Powercor
AUSTRALIA

AUGMENTATION

REGIONAL AND RURAL EQUITY

PAL RRP BUS 3.3.02 – PUBLIC
2026–31 REVISED PROPOSAL

Table of contents

1. Overview

Our regulatory proposal included expenditure to improve regional and rural supply equity, consisting of SWER to three phase upgrades, a worst served customer program and the installation of stand-alone power systems (SAPS).

The AER draft decision did not accept our proposed capital expenditure and instead included a materially lower substitute estimate. Specifically, the AER's substitute estimate allowed:

- five SWER line upgrades, compared to our proposed 44 SWER line upgrades
- two feeder-tie upgrades, compared to our proposed four new feeder-ties
- half of our proposed 17 SAPS as a smaller pilot trial.

Individually and collectively, we consider the AER's draft decision is not consistent with the breadth and depth of stakeholder support for this program, which includes explicit support from non-rural customers that would not benefit from these investments.

Our revised forecasts, therefore, re-proposes our full SWER upgrades and feeder-tie programs. We have, however, accepted the AER's draft decision regarding SAPS.

This business case addendum sets out our response to the AER's draft decision and describes the further work we have undertaken since our regulatory proposal. It should be read in conjunction with the following documents:

- our original proposal business case (PAL BUS 3.09)
- our revised regional and rural SWER upgrades model (PAL RRP MOD 3.3.02)
- our revised worst served customer models (PAL RRP MOD 3.3.03 and PAL RRP MOD 3.04).

Our revised expenditure forecast for regional and rural equity is presented in table 1 below.

TABLE 1 REVISED PROPOSAL: REGIONAL AND RURAL EQUITY ($M, 2026)

CAPITAL EXPENDITURE	REGULATORY PROPOSAL	DRAFT DECISION	REVISED PROPOSAL
Regional and rural supply	63.1	6.1	62.7
Worst served customer program	14.7	6.7	14.6
Stand-alone power systems	3.7	1.9	1.9
Total	**81.5**	**14.6**	**79.2**

2. Background

This section summarises our proposal to improve reliability, capacity and power quality for regional and rural communities. We consider that ensuring our network is fit-for-purpose in an electrified future, so these communities are not left behind in the energy transition, is core to our responsibility as a modern network service provider.

This section also summarises the AER's draft decision.

2.1 Our regulatory proposal

Over 28,000 regional and rural customers are supplied by single wire earth return (SWER) line networks that we operate and maintain. SWER networks have limited capacity and typically relatively low reliability and power quality compared to urban networks, reducing the ability of regional and rural communities to electrify and participate in the energy transition.

Customers at our community engagement events consistently emphasised that improving reliability, capacity and power quality is critical to the survival and growth of regional and rural communities. Addressing these issues was perceived as critical to prevent regional and rural communities from falling further behind urban communities.

Our proposal would improve the ability of regional and rural customers to participate in the energy transition through a targeted investment program that adds additional capacity for customers currently serviced by SWER networks. The upgrade program would include 606km of SWER to three-phase upgrades across 44 separate SWER networks and benefit 1,310 customers.

Additionally, we proposed to install an additional four HV feeder tie-lines to provide alternative supply pathways (for customers experiencing measurably poorer reliability) and commence the roll-out of 17 SAPS. These initiatives were also underpinned by strong customer and stakeholder support, noting the energy vulnerability of these customers will grow rapidly through the energy transition.

2.2 AER draft decision

The draft decision did not accept our proposed capital expenditure and instead allowed a materially lower substitute estimate. The AER's substitute estimate included five SWER line upgrades and two feeder-tie projects, which they found had a positive customer benefit. The alternative estimate for SAPS allows for a smaller pilot program.

In making its draft decision on SWER upgrades, the AER had regard to the review of its technical consultant, EMCa, who found:

- using the VCR to quantify the benefits of reducing energy at risk for customers experiencing undervoltage overestimates the net economic benefit, with EMCa recommending the AER reduce the VCR to 10 per cent
- our cost estimate includes a 1.5x base cost multiplier for sites in high bushfire risk areas, and we did not provide sufficient justification for the inclusion of this cost uplift factor nor enough information to determine that its application was reasonable
- our approach of using annualised capital expenditure with an economic life that is longer than the analysis period underestimates the present value of capital expenditure and therefore overestimates the NPV.

In making its draft decision on our worst served program, the AER concurred with initial findings from EMCa and:

- removed the worst served customer and VNR values as it did not consider these appropriate to be added on top of the VCR
- updating our modelling to incorporate 2024 VCR values (which were not available at the time of our regulatory proposal)
- removed a system average interruption frequency index (SAIFI) reduction benefit in our cost-benefit analysis model. EMCa recommended the SAIFI benefits be set to zero as they do not consider the SAIFI improvement from the proposed solutions is adequately justified
- amended an error that saw the timing of the benefits start prior to the project's completion.

