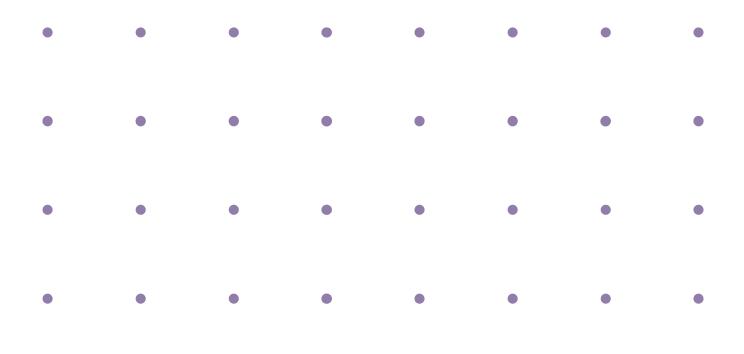


3233 AER Values of Customer Reliability2024:Methodology report

#### Contents

1.	Metho	Methodology		
	1.1.	Cognitive Testing Validation	4	
	1.2.	Panel recruitment		
	1.3.	Sample	4	
		Questionnaire changes		
	1.5.	Choice Model	6	
		Data validation process		
		Quality assurance (QA)		
2.	Appen	ıdix	9	
	2.1	Questionnaire Screenshots	10	



# Section 01

Methodology

# 1. Methodology

#### 1.1. Cognitive Testing Validation

Face-to-face cognitive testing was carried on the Residential version of the AER Values of Customer Reliability (VCR) 2024 during the pilot phase of the study. The tests were conducted between Monday 4th and Thursday 7th March 2024 using an online survey based on version 3 of the questionnaire.

During the cognitive test, participants were asked about what they were thinking when they answered each question and quizzed about what they considered when forming their responses. Each question and block of text was also assessed on comprehension and ease of answering, with a score out of 10 given for each.

This allowed us to ensure that the questions are measuring what they were intended to measure, and that there were no comprehension issues.

Verbatim responses were provided on harder to comprehend questions or paragraphs, and minor wording changes were then suggested.

#### 1.2. Panel recruitment

Data collection for both the Residential and Business components of the AER VCR was conducted via online surveys. Recruitment to the online surveys was conducted via a mixed methodological approach, using both online panels and CATI.

The online panel agencies used for recruitment were Pureprofile, WALR, and Octopus Group, all of which are Australian based, while CATI recruitment was done by Lonergan Research.

Panel members were recruited based on location parameters for the Residential survey, and within industry type for the Business survey. As standard practice with research panels, all participants recruited received an incentive for completion.

Fieldwork for the Residential and Business surveys were conducted between 3 September and 9 October 2024.

Respondents who started the Residential survey but indicated they had responsibility for paying or managing their business's electricity bill were redirected into the Business survey.

#### 1.3. Sample

The sample for the Residential survey was a representative sample of all Australians aged 18+, including those who do and do not have responsibility for their household electricity bill. To achieve industry target for the Business survey, most residential respondents who work, were self-employed or business owners with responsibility for paying or managing their business's electricity bill were diverted to the Business survey.

The Residential sample was split into seven climate zone regions and the Northern Territory, encompassing CBD, suburban and regional areas, based on instructions from AER.

#### Residential Demographic Breakdown

Gender (n)		Age (n)		
Female	2,359	29 years or under	570	
Male	1,307	30-39 years	696	
Prefer to self-describe	2	40-49 years	619	
Prefer not to say	21	50-59 years	578	
		60-69 years	689	
		70 year or older	524	
		Prefer not to say	13	

#### Residential Recruitment Breakdown

Recruitment (n)		
Online panel	3,621	
CATI	68	

The sample for the Business survey is defined as those working and living in Australia within the National Electricity Market (NEM) and the Northern Territory with responsibility for paying or managing their business's electricity bill. Those working in the mining industry were not specifically targeted, however they were allowed to complete. Respondents were allowed to enter their industry as "Other (please specify)", some of which were then back-coded based on their response to questions about their business.

#### Business Industry Breakdown

Industry (n)	
Agriculture, Forestry and Fishing	260
Mining	50
Manufacturing	260
Electricity, Gas, Water and Waste Services	101
Construction	120
Wholesale trade	104
Retail Trade	122
Accommodation and Food Services	128
Transport, Postal and Warehousing	117
Information Media and Telecommunications	127
Financial and Insurance Services	117
Rental, Hiring and Real Estate Services	106
Professional, Scientific and Technical Services	156
Administrative and Support Services	126
Public Administration and Safety	80
Education and Training	126
Health Care and Social Assistance	131
Arts and Recreational Services	115
Other	52

Business Recruitment Breakdown

Recruitment (n)	
Online panel	2,248
CATI	150

#### 1.4. Questionnaire changes

The questionnaires were left largely unchanged from the pilot study, except for the choice model.

