is, for the Residential Control and Business responses, the magnitude of the negative coefficient does not progress to larger negative values moving between 6 and 12 hours. This may indicate that respondents do not have a significant preference for a 6 hour outage over a 12 hour outage?
- Businesses have a greater preference for an outage on the weekend than on weekdays
- The high coefficient estimate for Status Quo is mainly driven by the substantial proportion (22 per cent) of respondents that selected the baseline choice as the preference for all eight choice survey questions.



11. The choice modelling for business customers included one response which was subsequently excluded from the WTP analysis after scrutiny of the answer pattern.



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# Recommendations





## Recommended changes to Main Survey

This section of the report includes proposed changes to the design and methodology for the Main Survey based on the results of the Pilot.

On the whole, the design updates, particularly the reduction in complexity and the use of more inclusive language, have made the survey more streamlined. This is reflected in the high completion rate.

From the results, there are three main issues that need to be addressed in preparation for the Main Survey:

1. The difference in average WTP between the two residential surveys and the range of results from employing different methodologies to calculate the average.
2. Regardless of the methodology, the average is heavily affected by a relatively small proportion of very high WTP inputs and the large number of zeroes. Efforts to cap WTP at a reasonable level reduces the average.
3. The choice model is providing statistically significant results, but the baseline choice is over represented (58 per cent of all responses).

### 1. Calculating WTP

The decision to split the pilot has been beneficial in understanding the difference between the two survey methodologies.

The results on page 24-25 illustrate the extent that the cost prompts and the Y/N questions may influence the respondent's open-ended willingness to pay response. It is not clear if the responses from the control group are anchored at a low level by the cost prompts, or if the revised survey responses are high because they are provided in the absence of any context.

Using only the Y/N responses to calculate WTP, as AEMO did in 2014, constrains a response to either zero (if N/N combination), or to the cost prompt at which the last Yes was selected. Without a follow-up open ended question, we lose potential granularity. For example, a customer with a genuine willingness to pay of \$3, faced with a \$1 dollar opening cost prompt would be ascribed a WTP of \$2. The same person, faced with a \$15 cost prompt would be ascribed a WTP of \$0.

We recommend continuing with the open-ended WTP question for the Main Survey, and the two cost-prompt questions should also be included in the survey to provide context and assist in framing realistic values.

### 2. High WTP responses

One problematic aspect of the open-ended WTP results is the effect of very large numbers on the average. For the Pilot Survey we used ex-post methods to cap these at \$33. For the main survey, we recommend that capping is also only applied to results in the post-survey analysis phase.

### 3. Willingness to pay of zero

The large numbers of zeroes in the open-ended WTP question shows no willingness to pay to avoid the baseline outage. This has been observed among 40 per cent of residential respondents. This is common to both survey groups (Control and Revised methodologies) and is consistent across states for residential customers.

A lower portion (22 per cent) of business respondents were unwilling to pay more on their bill to avoid the baseline outage.



### Recommended changes to the choice model

Overrepresentation of the baseline option affected the results of the choice model. We have suggested three changes to the survey design to reduce this effect in the Main Survey by making the trade-offs in the choices more prominent.

#### 1. Discount levels

The monthly bill reductions presented in the choice model in the Pilot survey were; no change, \$3, \$7 or \$15 per month for residential customers. For business customers the discounts are expressed as 1%, 2% or 3% per cent off the bill. For the Main Survey we suggest increasing the discounts to be more significant and provide more reason for customers to express their preferences on the other attributes. A focus group could be employed to set more realistic values, or the discounts could be raised in line with the average increase in retail electricity prices over the period.

#### 2. Position of baseline choice

The survey presented customers with the baseline as Option 1 on the left in each of the 8 choice questions, making it very easy to select the baseline every time without engaging with the other options. For the Main Survey, we suggest placing the baseline option in different positions at random on screen to increase respondents' engagement with the choices and trade-offs on offer.

#### 3. Placement of discount

The discount from the electricity bill was placed at the bottom of each choice card as the last attribute. For the Main Survey, we suggest putting the discount at the top of the menu, so that customers are evaluating the other attributes of the outages more consciously against the discount.

#### 3. Move discount to the top of the list

- Localised/widespread
- Duration
- Frequency
- Summer/winter
- Weekday/weekend
- Time of day
- Change in your quarterly (every three months) electricity bills

#### 2. Randomise the position of the baseline option

Option 1 <input type="radio"/>	Option 2 <input type="radio"/>	Option 3 <input type="radio"/>
Localised	Widespread	Widespread
1 hour	3 hours	3 hours
Twice a year	Twice a year	Twice a year
Winter	Winter	Summer
Weekdays	Weekdays	Weekends
Off-Peak	Peak (7-10am and 5-8pm)	Peak (7-10am and 5-8pm)
No change	\$9 lower	\$21 lower

#### 1. Increase the value of the discounts



# Survey Results

Demographic and  
Contextual





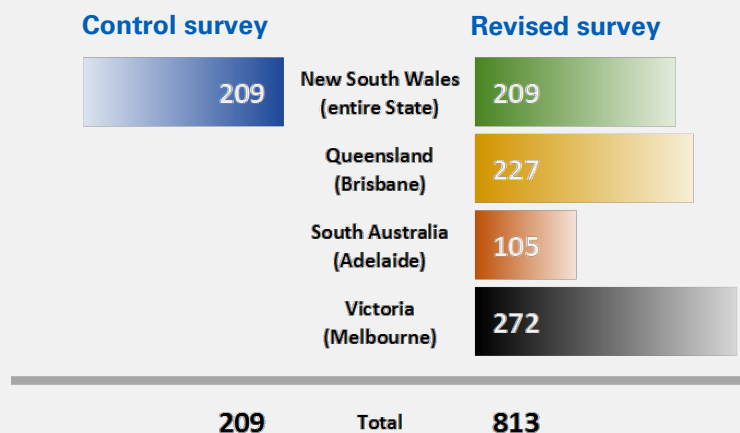


# Residential sample

As noted earlier in this report, the residential Pilot Survey was run in two streams; a control group answered a survey with willingness to pay (WTP) and choice model questions identical to the AEMO 2014 survey ("control" survey), and the rest of the sample answered the updated 2019 version ("revised" survey). Contextual and demographic questions were common to both surveys.

NSW was chosen for the comparison between the control and revised surveys, with 209 responses received for each survey version. An further 604 responses were received for the revised survey, targeting Brisbane, Melbourne and Adelaide where a sufficient sample can still be obtained for the main survey phase.

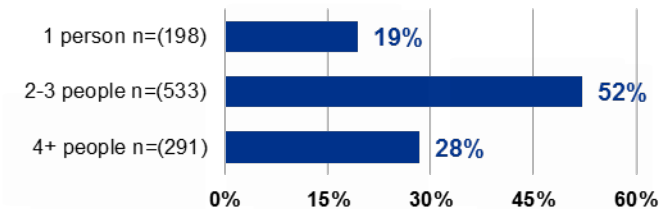
## Residential responses by State and survey type



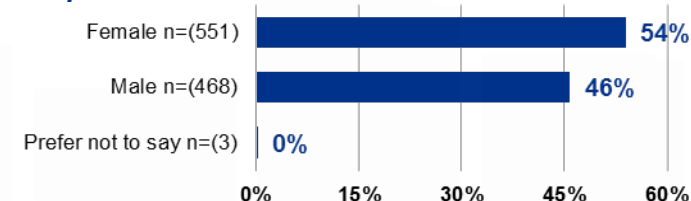
For the main survey phase, analysis by climate zone and Accessibility/Remoteness index will be conducted. For the pilot phase, many of these cohorts are not fairly represented to warrant exploration of pilot results.

Across all residential survey respondents (control and revised surveys), the following response numbers were obtained for demographic items.