Based on these changes, the AER determined that only two of our four worst served projects were economic to undertake.

3. Our revised proposal

Our revised proposal maintains our original investment forecasts for SWER upgrades and worst-served customers, as we consider these best meet the needs of our regional and rural customers. However, we have accepted the AER's draft decision for SAPS.

Our revised proposal is informed by an increasing body of evidence that demonstrates a collective willingness to pay for regional and rural equity outcomes, including from urban customers who would not benefit from these projects. We discuss this stakeholder engagement below.

We also respond separately to the AER's reasons, as set out in its draft decision, for not accepting our original proposal in full.

A summary of our revised proposal for regional and rural equity is shown below in table 2.

TABLE 2 REVISED REGIONAL AND RURAL EQUITY PROPOSAL ($M, 2026)

CAPITAL EXPENDITURE	FY27	FY28	FY29	FY30	FY31	TOTAL
Regional and rural supply	10.6	7.3	12.6	15.5	16.7	62.7
Worst served customer program	0.8	5.8	5.8	2.1	-	14.6
Stand-alone power systems	-	0.4	0.4	0.4	0.7	1.9
Total	**11.5**	**13.5**	**18.8**	**18.0**	**17.4**	**79.2**

3.1 Stakeholder engagement

The AER acknowledged the engagement we have undertaken with our rural stakeholders in developing our regional and rural reliability program. However, the AER state that 'although this project was broadly supported by Powercor's stakeholders, community support is not the sole factor in determining whether a project is prudent and efficient'.[1]

The AER goes on to say that these projects are to improve reliability, so they must assess the costs and benefits of these projects in line with the capital expenditure objective. Specifically, 'that the proposal must include forecast capital expenditure that is required, to the extent there is no applicable regulatory obligation or requirement in relation to reliability, that maintains current reliability and security of the distribution system'.[2]

We accept this proposition, though note that our regional and rural equity proposals were all grounded in economic analysis, with defined customer values used to assign a dollar value to the corresponding benefits.

More broadly, we also consider the AER's framing represents a narrow application of the capital expenditure objectives that challenges the ongoing role of engagement. That is, if the expressed views of customers are always secondary factors below the AER's assessment of prudency and efficiency, it

1 AER, Draft decision, Powercor electricity distribution determination 1 July 2026 – 30 June 2031, Attachment 2 - capital expenditure, p. 42

2 AER, Draft decision, Powercor electricity distribution determination 1 July 2026 – 30 June 2031, Attachment 2 - capital expenditure, p. 42

is likely that regulatory decisions will undervalue some customer outcomes (such as in the increasing range of areas where prudency and efficiency assessments are more subjective).

At the AER's predetermination conference, customer representatives and stakeholders shared that it was challenging for them to see how the AER had given material weight to customer feedback in arriving at their decision. Without clear consideration of direct customer feedback, forum attendees questioned the treatment of stakeholder engagement under the regulatory framework and noted that it sends the wrong signal to customers and distributors about the purpose of stakeholder engagement and its ability to influence regulatory outcomes.

3.1.1 Overview of our engagement journey

Our engagement with regional and rural customers began over six years ago, where we heard that electricity distribution infrastructure supported industries and communities that make significant contributions to Victoria's economy, but that insufficient capacity was hindering the growth of regional economies.

Our proposed investment program to upgrade regional and rural infrastructure in the 2021–26 regulatory proposal, however, was rejected by the AER on the basis that the benefits were focused on specific customers but costs would be socialised across all customers.[3]

Since that time, we have continued to engage with our regional and rural customers to build a fit-for-purpose investment program across the 2026–31 regulatory period. By and large, the predominant message we have heard from regional and rural customers is that the need for distribution infrastructure upgrades has grown significantly.[4]

This fit-for-purpose investment program acknowledges that regional and rural customers feel increasingly left behind by the energy transition and are not able to take advantage of the economic, environmental and community benefits of electrification because limited capacity in the distribution network is hindering their ability to electrify. This was the case in 2019 and is an even more important customer issue in 2025.

Through our 2021–26 regulatory proposal engagement (in 2019), our 'broad and wide' engagement (2021), 'deep and narrow' program (2022–23), and 'test and validate' phase (2024), the message could not have been clearer. Customers consistently and emphatically told us that the electricity network that supports their local communities was insufficient to support their growing electrification needs, and that they supported investment to improve capacity on SWER lines.

We tested the scale of this draft investment program ($45m) in our draft proposal, but customers viewed this as not sufficient or ambitious enough to materially address the needs of the region. Driven by our customers, we increased our investment in the regulatory proposal ($63m), which was supported at our trade-off forums and Bendigo regional and rural summit, though customers again suggested we should be bolder.