Residential Changes from Pilot			
Intro	Added text to introductory paragraph "If you'd like more information on the AER's review of value of customer reliability, click on this link" https://www.aer.gov.au/industry/registers/resources/reviews/values-customer- reliability-2024. Deletion of "Power reliability is important" from second paragraph.		
G2	Change from "household" to "home" to keep consistent with G2, G3 and G4		
AEMC1	Question text change		
AEMC2	Question text change		
Section E (Choice Model)	New choice attribute combinations presented as per instructions from AER		

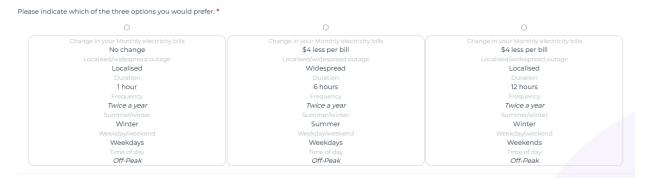
Business Changes from Pilot			
Intro	Added text to introductory paragraph "If you'd like more information on the AER's review of value of customer reliability, click on this link" https://www.aer.gov.au/industry/registers/resources/reviews/values-customer- reliability-2024. Deletion of "Power reliability is important" from second paragraph.		
H5	Moved to after B2		
D3	Deletion, as per instructions from AER		
D7	Deletion, as per instructions from AER		
F4	Wording change, deletion of "addition to"		
AEMC1	Question text change		
AEMC2	Question text change		
Section E (Choice Model)	New choice attribute combinations presented as per instructions from AER		

#### 1.5. Choice Model

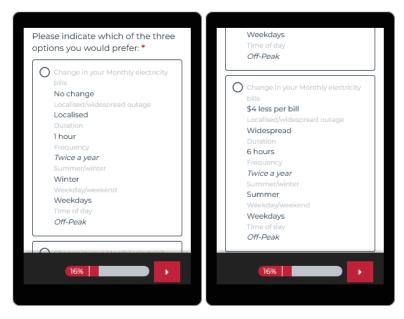
Choice card sets in the choice model were structured as requested by the AER. The order of options within each choice set was also randomised to reduce biases such as order effects and response bias.

Attribute labels were added to the individual cards to improve consistency between desktop and mobile versions.

#### Desktop



#### Mobile



#### 1.6. Data validation process

Panel providers were aware of each other, enabling them to exclude respondents who appear across multiple panels. Before entering the survey, respondents to both Residential and Business surveys were pre-validated by the panel providers. This validation process involved double-opt in email verification, as well as digital fingerprinting to identify fraudulent data based on location, language and device.

Further to this, in-survey digital fingerprinting and cookie capture were used to ensure the validity of respondents. Data quality checks were performed after soft launch of the Residential and Business surveys to confirm correct programming and ensure validity and quality.

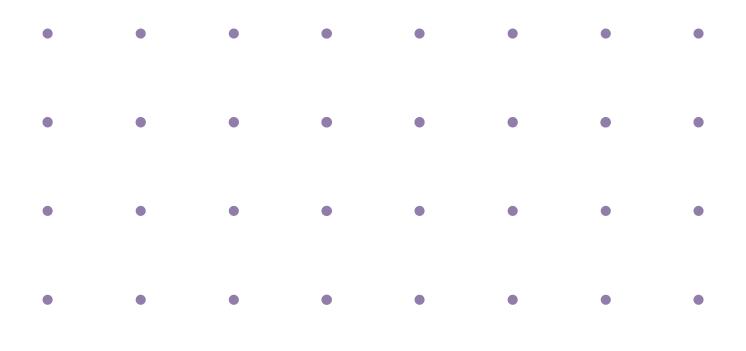
Post-recruitment, data was cleaned as per instructions from the AER and in keeping with the 2024 pilot wave. These were:

- Removal of incompletes
- Removal of fast responders (three-minute threshold)
- Removal of respondents identified as duplicate responses
- The AER has informed us that those failing an internal quality assurance question were also removed for analysis

#### 1.7. Quality assurance (QA)

Lonergan used a comprehensive set of quality control procedures for each stage and milestone. These procedures were:

- Regular reporting to the AER on each stage of questionnaire review and cognitive testing of the pilot, which remained unchanged in the main survey
- Regular confirmation on programming and final signoff of survey programming
- Regular progress meetings with AER
- Data and respondent validation pre-survey, at soft launch and post-fieldwork as outlined in section 1.6
- Our standard project management tools to ensure compliance with ISO20252:2019 guidelines and company policies.



# Section 02

# 2. Appendix

#### 2.1. Questionnaire Screenshots

#### 2.1.1. Residential Survey





Lonergan Research is carrying out a survey on behalf of the Australian Energy Regulator (AER), Australia's national energy regulator. The survey will be used by the AER to determine how much customers value reliable electricity supply. If you'd like more information on the AER's review of values of customer reliability, click on this link.

#### Why your view matters to us

Electricity interruptions can be costly, but 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 energy consumers.

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.

