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Dear Stephanie

## **Submission re: AER Revised Draft Determination – Value of Customer Reliability (VCR)**

AusNet welcomes the AER's decision to extend the VCR consultation process and offer market participants the opportunity to meaningfully engage with the process. In this submission AusNet:

1. Welcomes the AER's interest in ensuring that the VCR calculation method, and resulting values, are fit for purpose as we move through the energy transition.
2. Highlights the value in calculating unserved energy profiles using a larger sample size to better reflect actual energy usage .
3. Suggests there may be value in aggregating residential customers on a network basis, rather than by climate zone and remoteness level, given this more closely aligns to how the VCR is applied by networks in practice.

The above views are informed by;

- AusNet's recent large-scale Quantifying Customer Value's (QCV) study, which involved 3,527 of our residential and small business customers;
- The results of a direct cost survey of 484 customers who experienced prolonged outages (>12 hours) during November and December 2023;
- Our extensive Electricity Distribution Price Review and BAU customer and research engagement programs, and;
- Input from AusNet's EDPR Availability Panel, set up to engage on our reliability and resilience plans for the next regulatory period. This comprises a mix of customer advocates and regional AusNet customers.

**Given the rate of change driven by the energy transition, it's important the survey questions capture changing priorities. Equally important is framing these questions in a manner that reflects the changing role of electricity.**

Direct cost research conducted by AusNet in the aftermath of prolonged outages experienced by our customers in November 2023 showed a dramatic difference between costs incurred by residential customers with and without a gas supply (\$63/hr vs. \$30/hr, on average). This was mainly driven by customers without access to gas for cooking needing to purchase all their meals outside the home.

Although the VCR only considers outages up to twelve hours, AusNet believes this difference is likely to apply for these 'standard outages', and as such single fuel and dual fuel customers are likely to attach different values to avoiding these outages. While the current survey asks customers if their home uses mains gas, we would suggest adding 'access to gas' to the list of questions on slides 20 and 21<sup>1</sup> to capture customers who may use bottled gas for heating/cooking and those who plan to abolish their connection.

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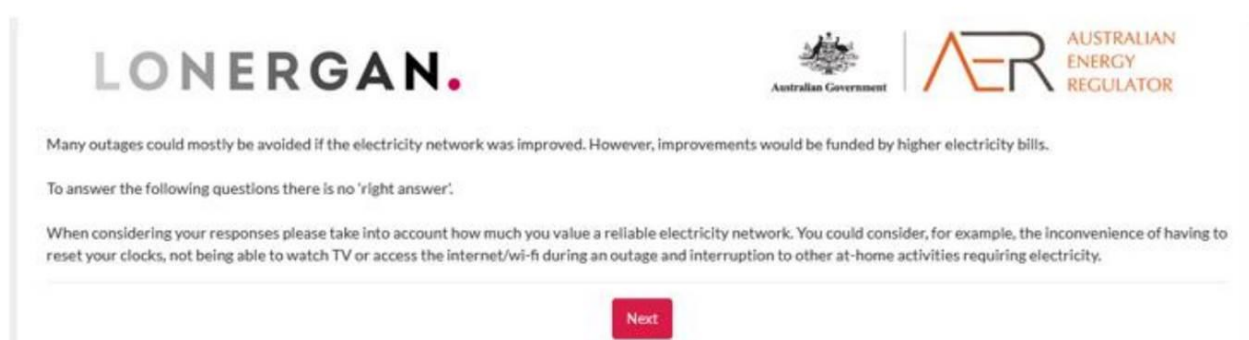
<sup>1</sup> [2024-06-05 Appendix A to revised draft determination - 2024 pilot questionnaires 0.pdf \(aer.gov.au\)](#)

We would also suggest removing the questions on slides 16 – 18 and instead using actual consumption to quantify unserved energy, which we will discuss later in this submission.