3.1.2 Willingness to pay study (2025)

In the engagement leading to the development of our regulatory proposal, we had not explicitly tested whether urban customers were prepared to pay for regional and rural upgrades that would not benefit them. Rather, we had mostly tested support for our program more generally.

To address this gap, we undertook a direct willingness to pay study where we asked customers whether they were prepared to pay for our SWER to three-phase upgrade program. The benefits of

---

3 AER, draft determination: attachment 5: capital expenditure | Draft decision – Powercor 2021–26, page 64

4 For example, the Victorian and Federal governments have legislated emissions reduction targets to achieve net-zero by 2045 and 2050 respectively, supported by policies and subsidies that encourage Victorians to electrify and reduce their emissions. Emissions reduction was also included in the National Electricity Objective alongside price, quality and security of supply

the program were clearly described to customers and the actual bill impact on customers in dollar-terms was calculated and communicated. Our engagement importantly tested the willingness to pay of urban customers, in addition to our large volume of evidence from regional and rural customers.

The benefits were presented in terms of the number of customers who would benefit and the length of SWER lines upgraded, with actual bill impacts presented to customers. The bill impacts presented to customers are summarised below in table 3.

TABLE 3 BILL IMPACTS FROM CUSTOMER ENGAGEMENT

OPTION	CAPITAL EXPENDITURE	BILL IMPACT RESIDENTIAL	BILL IMPACT BUSINESS	BILL IMPACT C&I
Regulatory proposal	$63m	$1.47	$3.56	Actual bill impact
Expanded program	$90m	$2.09	$3.56	Actual bill impact

The vast majority of customers, across different cohorts, consistently supported our proposed program, or more:[5]

- 72 per cent of residential and 70 per cent of small and medium business customers were willing to pay for the proposed investment program in our regulatory proposal of $63m
- 69 per cent of residential and 63 per cent of small and medium business customers were willing to pay for an expanded investment program of $90m
- 71 per cent of residential customers in greater Melbourne and 73 per cent of residential customers in regional Victoria supported our regulatory proposal investment program
- 78 per cent of small and medium business customers in greater Melbourne and 63 per cent of small and medium business customers in regional Victoria supported our regulatory proposal

We also asked customers if they supported maintaining the status quo of their current electricity supply. Less than half of residential and small and medium business customers were happy to maintain the status quo.

A threshold reason for the AER's rejection of our 2021–26 regional and rural upgrades program was because the costs of regional and rural upgrades were socialised and the AER did not think that all Powercor customers should pay for this project. The vast majority of our customers though, including those that will not benefit, are willing to pay for our proposed program of SWER to three phase upgrades. In addition, most customers believe we haven't gone far enough and are willing to pay for an expanded investment program.

3.1.3 Electrification of agriculture (2025)

The electrification of the agriculture industry represents one of the largest potential opportunities to decarbonise our economy because of its reliance on energy-intensive processes. We sought to understand both the future plans of our agricultural commercial and industrial customers and their willingness to pay for our SWER to three phase upgrade program.

Specifically, we conducted detailed interviews with 16 commercial and industrial customers, visiting their farms and operations, and supported through online discussions. Similar to our residential and

[5] Quantum Market Research, Powercor Willingness to Pay Research and Engagement, Sep 2025, pp. 10, 18-30

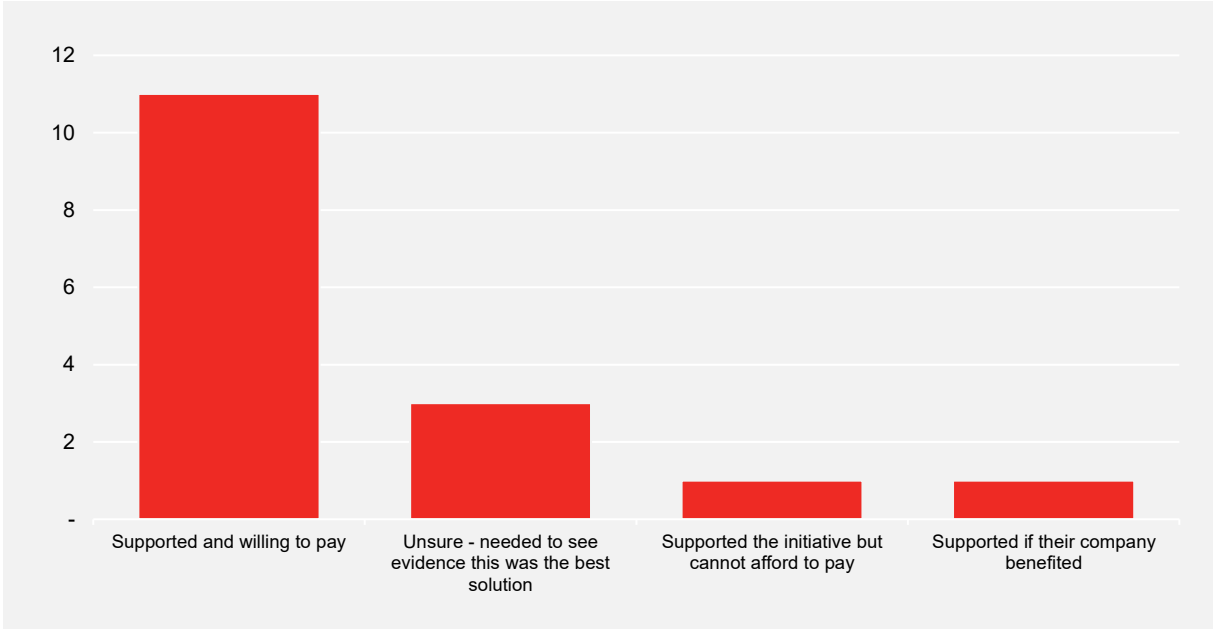
small business customer survey, benefits were presented in terms of the number of customers who would benefit and the length of SWER lines upgraded, including actual bill impacts for each customer.