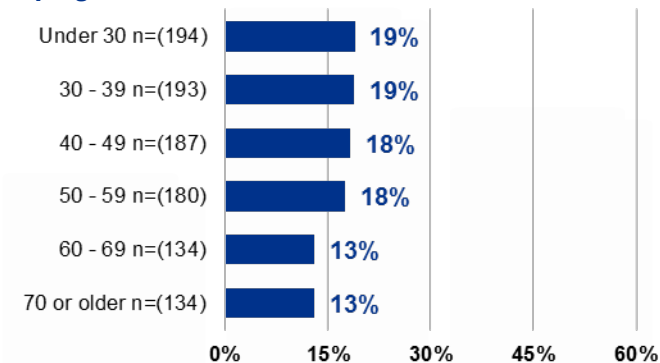
## Residential responses by Household size



## Residential responses by Gender



## Residential responses by Age

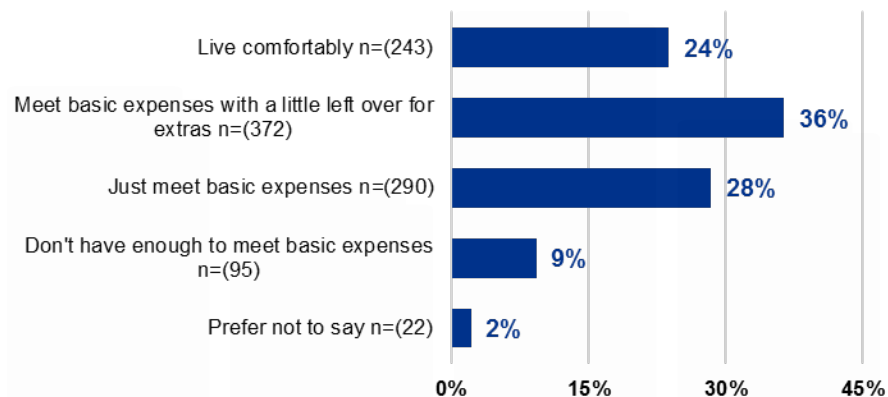




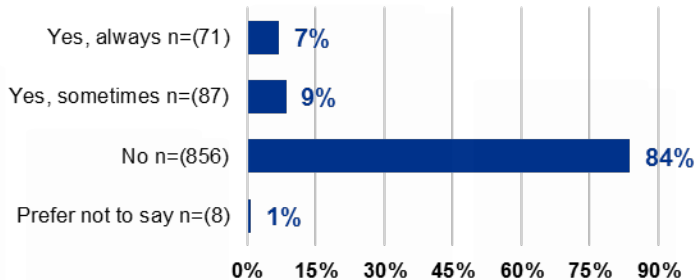


## Residential sample

### Residential responses by Current financial situation



### Residential responses by Non-English language spoken at home





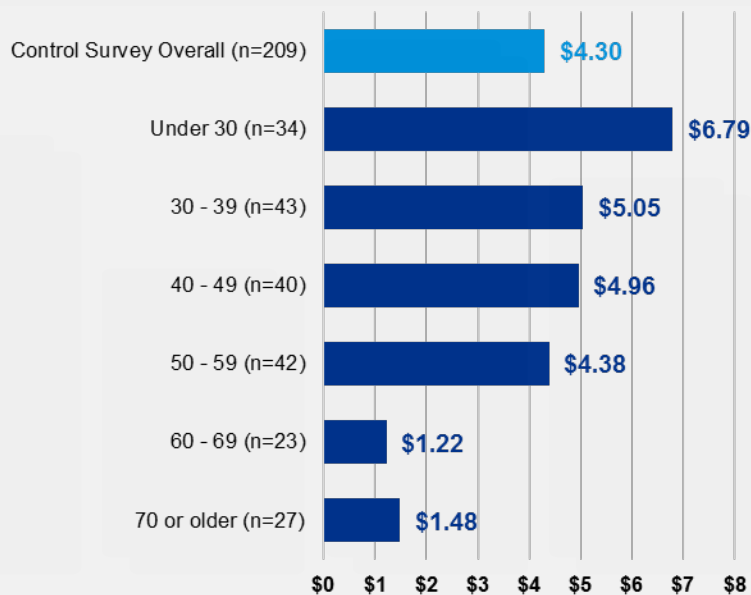
# Residential results

## Control group

As noted earlier in this report, we recommend including closed cost prompt questions in the main survey as well as using the open willingness to pay (WTP) question for analysis purposes, with values capped at the amount advised by the AER (\$33). The results presented on this page are based control version of the residential survey which represents our recommended design for the main survey.

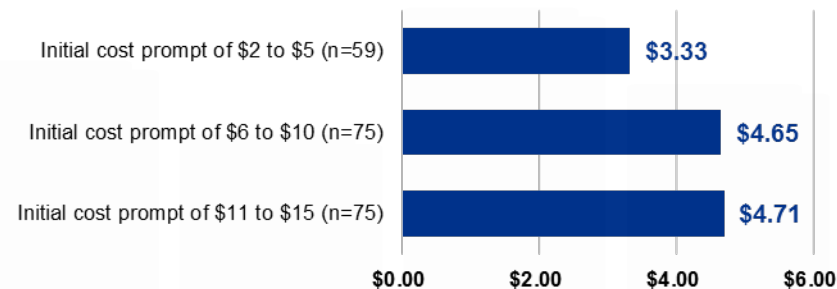
WTP analysis (open question, capped at \$33) by age shows that average WTP values decreases for older cohorts.

Figure 1: WTP by age



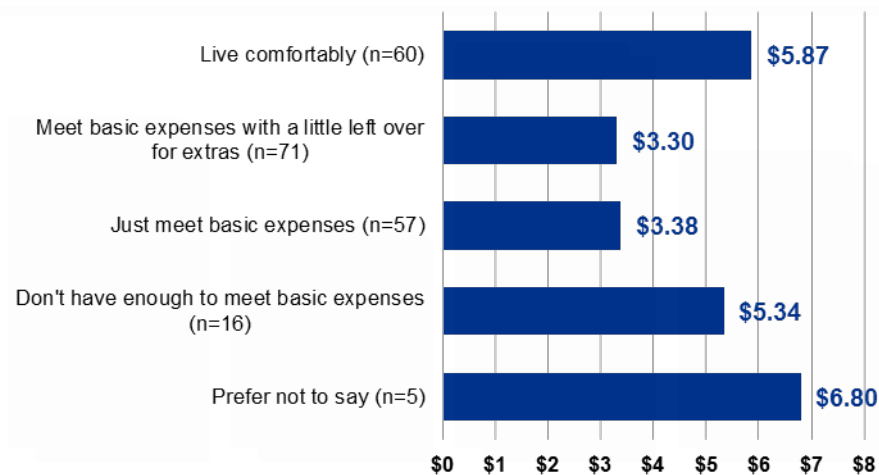
We have explored the varying WTP averages based on the first cost prompt presented to the respondent. With relatively low responses across each individual cost prompt, we have grouped responses in to brackets. Results show little increase in average WTP results for respondents presented with initial costs beyond \$5.

Figure 2: Open WTP by initial cost prompt



Respondents who “live comfortably” have the highest reported WTP.

Figure 3: WTP by household financial situation

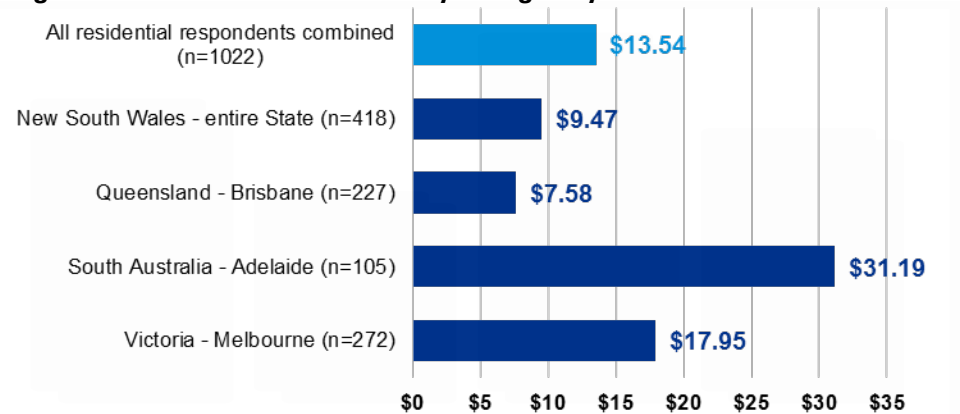




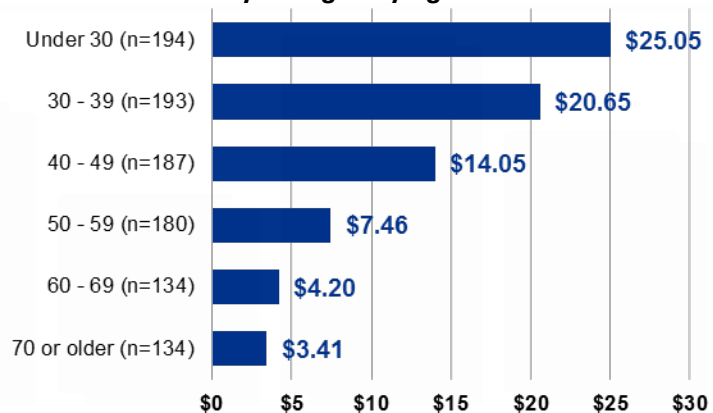
### Momentary outages

Residential respondents were asked how much (in dollars) they would be willing to pay to avoid a momentary outage (defined as lasting no more than 3 minutes). All respondents across both the control and revised survey versions were presented with the same item, hence results are calculated across the entire residential pool of 1,022 pilot responses.