As recognised by these demographic/contextual questions, reliance on electricity is a key driver of a residential customer's willingness-to-pay (WTP) to avoid an outage. This should also be reflected in the survey framing and prompts. For example, slide 10 (shown below) prompts customers to think about the inconvenience of resetting their clocks when answering the survey, instead they could be primed to consider the inconvenience of being unable to use electricity for cooking, cooling/heating, being unable to charge mobile devices and in rural locations, not having access to mobile phone services at all. Framing the prompt in this way reflects the ever-increasing role of electricity in many residential customers' lives and encourages them to think about the true cost of the outage to them.

**Attachment A to revised draft determination**  
2024 pilot questionnaires for residential and business customers

2024 VCR review



Source: 2024 AER VCR Pilot Questionnaire

## Suggestions to Improve Response Rate

While the right framing and prompting is necessary to ensure respondents are answering questions as intended, it can also help increase response rates. From AusNet's own research activities, we have observed that sending a link to the survey directly from AusNet (rather than via a research provider) increases the survey response rate. Given the prevalence of cyber phishing texts/emails today, links to a survey coming from a trusted source eases potential respondents' fears that they may be clicking into a nefarious website.

Contacting large businesses directly with the survey link may help increase response rates. If this is not possible given privacy concerns etc. it may be helpful for the AER to contact businesses in advance, so when they receive the survey invitation, they can be sure it is genuine. Additionally, The Research Society has published a number of articles on engaging hard to reach cohorts and the appropriate incentives for long duration studies, which the AER may also review and consider reflecting in their study design<sup>2</sup>

## As reliance on electricity is a key driver in WTP to avoid an outage, the annual adjustment mechanism should reflect this.

While AusNet believes it is appropriate to update VCR values within the period to reflect CPI, this may not reflect the total change in value within the period. As mentioned previously, residential customers with gas/without gas experience very different costs during outages. As the energy transition progresses, we imagine a similar divergence will emerge between EV/ICE customers and customers who can island during an outage versus those who are solely reliant on the grid.

We suggest single/dual fuel, EV/ICE and islanding/non-islanding residential customers should be treated as different customer classes. If it isn't possible to do a full WTP exercise for these customer types at the current sample size, the AER could develop an escalator for single fuel customers and EV owners and a descender for

<sup>2</sup> [Luminate \(researchsociety.com.au\)](https://researchsociety.com.au)

islanding customers from the contingent valuation section. These could then be applied to the choice model values based on penetration (like what is done for the unserved energy calculation). Networks could then proportion their customer base into these customer classes using gas penetration rates, EV ownership etc. using the same data sources and assumptions used to forecast maximum demand.

As the composition of single fuel v dual fuel, EV v ICE and islanding v non-islanding customers change within the period, networks can reflect this in their business case cost benefit assessments.

While we believe it would be technically possible and statistically valid to this using an escalator constructed from the contingent valuation section of the study, it would be best practice to conduct a full WTP exercise for these different customer classes. As such we would suggest surveying a larger sample size. This would allow the AER to better isolate the drivers of WTP, which may reduce the need to conduct more frequent surveys.

### AusNet believes network service level data would be better placed to calculate unserved energy

In order to translate residential WTP responses to a \$/kWh value, the current VCR approach relies on constructed unserved energy profiles of a 2.6 person household for each climate zone<sup>3</sup>. The base annual energy consumption for these profiles was formed using the 2 and 3 person household annual consumptions reported in the 2017 Energy Consumption Benchmarks Report<sup>4</sup>. These annual consumption amounts were then adjusted by calculating a 'solar factor' for each state and adjusting the relevant segment for the proportion of households in the climate zone that have gas, swimming pools, and slab heating<sup>5</sup>. These proportions were also estimated using the same Energy Consumption Benchmarks Report. These annual profiles were then adjusted based on a sample of 30-minute interval data, previously collected by the AER<sup>6</sup>

AusNet notes the relatively small sample size of households used to calculate these unserved energy profiles.