Energy supply reliability and quality remained critical for commercial and industrial customers, with many customers facing financial and reputational costs as a result of downtime caused by power outages and micro-outages. Costs also remained a top-of-mind issue, but were secondary to the strategic issues they were encountering.

Commercial and industrial customers are continuing to work towards decarbonisation and sustainability goals, with pressure to meet these goals now stemming from customers as well as their supply chains (both global and domestic). Organisations aiming to meet decarbonisation goals through electrification are facing cost barriers and those in the manufacturing industry are often limited by network capacity.

Most commercial and industrial customers were willing to pay for the SWER upgrades to three-phase, with only one customer opposing the proposal on a cost basis. All customers who were willing to pay for our regulatory proposal program were also willing to pay for the expanded investment program. These responses are shown below in figure 1.[6]

FIGURE 1 C&I CUSTOMER WILLINGNESS TO PAY FOR SWER UPGRADES



Overall, it is clear that Powercor customers, including residential, small and large businesses, and importantly urban customers, are prepared to pay for SWER to three phase upgrades.

3.2 Regional and rural supply

We have considered the AER's findings in its draft decision specific to our SWER upgrade program, which have been informed by EMCa's technical review. Our responses to the AER's findings for this component of our proposal are below.

[6] Quantum Market Research, Powercor Willingness to Pay Research and Engagement, Sep 2025, p. 11

3.2.1 Customers have told us that undervoltage is tangible and highly disruptive, with the ongoing effects impacting their daily lives

In addition to considering that valuing undervoltage was not consistent with the AER's intended application of it, EMCa stated that they expect the VCR is much higher than the economic cost of an undervoltage excursion and much higher than what people would be prepared to pay, given what (they) assume to be modest impacts.[7]

Similarly, the AER stated that the use of VCR leads to a significant overestimation of the economic cost of undervoltage supply because while the risk of loss of supply may increase, energy supply is generally not lost when voltage falls below lower standard threshold. Therefore, customer impacts of undervoltage would be much less than VCR.[8]

We agree with the AER and EMCa that use of the full VCR may overestimate the direct value lost from electricity customers through undervoltage. However, neither the AER or EMCa cited any evidence to substantiate the extent to which customers value undervoltage impacts relative to a typical outage. We sought to test this with customers.

Given the lack of an alternative valuation of undervoltage besides the VCR, we sought to better understand the lived experience of undervoltage directly from our customers. Between May and October 2025, we surveyed all customers who complained about non-compliant voltage levels and were engaged in our remediation process. In total across our three networks, we surveyed 85 customers; this is a representative sample of all customers who contacted us with an undervoltage complaint during that period.

We asked our customers how impactful undervoltage is relative to an outage and asked them to identify how their appliances were behaving differently than normal. To capture the impact of undervoltage within the context of a power outage, the survey's language is aligned with the language the AER used to assess the baseline VCR in its 2024 VCR research.