**Figure 4: WTP to avoid momentary outages by state**



**Figure 5: WTP to avoid momentary outages by age**



### General observations

The revised residential survey included a single open ended question to assess WTP, without the initial cost prompt questions. This is not the design we are suggesting for the main survey, however the larger number of pilot responses for this methodology still allows us to compare the average WTP results (capped at \$33) for a wider range of demographics.

Further observations from the survey results which are not included in the earlier figures include:

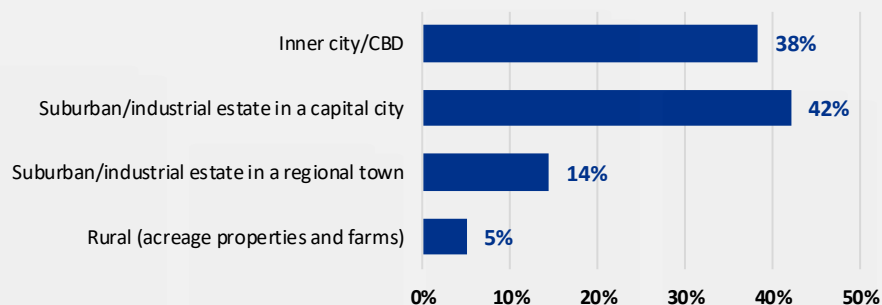
- Respondents from Adelaide recorded a WTP almost twice as high as Brisbane (\$8.37 versus \$4.45)
- Swimming pool owners had a slightly lower WTP to respondents without a pool (\$5.58 versus \$6.05). This may be a function of location as per the above point
- Electric vehicle owners had a WTP over three times higher than respondents who do not own an electric vehicle (\$18.40 versus \$5.70)
- Respondents with rooftop solar panels had a slightly higher WTP than respondents without rooftop solar (\$6.09 versus \$5.96)
- Respondents with both rooftop solar and a home battery storage solution had an average WTP of \$20.84, far greater than a \$5.92 average for respondents with neither
- WTP increased with household size (\$3.96 for 1 person household, \$5.71 for 2-3 people, \$7.97 for 4+ people)



# Business sample

318 business responses were obtained during the pilot phase. Pilot survey responses are largely dominated by respondents in major capital cities as per Figure 6. This reflects the pilot sample plan targeting major capital cities (Brisbane, Melbourne, Adelaide) where a potentially wasted sample could be risked and have minimal impact upon obtaining a representative sample for the main phase. Respondents across all regions of NSW were targeted to satisfy the residential control exercise.

**Figure 6: Responses by geographic area**



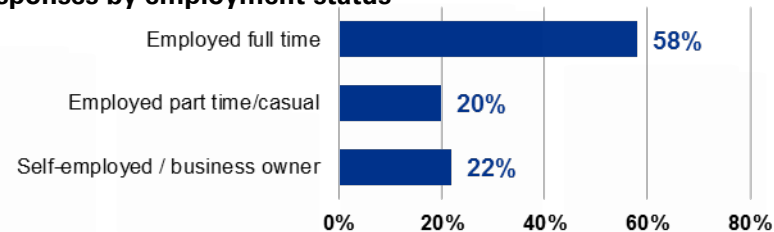
Note: Percentages may not add up to 100 due to rounding

The pilot study has revealed that several respondents living within either Brisbane, Melbourne or Adelaide have proceeded to complete the Business survey on behalf of a business located rurally or within a regional town.

	Inner city/CBD	Suburban/industrial estate in a capital city	Suburban/industrial estate in a regional town	Rural (acreeage properties and farms)
New South Wales (n=121)	41%	40%	14%	4%
Queensland (n=69)	36%	30%	22%	12%
South Australia (n=20)	35%	55%	10%	0%
Victoria (n=106)	36%	50%	11%	3%

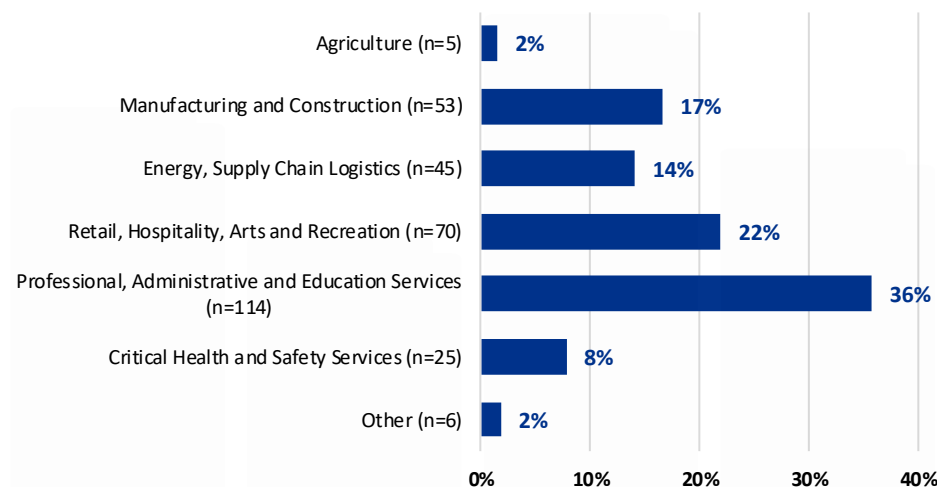
Respondents were also asked to confirm their employment status as one of the qualifiers for the business survey.

**Figure 7: Responses by employment status**



Upon qualifying for the business survey, respondents were asked to select the industry sector of the organisation they work for. Industry sectors have been grouped to the segments as per Figure 8.