Please be assured of complete confidentiality. Lonergan Research is bound by the Research Society Code of Professional Behaviour and the Privacy Act.

During the survey, please do not use your browser's FORWARD and BACK buttons. Instead, please always use the "Next" button below to move forward through the survey.







What is the postcode where you live?

Please enter the 4-digit postcode below \*





Which of the following best describes your current employment status?

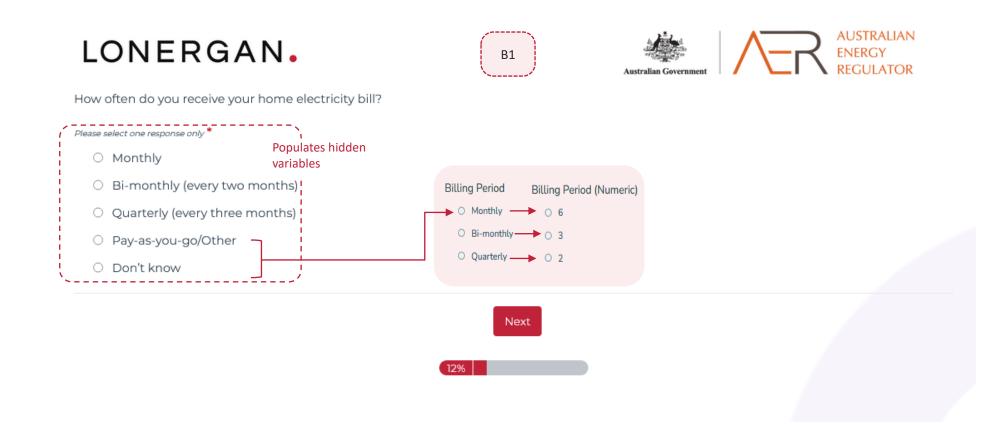
- Self-employed / business owner
- Employed full time
- Employed part time / casual
  Student
  Home duties (including maternity/paternity leave, full time carer)
  Retired
  Unemployed

  Next



Do you have any responsibility for paying or managing your business's electricity bill?

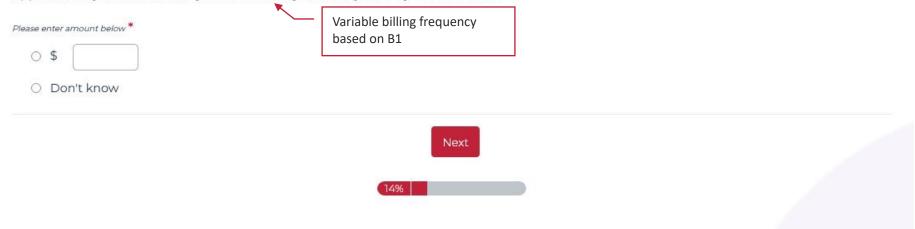








Approximately how much was your last Monthly electricity bill for your household?

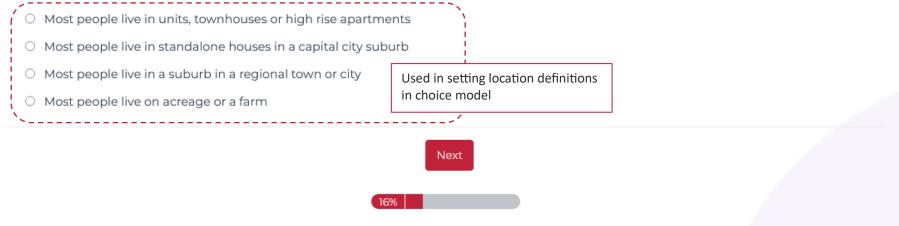






Which of the following best describes your local area?







Quality Control Flag



For our quality control, please only select "Disagree" to this question

- Strongly agree
- Agree
- Disagree
- Strongly disagree







Whenever we talk about a power outage in this survey, we mean an **unexpected failure** of the electric supply network **occurring on average once in every six month period**, which affects your household and areas nearby.

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.