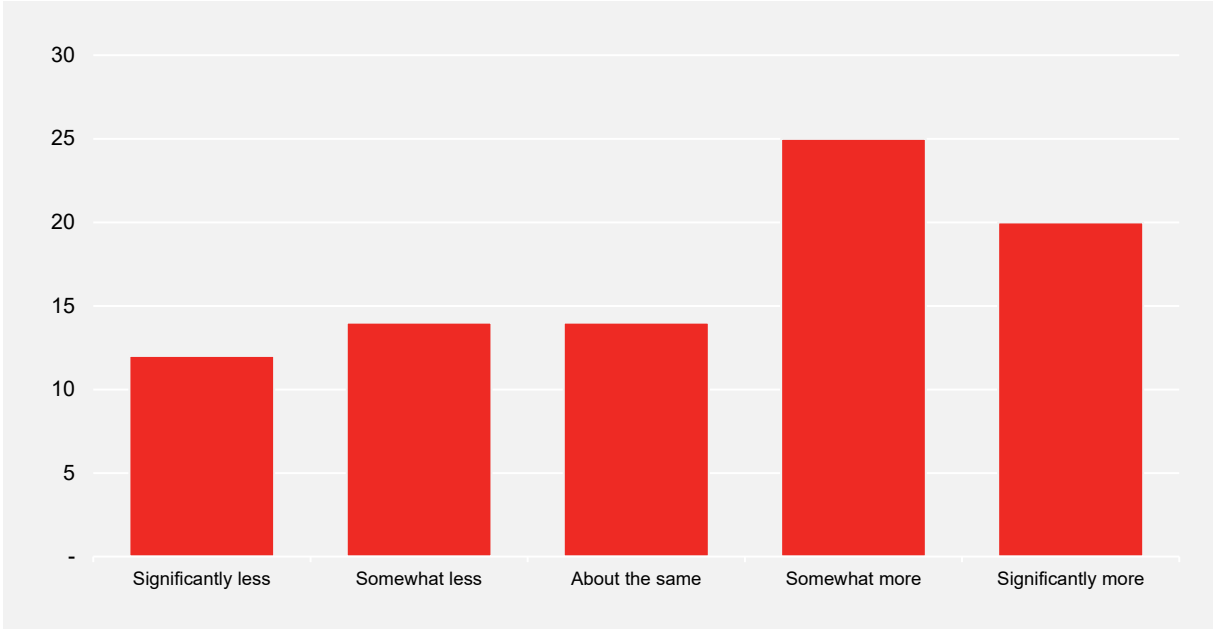
Customers were presented five response options including significantly less impactful, less impactful about the same impact, more impactful and significantly more impactful. Most customers surveyed were residential and their responses affirmed that undervoltage is highly disruptive:

- 26 customers reported being unable to heat or cool their home
- 14 customers reported being unable to charge their EVs
- 18 customers reported broken or malfunctioning appliances
- eight customers reported losing income as a result of undervoltage levels
- seven customers reported their family's health being impacted.

In total, almost 70 per cent of residential customers responded that their issue was about the same or more disruptive than the baseline VCR, as shown in figure 2.

7 EMCa, 2025, Review of Aspects of Proposed Expenditure on Augex, Repex and Vegetation Management, p. 102
8 AER, draft determination: attachment 5: capital expenditure | Draft decision – Powercor 2021–26, p. 41

FIGURE 2 CUSTOMER RATING OF UNDERVOLTAGE IMPACTS VS AN OUTAGE



As more homes, businesses and vehicles electrify, we expect these trends to continue. This will be particularly challenging for our customers as they live in the country's most poorly insulated houses in the coldest climates across mainland Australia, and malfunctioning space heating is expected to be a predominant driver of increasing undervoltage complaints through the 2026–31 regulatory period.[9]

A number of customers also volunteered detailed descriptions of how undervoltage impacted their lives and livelihoods. Several examples from customers across Powercor, CitiPower and United Energy are highlighted below:

> *"My lights flicker, I've had my heat pump air con repaired multiple times, my heat pump hot water repaired, and the performance of my welder has degraded."*
>
> *"This is more disruptive than winter outages. My lights constantly pulse"*
>
> *"Undervoltage disrupts the whole operation of the school, from teaching to basic facilities management. A generator kicks in during undervoltage periods. Each time it kicks in, all systems need to be reset, which takes 5-10 minutes each time, up to 10 times a day. The process causes significant disruption to the staff who need to reset the systems and to teaching periods for the students."*
>
> *"You can't run a business when you haven't got enough power. I have considered moving premises."*
>
> *"I am a primary producer and have not been able to irrigate produce."*
>
> *"I didn't realise it was undervoltage. I spent three hours trying to fix my dryer."*
>
> *"Undervoltage is a regular occurrence stopping me from being able to weld properly. Its impacting my personal projects and some projects I am being paid to do."*
>
> *"The water pumps on the golf course I manage are being impacted. Each pump costs $65,000 to replace. Pumps are important to the operation of the golf course*

[9] CSIRO, 2025, Australian Housing Data, Energy Rating – National Overview – Victoria, available at: https://ahd.csiro.au/dashboards/energy-rating/energy-rating-national-overview; Australian Government, 2025, Your Home – Australian climate zones, available at: https://www.yourhome.gov.au/getting-started/australian-climate-zones

as they aerate the water in the billabongs to ensure water is not stagnant. Stagnant water impacts the health of my customers, and fresh water is an important the atmosphere our customers experience."