TABLE 3.3 BREAKDOWN OF SAMPLE BY CLIMATE ZONE AND HOUSEHOLD SIZE

| Household size                      | Climate zone one | Climate zone two | Climate zone three | Climate zone four | Climate zone five | Climate zone six | Climate zone seven and eight | Total       |
|-------------------------------------|------------------|------------------|--------------------|-------------------|-------------------|------------------|------------------------------|-------------|
| <b>Electricity sample (excl SA)</b> |                  |                  |                    |                   |                   |                  |                              |             |
| <b>Number of respondents</b>        |                  |                  |                    |                   |                   |                  |                              |             |
| 1 Person Household                  | 40               | 275              | 6                  | 73                | 266               | 513              | 194                          | 1367        |
| 2 Person Household                  | 79               | 579              | 14                 | 141               | 522               | 1136             | 411                          | 2882        |
| 3 Person Household                  | 44               | 299              | 9                  | 56                | 221               | 594              | 165                          | 1388        |
| 4 Person Household                  | 28               | 212              | 5                  | 37                | 198               | 473              | 128                          | 1081        |
| 5+ Person Household                 | 30               | 157              | 1                  | 32                | 122               | 328              | 89                           | 759         |
| <b>Total (excl. SA)</b>             | <b>221</b>       | <b>1522</b>      | <b>35</b>          | <b>339</b>        | <b>1329</b>       | <b>3044</b>      | <b>987</b>                   | <b>7477</b> |
| <b>Gas sample (excl SA)</b>         |                  |                  |                    |                   |                   |                  |                              |             |

Source: Acil Allen 2017 Energy Consumptions Benchmark Report

When we compared the annual consumption data gathered for our QCV study with the profiles used to calculate the VCR, we found the profiles did not reflect our customers' consumption. This may be due to a non-homogenous distribution of household size throughout the country, non-homogenous solar penetration through the state or a non-homogenous distribution of gas, swimming pools and slab heating throughout the relevant climate zone.

We suggest the AER use a larger dataset to develop the value of unserved energy for residential customers. The use of actual consumption data (e.g., NMI meter data) would allow for the development of network specific usage profiles and remove the need to derive consumption profiles from other data sources (e.g., other survey

<sup>3</sup> One energy profile was used for all remoteness segments within each climate zone.

<sup>4</sup> [Acil Allen Report \(aer.gov.au\)](https://www.aer.gov.au)

<sup>5</sup> We note that these metrics were not included in the most recent consumption benchmarks constructed by Frontier Economics for the AER.

<sup>6</sup> Sample size was not provided

data). It also removes the need to make assumptions around household size, and the penetration of swimming pools etc. across the area.

This would also avoid the lag between the WTP survey, and the calculation of unserved energy used to weight responses. As an example, the most recent energy consumption benchmarks, produced for the AER uses energy consumption for calendar year 2019<sup>7</sup>. Given increasing electrification, it may not be reasonable to assume this would reflect the energy consumption respondents are considering when answering the WTP survey in 2024.

If the AER continues to pursue the current method of constructing a profile for average energy consumption from consumption benchmarks, we recommend the AER calculate the average household on a more granular level than nationally e.g. each VCR area should have a specific average household size to better reflect the non-homogenous population distribution throughout Australia.