**Figure 8: Business responses by industry sector**

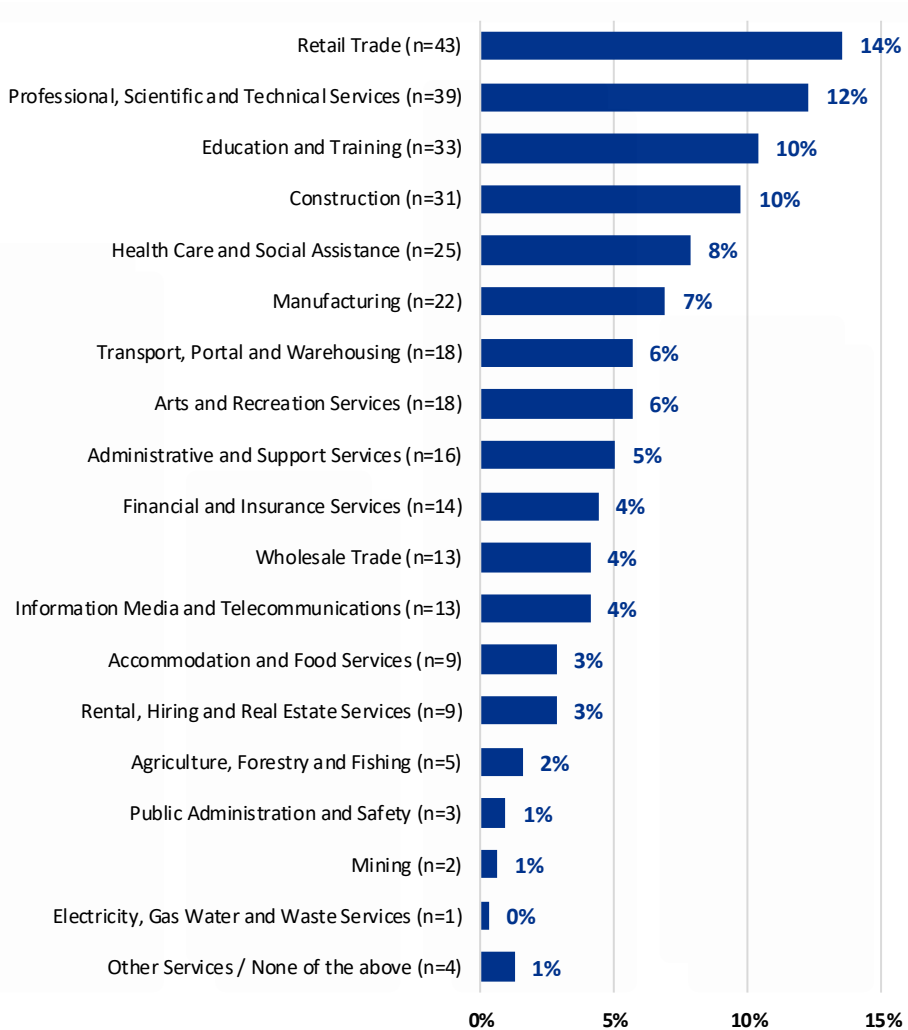




### Business sample

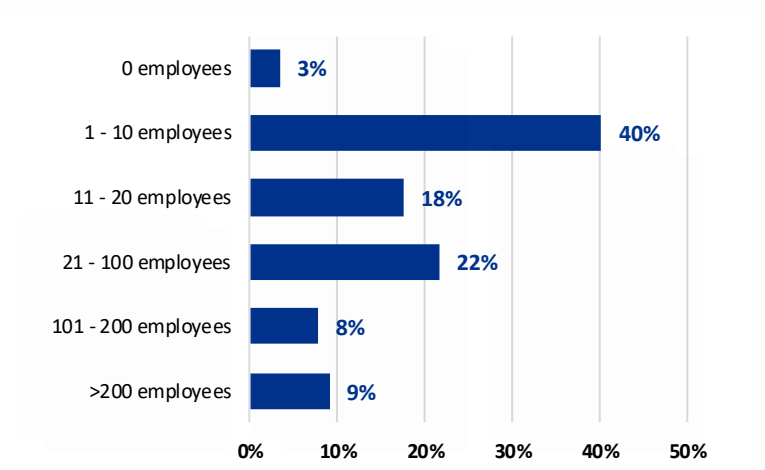
Proportions of respondents across the granular ANCSIC industry codes is included below.

**Figure 9: Business respondents by Industry**



The spread of FTE head count across the business sample is as follows.

**Figure 10: Business respondents by FTE**

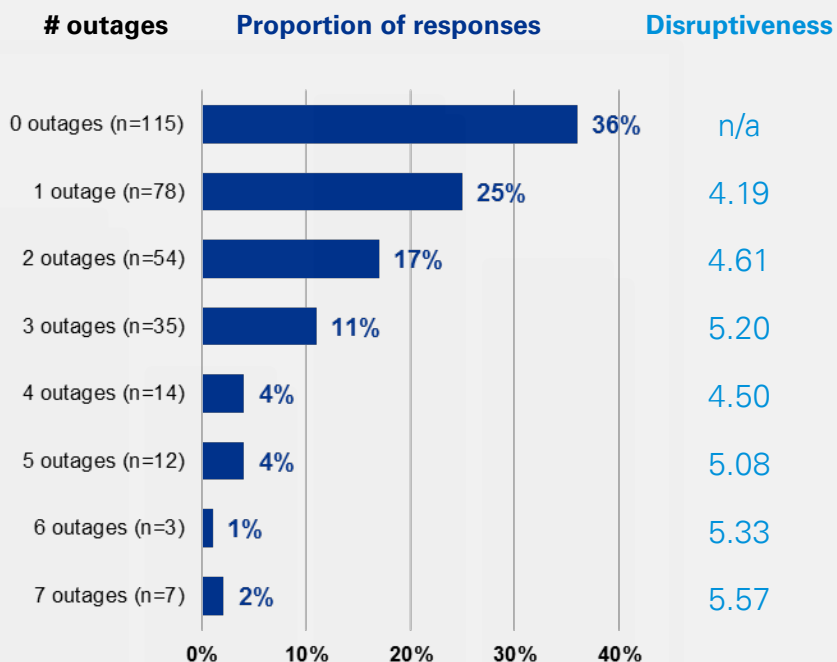




# Business results

36 per cent of respondents indicated their business suffered zero outages over the last year. As we would expect, the proportion of respondents (blue bars) decreases as the number of outages experienced increases. Also included is the average assessment of "disruptiveness" associated with the outage(s) experienced. The rating scale ranged from 0 (not disruptive) to 7 (very disruptive). The overall average across all business respondents was 4.62.

**Figure 11: Experience of outages and level of disruptiveness**



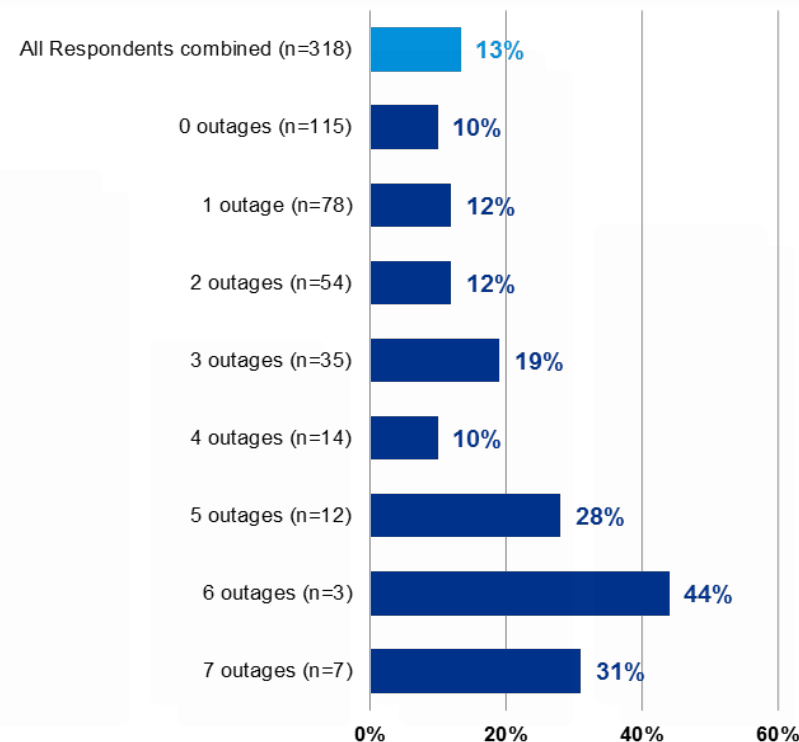
Respondents were asked how much of an increase in their bill they would be willing to pay to avoid a particular scenario of two unexpected outages. Each outage occurs on a different random weekday in Winter and lasts for one hour in off peak times. Each outage only affects the respondent's local area.

It was explained to respondents that the outages could mostly be avoided if the electricity network was improved.

Respondents were separately asked to enter the number of outages they had experienced in the previous 12 months.

The average response across all 318 business responses is presented in the top bar of Figure 12, and the bars below show willingness to pay split by the number of self-reported outages in the previous year. In general, customers who have experienced more outages have higher willingness to pay.

**Figure 12: Business WTP (% of bill) by reported outages in previous year**

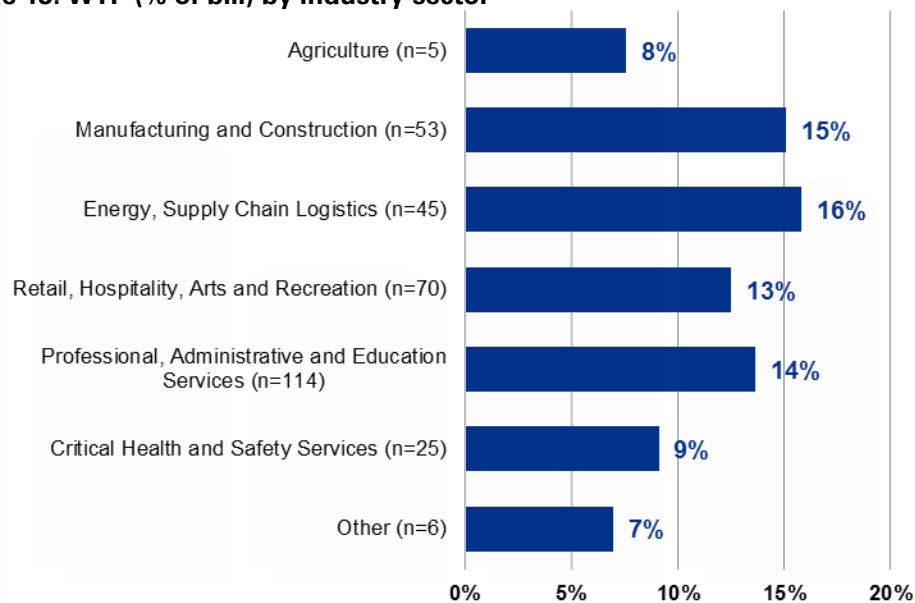




### Business results

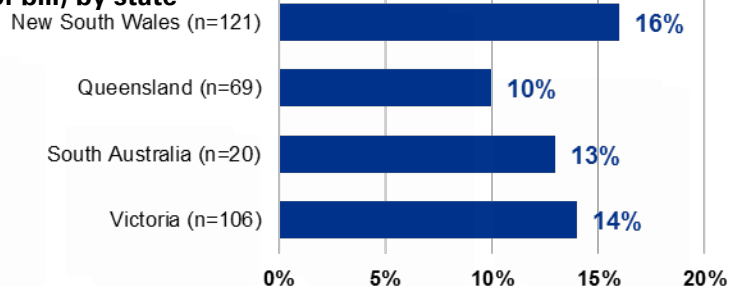
WTP results vary by industry sector.