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

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

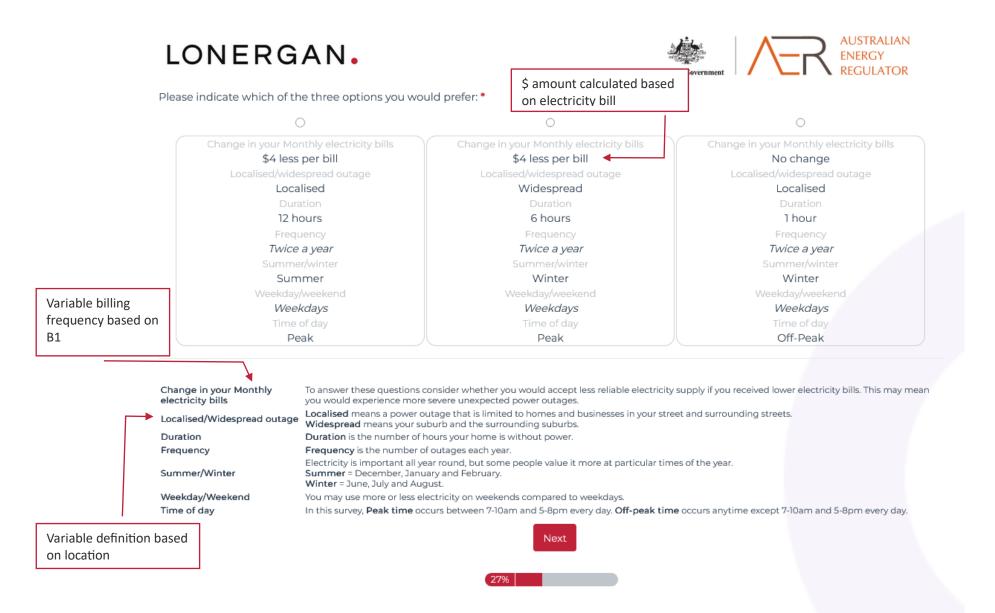
Note: Italicised text like this means this particular characteristic is the same in all three options.

Variable definition based on location

Variable billing frequency based on B1

Change in your Monthly 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 would experience more severe unexpected power outages.		
Localised/Widespread outage	Localised means a power outage that is limited to homes and businesses in your street and surrounding streets. Widespread means your suburb and the surrounding suburbs.		
Duration	Duration is the number of hours your home is without power.		
Frequency	Frequency is the number of outages each year.		
Summer/Winter	Electricity is important all year round, but some people value it more at particular times of the year. Summer = December, January and February. Winter = 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.		



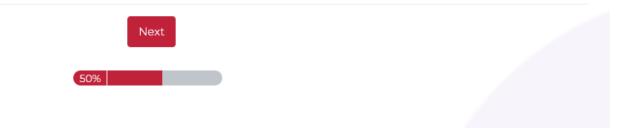




Many outages could mostly be avoided if the electricity network was improved. However, improvements would be funded by higher electricity bills.

To answer the following questions there is no 'right answer'.

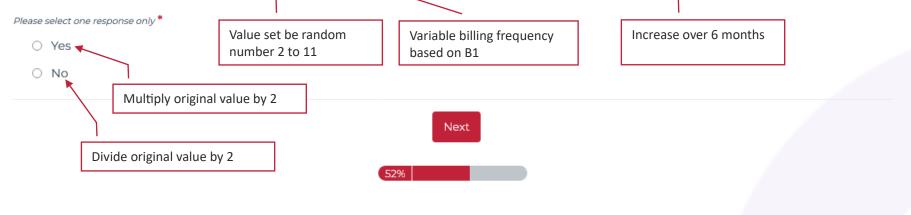
When considering your responses please take into account how much you value a reliable electricity network. You could consider, for example, the inconvenience of having to reset your clocks, not being able to watch TV or access the internet/wi-fi during an outage and interruption to other athome activities requiring electricity.







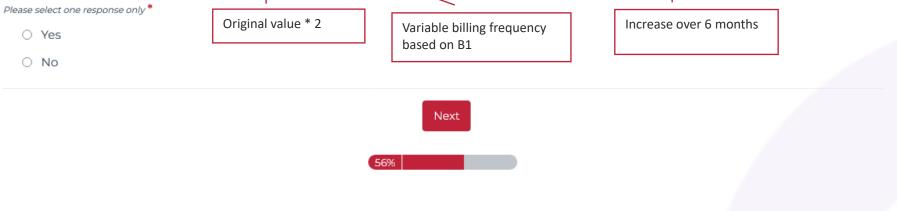
Would you be willing to pay an increase of \$9 in your Monthly electricity bills (over six months this is a total of \$54) to avoid both the power outages described in the above scenario?







Would you be willing to pay an increase of \$18 in your Monthly electricity bills (over six months this is a total of \$108) to avoid both the power outages described in the above scenario?







Would you be willing to pay an increase of \$4.5 in your Monthly electricity bills (over six months this is a total of \$27) to avoid both the power outages described in the above scenario?

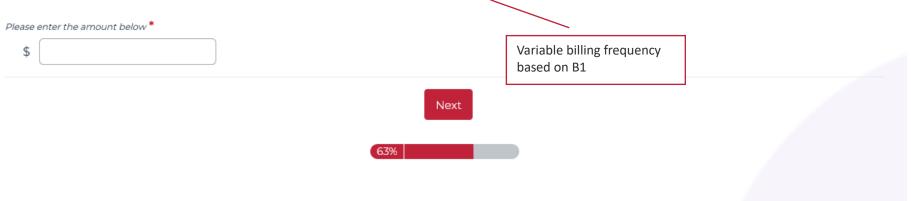
Please select one response only\*
Original value / 2
Variable billing frequency
based on B1
Increase over 6 months
No
Next

S8%





What is the maximum increase in \$ you would be willing to pay in your Monthly electricity bill to avoid both the power outages described in the above scenario?