"Its frustrating and impacting my quality of life. I have spent a lot of money building a new house and have spent more on electricians to investigate the issue. I already try to use energy when solar is available."

"Lifts at a shopping centre I manage are not working properly."

"I drive 30,000 kilometres a year and need to have full charge every day, which means I have to charge at 32amp three phase. If I can't, I am forced to go to a super charger, which is inconvenient and more expensive."

"This is highly disruptive. The constant pulse of my lights is annoying."

"My EV charger turns off when there are other loads used at the same time, particularly my reverse cycle air conditioning system."

"My car app reports that I do not have enough power to charge my EV. I am also concerned by the impact low voltage is having on my appliance operation, particularly that my appliances will not have the lifespan expected."

"I am worried about the impact of low voltage on my appliances. Given the voltage drops corresponding to higher load consumption, my recently installed 12.5 kW home battery has limited capacity to import from the grid."

We recognise the limitations of our survey evidence above, and acknowledge that it does not substitute for the longer-term need for a full valuation of undervoltage (similar to the AER's VCR and VNR processes). But we consider the evidence is directionally relevant and corroborates other customer feedback on their willingness to pay to remediate or avoid undervoltage impacts (such as the widespread support for our original proposal in our trade-off evaluation forums).

Given the first-hand experiences of customers and their described impacts, we also consider that is more likely than not that a VCR weighting of 10 per cent is too low (i.e. the balance of evidence suggests a higher value).

We have not relied on any benefits that accrue to regional and rural customers beyond the direct benefits of their electricity supply

Our valuation approach of weighting undervoltage impacts using a proportion of the VCR only values the direct benefits to electricity customers that accrue from remediating undervoltage. We have also valued bushfire risk mitigation, additional export benefits and emissions reduction. However, there are several other benefits that accrue to regional and rural customers beyond what we have explicitly valued that are external to their electricity supply.

For example, increased electrical capacity will create more opportunities for regional businesses to use new technologies and grow organically. This leads to greater economic contributions and more local jobs, which attracts more people to regional communities. This in turn can create more opportunities for business growth, known as the regional prosperity cycle.

A study by Regional Councils Victoria found that the economic impact of a job in small regional towns sees an economic benefit 32 times greater than in large cities because of the exponential impact of wages, local spending and investment.[10]

[10] Regional Councils Victoria, Annual Report 2018-19, p. 7

Increasing the number of jobs in a community is closely correlated with higher consumer spending, better health outcomes, economic growth, and more available capital for investment.

We have only considered the direct benefits that accrue to electricity customers in our evaluation of SWER to three phase upgrades. This is a departure from our approach to our regional and rural upgrades program in the 2021–26 regulatory period, which primarily relied upon benefits that accrued beyond the electricity system. Our benefits case likely undervalues the actual benefits that would accrue to regional and rural customers.

3.2.2 The use of a BCA factor has negligible impacts on economic outcomes

The AER has considered EMCa's findings in coming to its draft decision, where EMCa state that we have not provided sufficient justification for the inclusion of a bushfire construction area (BCA) cost uplift factor that multiplies our base upgrade cost. The AER has recommended that we remove the BCA factor.

We included a BCA factor to account for the additional costs required to establish three-phase lines in high bushfire risk areas. These additional costs relate to legislated safety requirements for specific bushfire risk areas that necessitate the use of more expensive covered conductor or underground cable.

The BCA factor of 1.5-times has been applied to four of the projects in our regulatory proposal. Removing the BCA factor has the effect of reducing the capital expenditure of these projects and making them more economic. However, removing the BCA for all potential projects makes two more projects economic, leading to similar overall economic capital expenditure.

For simplicity, and given the negligible effect of including a BCA factor on the overall program, we have removed it in line with the AER's recommendation.

3.2.3 We have used a lower asset life that understates the NPV of our investments

EMCa states in its report that 'Powercor has calculated the NPV of the project using the annualised capex rather than the capex cost itself. Annualised capex using an economic life that is longer than its analysis period has the effect of underestimating the PV of the capex that it proposes and therefore overestimates the NPV'.

In our revised proposal document, we demonstrate how EMCa's concerns with our annualised economic modelling approach are manifestly flawed. We do not repeat that detail here for brevity, other than to state that EMCa's approach fails to account for the terminal value of benefits; this incorrectly assumes that our proposed upgrades would provide no benefit to customers beyond the 20-year modelling period, despite the assets having an expected life of 50-years.

In addition to the above, and specific to our modelling for regional and rural upgrades, our economic assessment for SWER upgrades has applied an asset life of just 15-years for three-phase upgrades.[11] This serves to increase the annualised capital expenditure of each investment. Contrary to EMCa's stated concerns, this higher annualised cost means that benefits have to be higher for an investment to be economically justified under our program (i.e. it is likely that our NPV is understated rather than overstated).