**Figure 13: WTP (% of bill) by industry sector**



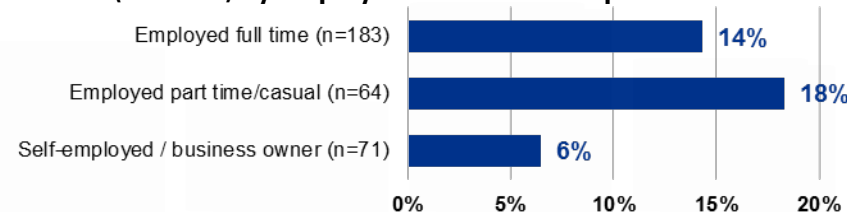
Respondents in Queensland, on average, reported lower willingness to pay than other States.

**Figure 14: WTP (% of bill) by state**



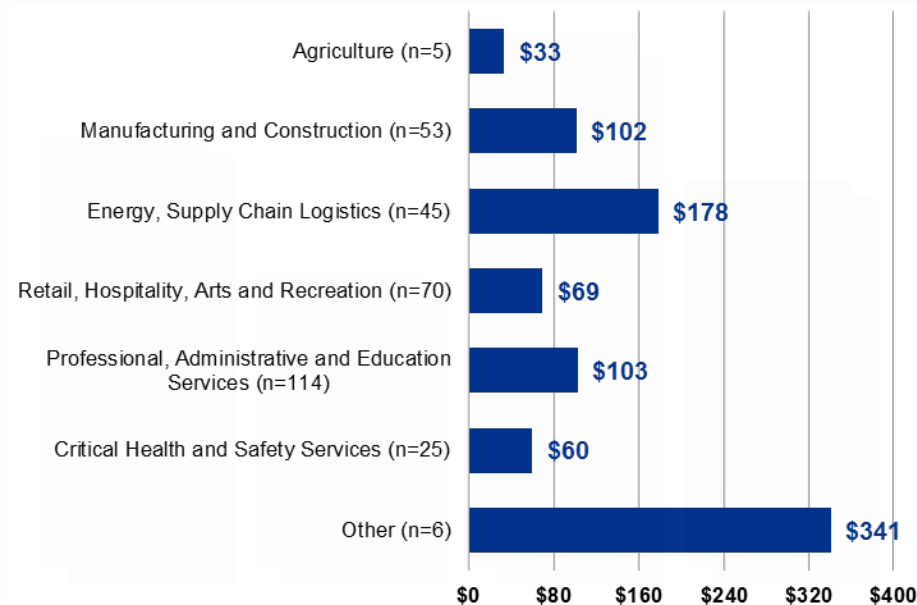
Self-employed/business owners are, on average, only willing to pay a six per cent increase on their bill.

**Figure 15: WTP (% of bill) by employment status of respondent**



Respondents were also asked how much (in dollars) their business would be willing to pay to avoid a momentary outage (defined as lasting no more than 3 minutes). Results by Industry sector are presented below. Within sector group "Other", a single respondent within the Mining industry indicated a value in excess of \$1,000, heavily skewing the average result.

**Figure 16: WTP (\$ per month) to avoid momentary outages by industry sector**



# Appendix A – Survey questionnaire







# Residential Survey



Australian Government | AUSTRALIAN ENERGY REGULATOR

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Ignored error: SE-03 Variable 'pid' required for list='2'

Insync is carrying out a study on behalf of the Australian Energy Regulator (AER), Australia's national energy regulator. The study will be used by the AER to determine how much customers value reliable electricity supply.

**Why your view matters to us**

Power reliability is important. Electricity interruptions can be costly, and it can be expensive to avoid them completely due to the cost of building and maintaining electricity poles and wires.

This survey is for you to share your thoughts on how unexpected power outages affect you and how far we should go to avoid them. The results of this survey will be used by the AER to help ensure electricity providers invest the right amount, balancing reliability and affordability to deliver power to businesses and residences.

This survey should take about 15 to 20 minutes to complete. But please, take as long as you need because accurate responses are what matter.

**Confidentiality:** In this survey you may provide information that identifies or could reasonably identify an individual through the survey responses. The information collected as part of this survey will be used to produce aggregated statistics. No information in the published results can be traced back to you. The AER will handle any personal information in accordance with its privacy obligations.

For any queries or concerns, please email [surveys+AER@insyncsurveys.com.au](mailto:surveys+AER@insyncsurveys.com.au) or call (03) 9909 9251.

Continue > ➔

Australian Government | AUSTRALIAN ENERGY REGULATOR

Which of the following best describes your current employment status?  
Select one



- Self-employed / business owner
- Employed full time
- Employed part time/casual
- Student
- Home duties (including maternity/paternity leave, full time carer).
- Retired
- Unemployed

← **Divert to residential**

Continue > ➔



0%


  AUSTRALIAN ENERGY REGULATOR

Do you have any input on how much your business either spends on electricity or consumes in electricity in relation to the activities of the business?  
In this survey we are only interested in business locations within Australia. Please exclude overseas business locations. If your business has multiple locations within Australia, answer 'yes' if you have input in electricity use at one or more locations.



Select one

Yes


No ← **Divert to residential**

Continue > 

9%



  AUSTRALIAN ENERGY REGULATOR

Whenever we talk about a power outage in this survey, we mean an **unexpected failure** of the electricity supply network **occurring on average once in every six month period**, which affects your household and one or more suburbs nearby for a period lasting up to several hours.

Continue > 





10%

  AUSTRALIAN ENERGY REGULATOR

Please advise your four digit post code of suburb or area you live in  
Please enter a whole number

[Continue >](#)

10%

  AUSTRALIAN ENERGY REGULATOR

Which one of these suburbs do you live in?

[Continue >](#)



13%






How often do you receive your electricity bill?  
Select one

- Monthly
- Bi-monthly (every two months)
- Quarterly (every three months)
- Pay-as-you-go / Other
- Don't know

Continue > 

Billing frequency is used throughout the survey. "Pay as you go" and "Don't know" used "Monthly" billing frequency.

14%

Approximately how much was your last quarterly (every three months) electricity bill for your household?  
Please enter a number

\$

Don't know

Billing frequency inserted

Continue > 



AER AUSTRALIAN ENERGY REGULATOR

Which of the following best describes your local area?  
Select one

- Most people live in units, townhouses or high rise apartments
- Most people live in standalone houses in a capital city suburb
- Most people live in a suburb in a regional town
- Most people live on acreage or a farm

Continue >

In AER 2019 approach, this item is used to fine tune the definition used for the localised/widespread attribute within the choice model

AER 2019 approach

AER AUSTRALIAN ENERGY REGULATOR

This section includes eight questions which we ask you to consider carefully. For each question, please choose your preferred option out of the three options. These questions may appear repetitive, but your choices will help us work out different customer preferences.

We ask you to make eight choices, one on each of the following eight screens.

To answer these questions, consider whether you would accept less reliable electricity supply if you received lower electricity bills. This may mean you experience more severe unexpected power outages.

Note: Italicised text *like this* means this particular characteristic is the same in all three options.

Definitions for the terms used in the question are included below.