How many people live in your household?

- Just me
- O 2-3 people
- More than 3 people

Next		
65%	1	





Does your home have a pool i.e. one not covered by strata or a body corporate?

Please select one response only\*

O Yes

O No





Does your home use mains gas?

Please select one response only \*

O Yes

O No

Unsure









Does your home have under-floor or slab heating?

- ⊖ Yes
- O No
- O Unsure

Nex	ĸt		
73%			



Do you speak a language other than English at home?

Please select one response only \*

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



77%

3233 AER Customer Value – Main Phase: Methodological Report



Which of the following apply to you now?

Please select all that apply \*

- □ Your house has rooftop solar panels
- □ You own/drive a fully electric vehicle (excludes hybrid vehicles and electric bikes/scooters)
- □ Your house has a battery (connected to your solar system or your electricity supply)
- □ 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 (please state how many days)

None of the above





\*

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

#### Please select all that apply \*

- □ Your house will have rooftop solar panels
- □ Your house will have a home automation system (controlling appliances and devices in your home over the internet)

□ You will work from home at least one day per week (please state how many days)

□ You will own/drive a fully electric vehicle (excludes hybrid vehicles and electric bikes/scooters)

- □ Your house will have a battery (connected to your solar system or your electricity supply)
- None of the above

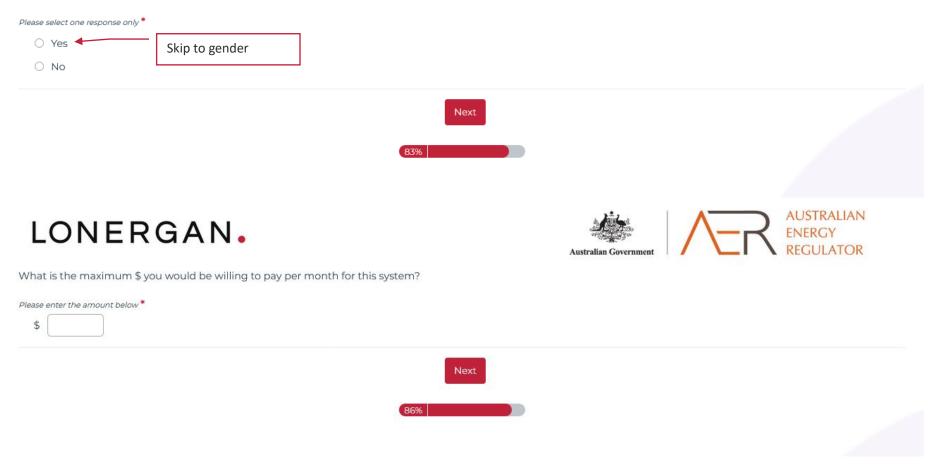


Asked of those responding with >\$32/month to earlier maximum willingness to pay question



Imagine a company could install a backup power system at your premises. The system will readily provide electricity at your premises for one hour if an outage occurs. The total cost of the system, including installation, would be \$32 per month.

Would you get the company to install the backup system at your premises at a cost of \$32 per month?







What is your gender?

- Female
- Male
- Prefer to self-describe (Please specify)
- Prefer not to say





How old are you?

Please select one response only \*

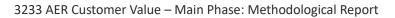
- O 17 years or less
- O 18-29 years

O 30-39 years

- O 50-59 years
- O 60-69 years
- $\bigcirc$  70 years or older
- Prefer not to say



92%





Which of the following best describes your current financial situation?

Please select one response only\*

- 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

Next





Thinking about your paying or managing your home electricity bill, do you have...?

- Sole responsibility
- O Shared responsibility (I know how much we pay each billing cycle)
- O Limited responsibility (I don't know how much we pay each cycle)
- No responsibility







We included the next questions on request from the Reliability Panel.

The Reliability Panel monitors, reviews and reports on the safety, security and reliability of the national electricity system. By responding to these questions, you will help the Reliability Panel make informed decisions.

Imagine that every winter, for one week, your home and local area were affected by a series of daily one-hour power outages.

What is the maximum increase, in \$ per month, you would be willing to pay in your electricity bill to avoid this series of outages?

Please enter the amount below *	
\$	
Next	
100%	





Imagine that this same series of outages, affecting your home and local area for a week in winter would occur just once in the next ten years.

What is the maximum increase, in \$ per month, you would be willing to pay in your electricity bill for the whole 10-year period to avoid this one week of power outages?

Please enter the amount below * \$		
	Next	
	100%	

### 2.1.2. Business Survey

### LONERGAN.



Lonergan Research is carrying out a survey on behalf of the Australian Energy Regulator (AER), Australia's national energy regulator. The survey will be used by the AER to determine how much customers value reliable electricity supply. If you'd like more information on the AER's review of values of customer reliability, click on this link.

#### Why your view matters to us

Electricity interruptions can be costly, but 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 energy consumers.

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.