[11] This was an oversight in our original modelling (which we have maintained for consistency); PAL RRP MOD 3.3.02 - Regional and rural SWER upgrades - December 2025 - Public

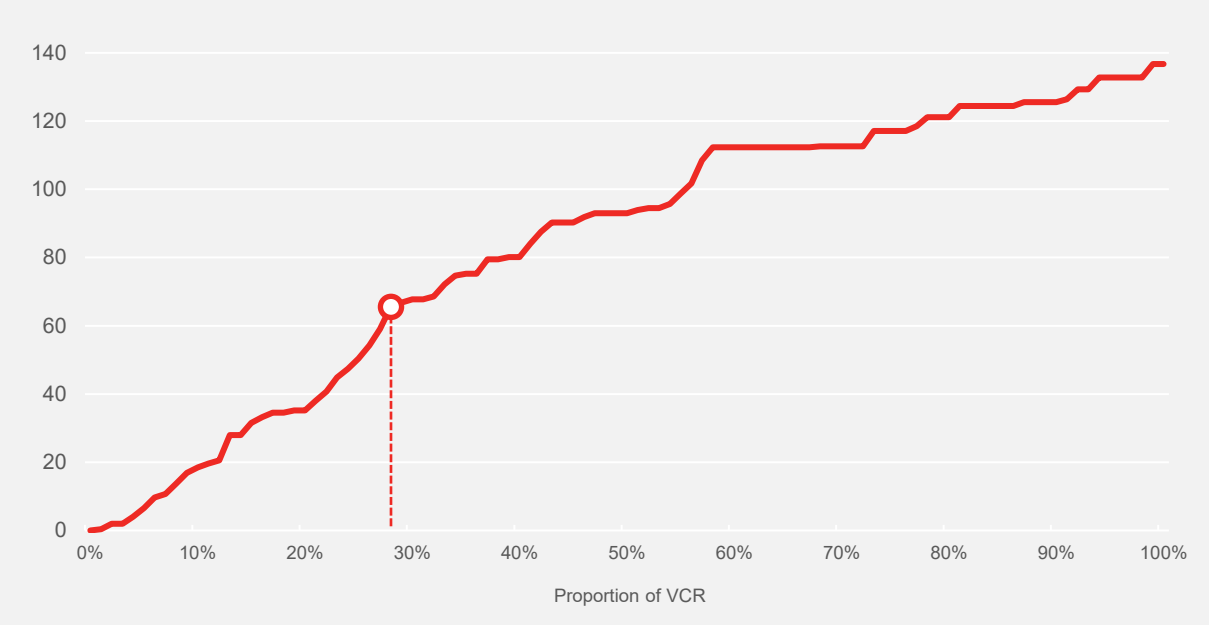
3.2.4 Revised proposal forecast

We have updated our revised proposal demand forecasts to include more recent information and have applied the AER's 2024 VCRs (which were not available at the time our regulatory proposal was developed).

On average, forecast maximum demand across our network has increased due to the inclusion of electrification of gas within our forecasts and new demand data following a relatively hotter 2024–25 summer. Further detail on our demand forecast update is provided in section 3.3.1 of our revised proposal.[12]

Based on these updated input assumptions, we have considered several alternative options, primarily derived from various weightings of the VCR to value undervoltage constraints. Figure 3 below shows the total expenditure forecast that would be economic (without considering regional multipliers or other regional and rural benefits) at various weightings of the VCR.

FIGURE 3 ECONOMIC SWER UPGRADES BASED ON VCR SENSITIVITY ($M, 2026)



Our preferred option

As outlined in table 4 below, our preferred option remains consistent with the level of our original investment forecasts. Under our revised proposal demand forecasts, this option is consistent with a VCR weighting of less than 30 per cent.

While we considered alternative options, our regulatory proposal expenditure has been thoroughly tested with customers who showed consistent support through multiple engagements over several years. This support has since been further corroborated through additional targeted engagement, including direct willingness to pay surveys that demonstrate that our customers, including urban customers who will not benefit, are willing to pay for the program.

We are also proposing to upgrade only two per cent of all SWER lines on our network over the 2026–31 regulatory period, which is modest in the context of Victoria's accelerating electrification and ambitious emissions targets (which require significant levels of electrification).

[12] Powercor, Revised proposal, section 3.3.1

Overall, we consider our preferred option is likely a conservative estimate of total value given we have not considered the broader benefits this investment would have on the regional and Victorian economy.

TABLE 4 REVISED PROPOSAL: REGIONAL AND RURAL SWER UPGRADES ($M, 2026)

PROJECT	FY27	FY28	FY29	FY30	FY31	TOTAL
SWER to three-phase upgrades	10.6	7.3	12.6	15.5	16.7	62.7

Further details of the economic scale of this program at various weightings of the VCR (from one per cent to 100 per cent) are included in our attached economic model.[13] The model includes functionality to vary the VCR incrementally using a toggle cell in the assumptions tab, with calculations flowing through our forecast expenditure program. The various weightings of the VCR also function as a fit-for-purpose sensitivity analysis of our revised proposal program.