Term	Definition
Localised/Widespread outage	<b>Localised</b> means a power outage that is limited to homes and businesses in your street and surrounding streets. <b>Widespread</b> means your suburb and the surrounding suburbs.
Duration	<b>Duration</b> is the number of hours your home and affected area is without power.
Frequency	<b>Frequency</b> is the number of outages each year.
Summer/Winter	Electricity is important all year round, but is often more valuable at some times of the year due to the need for heating or cooling. <b>Summer</b> = December, January and February. <b>Winter</b> = June, July and August.
Weekday/Weekend	You may use more or less electricity on weekends compared to weekdays.
Time of day	In this survey, <b>Peak time</b> occurs between 7-10am and 5-8pm every day. <b>Off-peak time</b> occurs anytime except 7-10am and 5-8pm every day.
Change in your quarterly (every three months) electricity bills	To answer these questions consider whether you would accept less reliable electricity supply if you received lower electricity bills. This may mean you experience more severe unexpected power outages.

Billing frequency inserted

Continue >



**Question 3 out of 8**

	Option 1	Option 2	Option 3
Localised/widespread	Localised	Widespread	Widespread
Duration	1 hour	3 hours	3 hours
Frequency	Twice a year	Twice a year	Twice a year
Summer/winter	Winter	Winter	Summer
Weekday/weekend	Weekdays	Weekdays	Weekends
Time of day	Off-Peak	Peak (7-10am and 5-8pm)	Peak (7-10am and 5-8pm)
Change in your quarterly (every three months) electricity bills	No charge	\$0 lower	\$21 lower

Annotations:  
 - Peak hours different between AER 2019 and AEMO 2014 approaches (points to Option 1 Off-Peak vs Option 2 Peak).  
 - Billing frequency (e.g. \$30/month is the same as \$9/quarter) (points to Option 2 \$0 lower vs Option 3 \$21 lower).  
 - Levels multiplied by the billing frequency (e.g. \$30/month is the same as \$9/quarter) (points to Option 2 \$0 lower vs Option 3 \$21 lower).

AER 2019 approach

**AER 2019 approach** 87%

Australian Government | AUSTRALIAN ENERGY REGULATOR

Imagine you experience two unexpected power outages a year. It turns out that each of the unexpected outages occurs on a different random weekday in winter (Jun, Jul, Aug) and lasts for one hour in off peak times (outside of 7-10am, 5-8pm). Each one only affects your local area.

Many outages could mostly be avoided if the electricity network was improved. However, improvements would be funded by higher electricity bills. To answer the following questions there is no 'right answer'. When considering your responses please consider how much you value a reliable electricity network. You could consider, for example, the inconvenience of having to reset your clocks, not being able to watch TV or access the internet/wi-fi during an outage, and interruption to other at-home activities requiring electricity.

How much of an increase would you be willing to pay in your quarterly (every three months) electricity bill to avoid both the power outages described in the above scenario?

\$

Continue >

Annotation: Billing frequency inserted (points to the 'quarterly' text in the question).





AEMO 2014 approach



15%

We are asking you to make eight choices; one choice on each of the following eight screens.

We ask you to consider accepting a rebate or discount on your electricity bill to compensate you for experiencing specific types of unexpected power outages. Imagine the following scenario: power outages are inevitable but new regulation requires your electricity provider to compensate you with a rebate for the inconvenience caused to you by specific unexpected power outages.

Note: Italicised text *like this* means that this particular characteristic is the same in all three options.

Definitions for the terms used in the question are included below.

Term	Definition
<b>Localised/widespread:</b>	<p>If you live in a high density area, a localised outage is a power outage affecting your property and your neighbourhood. You may notice that surrounding residential dwellings, nearby shops and nearby schools are affected by the outage but your neighbours living in adjacent suburbs are unaffected.</p> <p>If you live in a low density area, a localised outage is a power outage affecting your property and entire town. Local residences, businesses and essential amenities are affected but your neighbours living in adjacent towns are unaffected. Widespread outages affect a larger proportion of the regional electricity grid than localised outages. They are usually caused by major storms (e.g. from tree branches falling on major power lines) or explosions caused by overheated electricity equipment.</p> <p>If you live in a high density area, a widespread outage is a power outage affecting several neighbourhoods at once, an entire city, or even several cities within a region.</p> <p>If you live in a low density area, a widespread outage is a power outage affecting several neighbouring suburbs at once within a region.</p>
<b>Duration</b>	An outage can last for various lengths of time. We describe duration in hours over which electricity is not delivered to you.
<b>Frequency</b>	The number of times outages are expected to occur in a year.
<b>Summer/Winter</b>	Electricity is important all year round, but it is typically more valuable in either summer because we want to keep cool or in winter because we want to keep warm. In spring and autumn heating and cooling are less important.
<b>Weekday/weekend</b>	A power cut during the weekend might affect you differently from one during the working week.
<b>Peak/off-peak</b>	A peak time power cut will include some or all the peak time for the grid, which takes place in the intervals 7-10am and 3-6pm.
<b>Monthly bill decrease</b>	We are asking you to consider accepting a rebate or discount on the bill for suffering the unexpected power outage. Please imagine the following scenario: power outages are inevitable but new regulation requires your electricity provider to compensate you with a bill rebate for the inconvenience caused to you by specific power outages.

Please indicate which of the three options you would prefer:

You can point your cursor on the bold text description below for further descriptions before you answer

**Question 7 out of 8**

	Option 1	Option 2	Option 3
<b>Localised/widespread</b>	Localised	Widespread	Localised
<b>Duration</b>	1 hour	1 hour	3 hours
<b>Frequency</b>	Twice a year	Twice a year	Twice a year
<b>Summer/winter</b>	Winter	Winter	Winter
<b>Weekday/weekend</b>	Weekdays	Weekends	Weekends
<b>Peak/Off-peak</b>	Off-Peak	Off-Peak	Peak (7-10am and 3-6pm)
<b>Monthly bill decrease</b>	No change	\$7/month	\$3/month

Continue >

Attribute heading is "Monthly bill decrease" even if the billing frequency was not monthly.

All amounts displayed as per month

AEMO 2014 approach







AEMO 2014 approach



50%

Please imagine that your most likely unexpected power outage is once every six months and with duration of one hour. It is likely to be on a weekday, in winter, off-peak and localised (i.e. only affecting your street).

Consider the possibility of avoiding this type of power loss during this outage by paying towards additional investment to 'bolster' the network or alternative power supplies.

Continue >

AEMO 2014 approach



50%

Please imagine that your most likely unexpected power outage is once every six months and with duration of one hour. It is likely to be on a weekday, in winter, off-peak and localised (i.e. only affecting your street).

Would you be willing to pay an increase of \$7/month in your electricity bill (over six months this is a total of \$42) to avoid this type of outage?

Select one

- Yes
- No

The "starting value" used in this item varied in whole dollar amounts from \$2/month up to \$15/month

Continue >

If the respondent selects "Yes" to this item, the following question (over the page) asks the respondent if they would be willing to pay double the starting amount. (e.g. \$7/month would be doubled to \$14/month)

If the respondent selects "No" to this item, the following question (over the page) asks the respondent if they would be willing to pay half the starting amount. (e.g. \$7/month would be halved to \$3.50/month)



AEMO 2014 approach 52%



Please imagine that your most likely unexpected power outage is once every six months and with duration of one hour. It is likely to be on a weekday, in winter, off-peak and localised (i.e. only affecting your street).

Would you be willing to pay an increase of \$14/month in your electricity bill (over six months this is a total of \$84) to avoid this type of outage?

Select one

- Yes
- No

Continue > ➔

AEMO 2014 approach 52%



Please imagine that your most likely unexpected power outage is once every six months and with duration of one hour. It is likely to be on a weekday, in winter, off-peak and localised (i.e. only affecting your street).

What is the maximum increase in \$ per month in your electricity bill you would be willing to pay to avoid the same type of outage?

\$

Continue > ➔

In the AEMO 2014 approach, respondents were only ever asked for their maximum increase per month.



From this point on both versions of the Residential survey are identical.



88%

Momentary outages last no more than 3 minutes. The number of momentary outages can be reduced by investing in the network. Investment would be funded by higher electricity bills. How much would you be willing to pay in \$ to avoid one momentary outage?

Please enter a number

\$

Continue >

88%



What is your household size?



Select one

- 1 person
- 2-3 people
- 4+ people

Continue >



89%

  AUSTRALIAN ENERGY REGULATOR


Do you have a pool?