Please be assured of complete confidentiality. Lonergan Research is bound by the Research Society Code of Professional Behaviour and the Privacy Act.

During the survey, please do not use your browser's FORWARD and BACK buttons. Instead, please always use the "Next" button below to move forward through the survey.



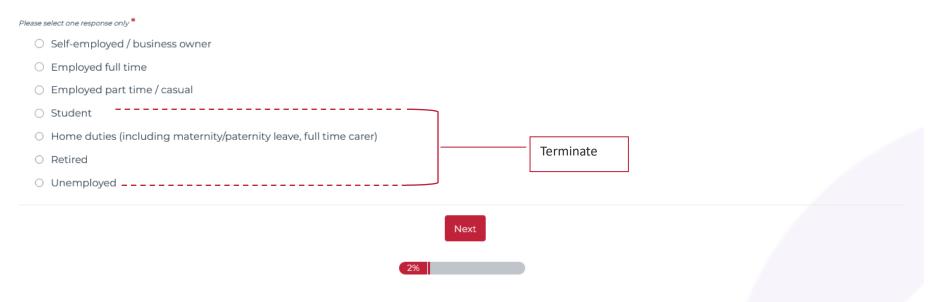
Link to

https://www.aer.gov.au/industry/registers/resources/reviews/values-customer-reliability-2024"



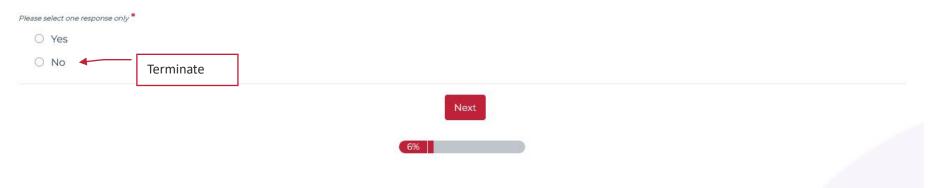


Which of the following best describes your current employment status?





Do you have any responsibility for paying or managing your business's electricity bill?







R

Which of the following categories best describes the business you work for?

If you'd like more information on the types of businesses that fit into these categories, this link will provide a detailed breakdown here

Please select one response only *	
<ul> <li>Agriculture, Forestry and Fishing</li> </ul>	Link to
O Mining	https://www.dcceew.gov.au/sites
O Manufacturing	/default/files/documents/anzsic-
<ul> <li>Electricity, Gas, Water and Waste Services</li> </ul>	code-hierarchy.pdf
O Construction	
O Wholesale trade	
O Retail Trade	
<ul> <li>Accommodation and Food Services</li> </ul>	
<ul> <li>Transport, Postal and Warehousing</li> </ul>	
O Information Media and Telecommunications	
O Financial and Insurance Services	
O Rental, Hiring and Real Estate Services	
<ul> <li>Professional, Scientific and Technical Services</li> </ul>	
<ul> <li>Administrative and Support Services</li> </ul>	
O Public Administration and Safety	
<ul> <li>Education and Training</li> </ul>	
<ul> <li>Health Care and Social Assistance</li> </ul>	
O Arts and Recreational Services	
O Other (Please specify)	
Next	





The questions in this survey are designed to be answered in relation to a single business site in Australia. Please exclude overseas business locations.

If your business has multiple locations within Australia, choose one location, and answer the questions in this survey in relation to this location only. Choose the location that you know the most about how much is spent on electricity or how much electricity is consumed. If you are familiar with electricity usage and costs at multiple locations, where possible pick the location that uses the **most** electricity.

To complete this survey you may need a copy of a recent electricity bill for the business location you have chosen to answer the survey about.

You will need to refer to the bill to answer some questions in this survey.

Whenever we refer to your business site in this survey, we mean the single business location you have chosen to answer for in this survey.







Describe the nature of your business site (for example, is it a head office, manufacturing site, farm site?)

Please be as specific as possible \*

	Next	
16%		







To answer the following questions you may want to refer to your electricity bill.

How often does your business receive an electricity bill?

If you are on pay as you go, please select the frequency which most closely matches how often you would usually recharge your pay as you go account.







Approximately how much was the last Monthly electricity bill for your business? If you are on pay as you go, please estimate how much you spent over the most recent Monthly period. Please enter amount below \*