**We consider the derivation of Residential VCRs on a more granular basis than climate zones (such as network service areas) should be considered, to ensure differences in the reliability customers currently experience and key demographics (e.g., proportions of solar PV and gas use, socioeconomic factors) are adequately accounted for and to ensure that the preferences of customers are accurately reflected in network planning**

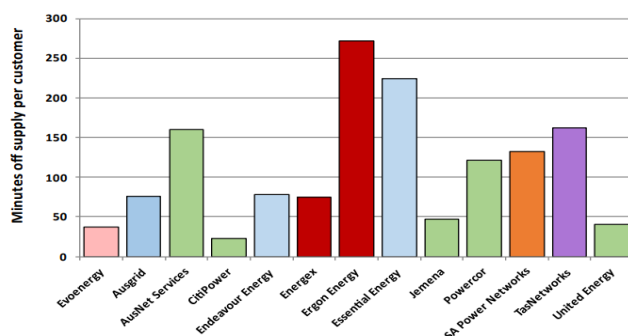
While AusNet does not doubt the AER's assertion that customers in the same climate/remoteness zone tend to have similar levels of WTP to avoid an outage, they do not experience the same outage frequency or pattern.

Collating outage probabilities at a climate/remoteness level may dilute some customers' experience of particular outage types and the value they place on avoiding them. Conversely, it may also increase the VCR paid by customers who currently experience shorter outages to a level beyond what they would consider to be efficient.

As network reliability is heavily influenced by intrinsic network characteristics such as the age and condition of the network's asset base, legacy network configuration and design, average line and feeder length, vegetation and terrains AusNet suggests the AER should consider calculating VCR's on a per network basis.

As an example, AusNet's network covers five climate/remoteness zones. In some instances, one feeder which covers multiple postcodes is included in calculations for all five climate zones. This means that these customers, although facing a very similar outage pattern, are assigned dramatically different outage probability profiles because their outage experiences are calculated using customer data from across the NEM.

The majority of our network falls within Climate Zone 6 – Regional (CZ6 Regional) segment. This segment also covers parts of the Ausgrid, Essential Energy, Endeavour Energy and Powercor networks, among others. Based on the AER's 2023 benchmarking report<sup>8</sup>, customers connected to each of these networks experience a significantly different frequency and/or length of outages.



Source: AER's 2023 Annual Benchmarking Report – Distribution Network Service Providers

<sup>7</sup> Residential energy consumption benchmarks - 9 December 2020 0.pdf (aer.gov.au)

<sup>8</sup> Report template (aer.gov.au)

This leads to the current VCR segmentation approach applying a dramatically different outage profile than customers' actual experience.

This potential dilution of VCRs caused by grouping customers with various outage probabilities was highlighted by AusNet's recent Quantifying Customer Values Research. When our customers' survey responses were weighted by unserved energy calculated using actual data and our network's actual outage probabilities, the resulting VCR value was over double the AER's current Victorian Residential VCR (\$53.40/kWh v \$25.10/kWh).

TasNetworks also observed a similar trend between the 2014 and 2019 VCR<sup>9</sup>. The 2014 residential VCR was calculated by AEMO on a state-wide basis. As TasNetworks is the only electricity distributor in Tasmania, in their case this was effectively a network level VCR. This resulted in a VCR of \$30.78/KWH, the highest of all the states. However, when bundled into a climate and remoteness zone TasNetworks' 2019 VCR fell to \$16.96/KWH, highlighting the diluting effect of aggregating customers at a climate and remoteness zone level.

From an economic efficiency perspective, network level VCRs have the added benefit of only reflecting the preferences of customers who, given postage stamp pricing, will ultimately pay for the investments the values are used to justify. This reduces the risk of networks over or under investing in reliability improvements beyond or below what their customers think is efficient given their specific affordability concerns and outage probabilities.

There are significant limitations to the use of highly averaged measures – such as the VCR and STPIS performance measures – to plan and incentivise reliability investments. Addressing these limitations warrants careful consideration to improve equity through the transition and ensure all customers, particularly regional customers, can benefit from electrification.

If you have any questions regarding this submission, please feel free to contact Robert Ball , Price Review Manager (Robert.ball@ausnetservices.com.au).

Sincerely,



Charlotte Eddy  
GM Regulation & Policy (Distribution)  
**AusNet Services**

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<sup>9</sup> [2024-04-23 TasNetworks - submission on draft determination - VCR.pdf \(aer.gov.au\)](#)