Select one



Yes

No

Unsure

Continue > 

89%

  AUSTRALIAN ENERGY REGULATOR


Does your house have mains gas?

Select one

Yes



No

Unsure

Continue > 




89%

  AUSTRALIAN ENERGY REGULATOR



Does your house have slab heating?

Select one

- Yes
- No
- Unsure

Continue > 


90%

  AUSTRALIAN ENERGY REGULATOR

Do you speak a language other than English at home?


Select one

- Yes, always
- Yes, sometimes
- No
- Prefer not to say

Continue > 



90%




**Australian Government** | **AER** AUSTRALIAN ENERGY REGULATOR

Which of the following apply to you **now**?  
Select all that apply

- You own/drive an electric vehicle
- Your house has rooftop solar panels
- Your house has a battery storage system (e.g. Tesla Powerwall or similar)
- Your house has a home automation system (controlling appliances and devices in your home over the internet)
- You work from home at least one day per week
- None of the above

Continue > ⓘ

91%



**Australian Government** | **AER** AUSTRALIAN ENERGY REGULATOR



Which of the following do you think might apply to you in **five years from now**?  
Select all that apply

- You own/drive an electric vehicle
- Your house has rooftop solar panels
- Your house has a battery storage system (e.g. Tesla Powerwall or similar)
- Your house has a home automation system (controlling appliances and devices in your home over the internet)
- You work from home at least one day per week
- None of the above

Continue > ⓘ



91%

  AUSTRALIAN ENERGY REGULATOR

Please select your gender.

Select one

Female



Male

Prefer to self-describe

Prefer not to say

Continue > ?

92%

  AUSTRALIAN ENERGY REGULATOR

Please select your age.

Select one

Under 30

30 - 39

40 - 49

50 - 59

60 - 69


70 or older

Continue > ?





92%



**Australian Government** | **AER AUSTRALIAN ENERGY REGULATOR**

Which of the following best describes your financial situation?  
Select one

Live comfortably

Meet basic expenses with a little left over for extras


Just meet basic expenses

Don't have enough to meet basic expenses

Prefer not to say

**Continue >**

93%



**Australian Government** | **AER AUSTRALIAN ENERGY REGULATOR**

The Australian Energy Regulator (AER) is carrying out a study to determine how much customers value reliable electricity supply. We have employed Insync, KPMG and the Melbourne Energy Institute (Service Providers) to assist us throughout this study. As part of this survey, we ask you to provide your National Metering Identifier (NMI) code. NMI is a unique number assigned to the electricity meter at your address. If you have more than one meter at your premise (for example if you have controlled load supply for hot water or for your pool), there will be more than one NMI listed in your bill.

Your NMI(s) can be found on your electricity bill (typically located on the back of your bill).

The NMI will be used by the AER to identify how much electricity Australian households generally consume in a year. This data is important for identifying customer preferences for reliable energy supply.

If you provide your NMI as part of this survey we need your consent for your electricity distributor to release the following information about your energy consumption (Energy Data) to the AER and our Service Providers:

- up to 18 months of your energy consumption
- up to 18 months of your solar export data (if applicable).

These will be matched to the NMI you provide.

Your Energy Data will be provided to the AER and its Service Providers, who will analyse it together with your survey responses to develop the VCR (value of customer reliability). The information you provide will not be used for marketing or similar purposes.

The AER will publish the results of this project on its website. It will not publish Individualised Energy Data and you will not be able to be identified in any way from the published data.

Do you consent to your electricity distributor providing your Energy Data to the Australian Energy Regulator, understanding that you will not be identifiable from any published data?

Yes, I have access to my NMI now and am happy to provide this in the next question of this survey

Yes, though I will have to provide my NMI at a later stage as I do not have a copy of my electricity bill handy



No, I do not consent to the above

**Continue >**







Progress bar: 93%

 |  AUSTRALIAN ENERGY REGULATOR

Please type in your National Metering Identifier (NMI) code. Your NMI(s) can be found on your electricity bill (typically located on the back of your bill).

[Continue >](#)

Progress bar: 94%

 |  AUSTRALIAN ENERGY REGULATOR

Please click the 'Continue' button when you are happy to submit your responses. This is the last question of the survey.


[Continue >](#)



# Business Survey



0%



Please [login](#) to see additional testing features

Ignored error: SE-03 Variable 'pid' required for list=2

Insync is carrying out a study on behalf of the Australian Energy Regulator (AER), Australia's national energy regulator. The study will be used by the AER to determine how much customers value reliable electricity supply.

**Why your view matters to us**

Power reliability is important. Electricity interruptions can be costly, and it can be expensive to avoid them completely due to the cost of building and maintaining electricity poles and wires.

This survey is for you to share your thoughts on how unexpected power outages affect you and how far we should go to avoid them. The results of this survey will be used by the AER to help ensure electricity providers invest the right amount, balancing reliability and affordability to deliver power to businesses and residences.


This survey should take about 15 to 20 minutes to complete. But please, take as long as you need because accurate responses are what matter.

**Confidentiality:** In this survey you may provide information that identifies or could reasonably identify an individual through the survey responses. The information collected as part of this survey will be used to produce aggregated statistics. No information in the published results can be traced back to you. The AER will handle any personal information in accordance with its privacy obligations.

For any queries or concerns, please email [surveys+AER@insyncsurveys.com.au](mailto:surveys+AER@insyncsurveys.com.au) or call (03) 9909 9251.

Continue > ➔

0%



Which of the following best describes your current employment status?  
Select one

- Self-employed / business owner
- Employed full time
- Employed part time/casual
- Student
- Home duties (including maternity/paternity leave, full time carer)
- Retired
- Unemployed

Continue > ➔



Australian Government | AER AUSTRALIAN ENERGY REGULATOR 3%

Which of the following categories best describes the business you work for?  
 Select one. You can point your cursor at each of the wording in each answer choice for more details about the industry before you choose an answer

- Agriculture, Forestry and Fishing
- Mining
- Manufacturing
- Electricity, Gas Water and Waste Services
- Construction
- Wholesale trade
- Retail Trade
- Accommodation and Food Services
- Transport, Postal and Warehousing
- Information Media and Telecommunications
- Financial and Insurance Services
- Rental, Hiring and Real Estate Services
- Professional, Scientific and Technical Services
- Administrative and Support Services
- Public Administration and Safety
- Education and Training
- Health Care and Social Assistance
- Arts and Recreation Services
- Other Services / None of the above: please specify:

Continue >

Australian Government | AER AUSTRALIAN ENERGY REGULATOR 0%

Do you have any input on how much your business either spends on electricity or consumes in electricity in relation to the activities of the business?  
 In this survey we are only interested in business locations within Australia. Please exclude overseas business locations. If your business has multiple locations within Australia, answer 'yes' if you have input in electricity use at one or more locations.  
 Select one

- Yes
- No

Continue >



9%



Please answer this survey in relation to the business location in Australia over which you have input into how much is either spent on electricity or consumed in electricity. If there are multiple business locations, please answer for the business location you are most familiar with. If you are familiar with multiple locations, please pick the location that uses the most electricity.

Continue > 

11%





Describe the nature of the business location which you are answering for in this survey (for example head office, manufacturing site, farm site)  
Please be as specific as possible.

Continue > 




11%

 |  AUSTRALIAN ENERGY REGULATOR



Which of the following best describes the local area of your business? If there are multiple business locations, answer for the same business location you identified as the one you are most familiar with.

Select one

- Inner city/CBD
- Suburban/industrial estate in a capital city
- Suburban/industrial estate in a regional town
- Rural (acreage properties and farms)


Continue > 

12%

 |  AUSTRALIAN ENERGY REGULATOR

What is the post code of your business? If your business has multiple locations, answer for the same business location you identified as the one you are most familiar with.

Please enter a whole number

Continue > 



13%

Australian Government | AER AUSTRALIAN ENERGY REGULATOR

Which one of these suburbs is your business located in?

Select one...

Continue > ➔

16%

Australian Government | AER AUSTRALIAN ENERGY REGULATOR

How often does your business receive an electricity bill?



Select one

- Monthly
- Bi-monthly (every two months)
- Quarterly (every three months)
- Pay-as-you-go / Other
- Don't know

Continue > ➔




17%



  AUSTRALIAN ENERGY REGULATOR

Approximately how much was your last quarterly (every three months) electricity bill?  
Please enter a number


\$

Continue > 

18%

  AUSTRALIAN ENERGY REGULATOR

How many sites does this electricity bill cover?  
Please enter a whole number

Continue > 





19%

Australian Government | AUSTRALIAN ENERGY REGULATOR

How many employees (or full time equivalent) work across the site(s) that are covered by your electricity bill?