Please enter amount below \*

Terminates if <= 0
Used for % increase in choice model

Next
22%





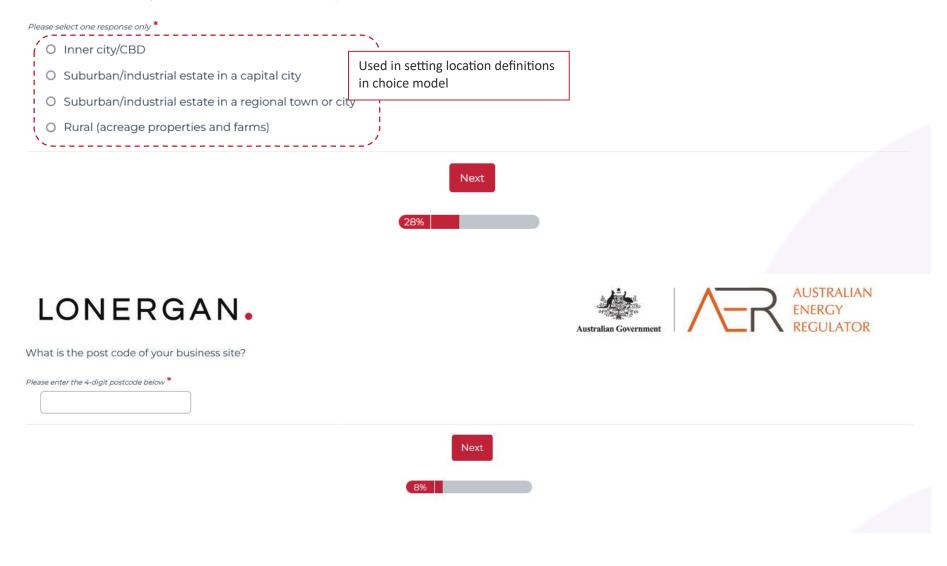
How much electricity did your business site consume for the Monthly period covered by your most recent electricity bill?







Which of the following best describes the local area of your business site?





How many employees work at your business site?

Please select one response only \*

	$\sim$	1	۰.
- 1	$\cup$	L	J
	-	_	

- O 1-10
- O 11-20
- 0 21-100
- 0 101-200
- O More than 200







Does your bill cover your business and residential electricity usage?

Please select one response only \*

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

Next	
34%	





### Power outage description:

Whenever we talk about a power outage in this survey, we mean an unexpected failure of the electricity supply network which affects your business site and areas nearby.

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

Please select one response only \*

0 0		
0 1		
0 2		
0 3		
0 4		
O 5		
0 6		
O More than 6 times		
	Next	
	750	
	36%	



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 that may apply to your business site.

#### Please select all that apply \*

- □ Additional time and labour to check activities/restart systems
- Overtime wages incurred
- $\Box$  Loss of work from paid staff
- Damage to processes and equipment
- Lost production
- □ Downtime from expensive equipment kept idle
- □ Additional time and labour beyond usual duties in response to power outage
- □ Lost revenues from fewer sales
- Loss of livestock
- Dissatisfied customers
- □ Spoilage or loss of perishable goods
- Other (Please specify)
- None of the above

.

Next





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

42%

Please select one response only *		
O Yes (Please elaborate)		
O No		
	Next	





Is there a particular month or season in the year that is worse for you to experience a power outage at your business site?

Please select one response only *		
O Yes (Please elaborate)		
O No		
	Next	

46%



Quality Control Flag



For our quality control, please only select "Disagree" to this question

Please select one response only \*

□ Strongly agree

□ Agree

Disagree

□ Strongly disagree

	Nex	t
48%		





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.

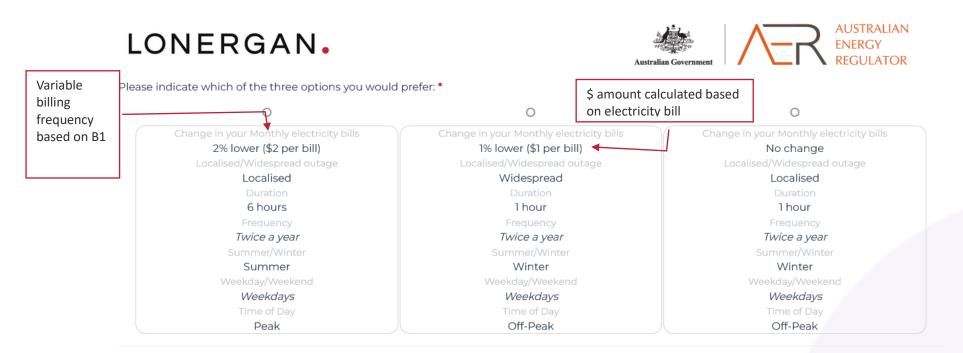
To answer these questions consider whether you would accept less reliable electricity supply if you received lower electricity bills. This may mean you would experience more severe unexpected power outages.

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

Variable definition based on location

Variable billing	Definitions for the terms used in	n the question are included below.	on location
frequency based on B1	Change in your Monthly electricity bill	To answer these questions consider whether you would accept less reliable electricity supply if you received lower electricity bills. This may me experience more severe unexpected power outages.	ean you would
	Localised/Widespread outage	Localised means a power outage that is limited to homes and businesses in your street and surrounding streets. Widespread means your suburb and the surrounding suburbs.	
	Duration	Duration is the number of hours your business is without power.	
	Frequency	Frequency is the number of outages each year.	
	Summer/Winter	Electricity is important all year round, but some people value it more at particular times of the year. Summer = December, January and February. Winter = June, July and August.	
	Weekday/Weekend	You may use more or less electricity on weekends compared to weekdays.	
	Time of day	In this survey, Peak time occurs between 7-10am and 5-8pm every day. Off-peak time occurs anytime except 7-10am and 5-8pm every day.	





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





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

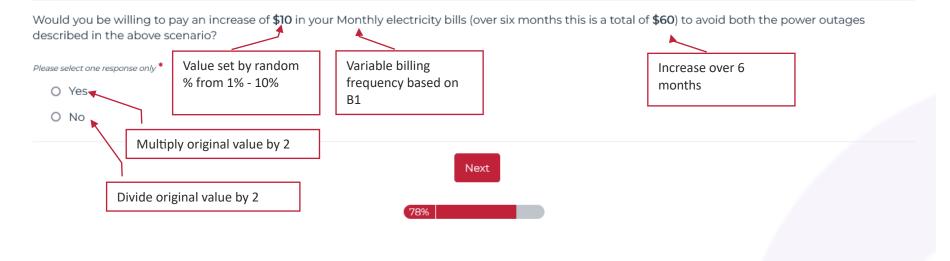
To answer the following question there is no 'right answer'.

When considering your response please take into account how much you value a reliable electricity network for your business. You could also consider losses you may incur during a power outage.

Next		
76%		

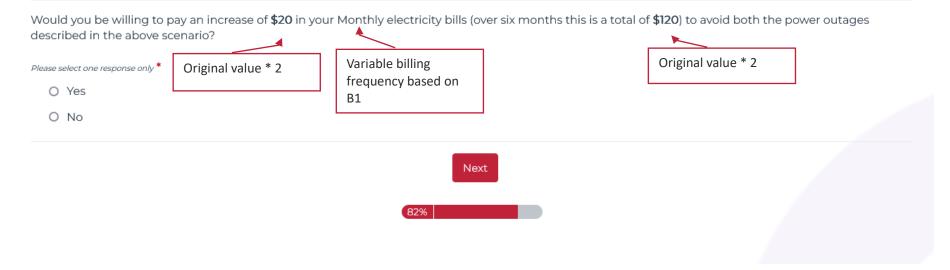






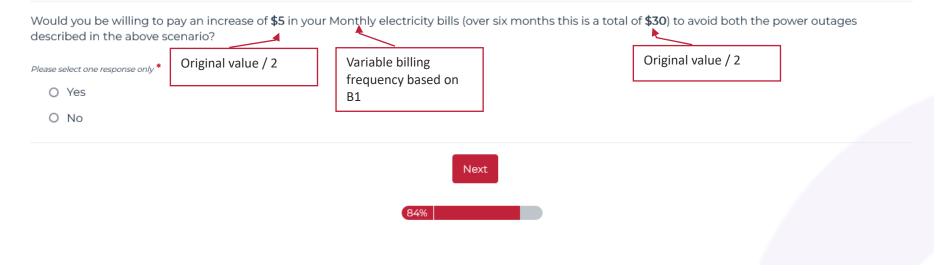








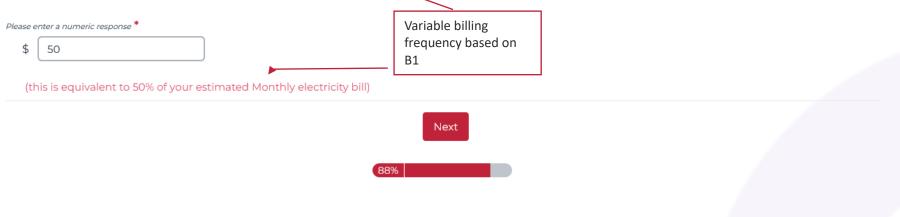








What is the maximum increase in \$ you would be willing to pay in your Monthly electricity bill to avoid both the power outages described in the above scenario?





The following section asks general questions relating to your business which will help us better understand your responses in this survey. Please answer these questions if they are applicable to your business.

Does your business use monitoring devices to indicate energy performance and usage?

- Please select all that apply \*
  - □ Appliance consumption gauge
  - □ Smart meters
  - □ Other energy monitoring devices
  - Don't know/Prefer not to answer









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

Please select one response only \*



Please estimate how long these back-up options can supply your business's energy needs for.

Please	enter th	e amount	oftime	below *

Hours	
Minutes	
Next	
92%	





We included the next questions on request from the Reliability Panel.

The Reliability Panel monitors, reviews and reports on the safety, security and reliability of the national electricity system. By responding to these questions, you will help the Reliability Panel make informed decisions.

Imagine that every winter, for one week, your business and local area were affected by a series of daily one-hour power outages.

What is the maximum increase, in \$ per month, you would be willing to pay in your electricity bill to avoid this series of outages?







Imagine that this same series of outages, affecting your business and local area for a week in winter would occur just once in the next ten years.

What is the maximum increase, in \$ per month, you would be willing to pay in your electricity bill for the whole 10-year period to avoid this one week of power outages?

Please enter the amount below  $^{st}$ 