Select one

- 0
- 1-10
- 11-20
- 21-100
- 101-200
- >=200

Continue > ➔

20%

Australian Government | AUSTRALIAN ENERGY REGULATOR

Is the electricity bill for your business included with any household bills?

Select one

- Yes the electricity bill from my business is combined with my household bill(s).
- No, the electricity bill is solely for my business.

Continue > ➔



21%

 |  AUSTRALIAN ENERGY REGULATOR

**Power outage description:**

Whenever we talk about a power outage in this survey, we mean an **unexpected** failure of the electricity supply network **occurring on average once in every six month period**, which affects your business and one or more suburbs nearby for a period lasting up to several hours. If your business has multiple sites, please pick the location which you identified as the one you are most familiar with.

[Continue >](#)

21%

 |  AUSTRALIAN ENERGY REGULATOR

To the best of your knowledge, how many times has your business experienced a power outage in the last 12 months?

Select one

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- more than 6 times

[Continue >](#)



22%

**AUSTRALIAN ENERGY REGULATOR**

In general, how disruptive have these outages been to your company?  
Select one

1 - not disruptive	2	3	4	5	6
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Continue >**

23%

**AUSTRALIAN ENERGY REGULATOR**

Please think about the potential losses you may incur during a power outage. Such losses can vary greatly across different business operations. Please select any option(s) that may apply to your business:  
Please select any option(s) that may apply to your business:

- Dissatisfied customers
- Downtime from expensive equipment kept idle
- Lost revenues from fewer sales
- Damage to processes and equipment
- Additional time and labour beyond usual duties in response to power outage
- Loss of livestock
- Lost production
- Loss of work from paid staff
- Additional time and labour to check activities/restart systems
- Overtime wages incurred
- Spoilage or loss of perishable goods
- Other

**Continue >**



24%

 |  AUSTRALIAN ENERGY REGULATOR

Thinking of your business operations, is there a time of day that is worse for you to experience an outage?

Select one

Yes, please elaborate

No

Continue > 

25%

 |  AUSTRALIAN ENERGY REGULATOR

Is there a particular month or season in the year that is worse for you to experience an outage?

Select one

Yes, please elaborate

No

Continue > 



This section includes eight questions which we ask you to consider carefully. For each question, please choose your preferred option out of the three options. These questions may appear repetitive, but your choices will help us work out different customer preferences.

We ask you to make eight choices, one on each of the following eight screens.

To answer these questions consider whether you accept less reliable electricity supply if you received lower electricity bills. This may mean you experience more severe unexpected power outages.

Note: Italicised text like this means this particular characteristic is the same in all three options.

Definitions for the terms used in the question are included below.

Term	Definition
<b>Localised/Widespread outage:</b>	<b>Localised</b> means a power outage that is limited to homes and businesses in your street and surrounding streets. <b>Widespread</b> means your suburb and the surrounding suburbs.
<b>Duration</b>	<b>Duration</b> is the number of hours your business is without power.
<b>Frequency</b>	<b>Frequency</b> is the number of outages each year.
<b>Summer/Winter</b>	Electricity is important all year round, but some businesses value it more at particular times of the year. <b>Summer</b> = December, January and February. <b>Winter</b> = June, July and August.
<b>Weekday/Weekend</b>	Your business may use more or less electricity on weekends compared to weekdays.
<b>Time of day:</b>	In this survey, <b>Peak time</b> occurs between 7-10am and 5-8pm every day. <b>Off-peak time</b> occurs anytime except 7-10am and 5-8pm every day.
<b>Change in your quarterly (every three months) electricity bills:</b>	To answer these question consider whether you would accept less reliable electricity supply if you received lower electricity bills. This may mean you experience more severe unexpected power outages.

Continue > ⓘ

Please indicate which of the three options you would prefer:

You can point your cursor on the bold text description below for further descriptions before you answer


Question 4 out of 8

	Option 1	Option 2	Option 3
Localised/widespread	Localised	Localised	Widespread
Duration	1 hour	6 hours	6 hours
Frequency	Twice a year	Twice a year	Twice a year
Summer/winter	Winter	Summer	Summer
Weekday/weekend	Weekdays	Weekends	Weekends
Peak/Off-peak	Off-Peak	Off-Peak	Peak (7-10am and 5-8pm)
Change in your quarterly (every three months) electricity bills:	No change	3% lower	2% lower

Continue > ⓘ



83%



Imagine you experience two power outages a year. It turns out that each of the unexpected outages occurs on a different random weekday in winter (Jun, Jul, Aug) and lasts for one hour in off peak times (outside of 7-10am, 5-8pm). Each one only affects your local area.

Outages could mostly be avoided if the electricity network was improved. However, improvements would be funded by higher electricity bills.

To answer the following question there is no 'right answer'. When considering your response please take into account how much you value a reliable electricity network for your business. You could also consider any damage costs.


How much of an increase would your business be willing to pay in your quarterly (every three months) electricity bill to avoid both the power outages described in the above scenario?

Please enter a whole number

%

**Continue >**

85%



Momentary outages last no more than 3 minutes. The number of momentary outages can be reduced by investing in the network. Investment would be funded by higher electricity bills. How much would you be willing to pay in \$ to avoid one momentary outage?



Please enter a number

\$

**Continue >**



86%

 |  AUSTRALIAN ENERGY REGULATOR

Has your business invested in any equipment or backup solutions to avoid momentary outages?



Select one

Yes

No

[Continue >](#)

86%

 |  AUSTRALIAN ENERGY REGULATOR



The following section asks general questions relating to your business which will help us better understand your responses in this survey. Please answer the following questions as they apply to your business.

[Continue >](#)






87%



  AUSTRALIAN ENERGY REGULATOR

Does your business use monitoring devices to indicate energy performance and usage?  
Select all that apply

- Smart meters
- Appliance consumption gauge
- Other energy monitoring devices
- Don't know/Prefer not to answer


Continue > 

88%

  AUSTRALIAN ENERGY REGULATOR

During a power outage, does your business have any back-up options (i.e. on-site generation, battery cells, back-up fuel, etc.) that can be used to supply power to your business?  
Select one


- Yes
- No
- Don't know/Prefer not to answer

Continue > 





89%



**AUSTRALIAN ENERGY REGULATOR**


Please estimate how long these back-up options can supply your businesses' energy needs for:

Please enter a whole number

hours  minutes

[Continue >](#)

89%



**AUSTRALIAN ENERGY REGULATOR**

To help the AER determine how much customers value reliable electricity supply, we ask you to provide the National Meter Identifier (NMI) code(s) for the business. The NMI(s) will be used by the AER to identify how much electricity Australian businesses generally consume in a year. This data is important for identifying customer preferences for reliable energy supply.

Please provide the NMI code(s) in relation to the business location which you are answering in relation to. NMIs can be found on the electricity bill (typically located on the back of the bill).

The AER may disclose the NMI(s) to the business' electricity distributor so the distributor can provide the business' energy consumption data to the AER. By providing the business' NMI(s) you consent to the AER disclosing the business' NMI(s) to the electricity distributor.

The AER will publish the results of this project on its website. It will not publish individualised energy data and you will not be able to be identified in any way from the published data.

Do you consent to your electricity distributor providing your Energy Data to the Australian Energy Regulator, understanding that you will not be identifiable from any published data?

Select one

- Yes, I have access to the business NMI now and am happy to provide this in the next question of this survey
- Yes, though I will have to provide the business NMI at a later stage as I do not have a copy the business electricity bill handy
- No, I do not consent to the above

[Continue >](#)



93%




This is the last section of the survey. Thank you for taking part in our first wave of fieldwork for this project. To assist us in improving the survey for the next wave of fieldwork, please consider the questions you have answered and provide any feedback before submitting your response.

**Continue >** 

94%





Are there any items you felt were ambiguous in this survey?  
Please be as specific as possible

Prefer not to answer/No

**Continue >** 



95%

 |  AUSTRALIAN ENERGY REGULATOR

Do you have any suggestions for how we can improve this survey?  
Please be as specific as possible

Prefer not to answer/No

Continue > ?

96%

 |  AUSTRALIAN ENERGY REGULATOR

Please click the 'Continue' button when you are happy to submit your responses. Thank you.

Continue > ?



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