We welcome a discussion with the AER if it seeks further information about our engagement, revised proposal or modelling prior to finalising its final decision.

3.3 Worst-served customers

We have considered the AER's findings in its draft decision specific to our worst-served customer program, which have been informed by EMCa's technical review. We note that we have:

- updated our models to correct for the timing of benefits commencing prior to the completion of the investment and for the 2024 VCR
- removed the VNR value from our modelling in line with AER feedback.

However, we consider there is strong justification to include our original SAIFI benefit and worst served customer value. We outline the reasons for re-including these benefits below.

3.3.1 SAIFI benefit

We have included a SAIFI benefit associated with our proposed tie-lines, as the tie-lines, when combined with our feeder automation, will allow us to restore supply to customers supplied on those tie lines within three minutes.

There is no alternative supply path for these customers without the tie-line investment. In the event of a fault on one of the feeders, even with feeder automation, customers would experience a sustained outage until supply can be restored to the feeder on which the fault occurred.

Our proposed tie-lines therefore directly impact SAIFI, where outages that would have been sustained outages (SAIFI) are now reduced to momentary outages (MAIFIe), with customers restored within three minutes.

We have included an example below, using our proposed tie-line between our BAN003 and WND024 feeders (Trentham supply area).

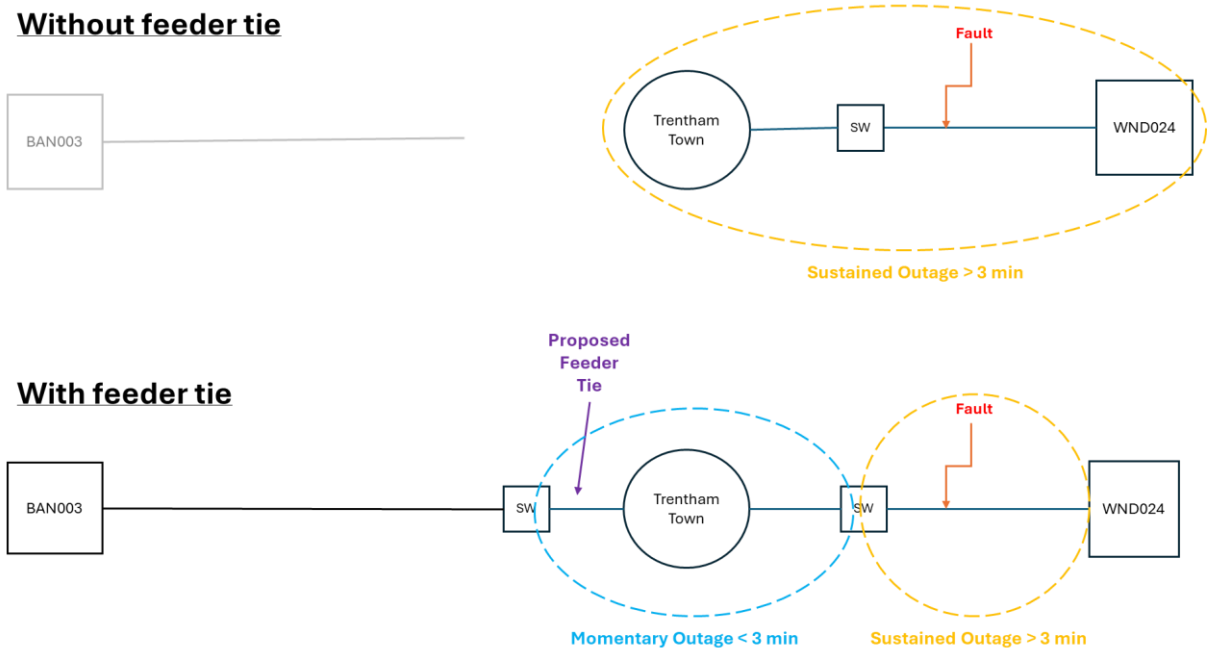
For the BAN003-WND024 tie line project, a fault on WND024 in the first two-thirds of the feeder will be isolated utilising feeder automation equipment. The healthy section covering the Trentham township will be transferred to BAN003 within three minutes via feeder automation. This will result in 1,400 customers experiencing a momentary (MAIFIe) outage instead of a sustained (SAIFI) outage.

[13] PAL RRP MOD 3.3.02 - Regional and rural SWER upgrades - December 2025 - Public. Note that we have hard-coded the economic results of most options, however the AER is able to verify the results of each option by changing the VCR of the variable scenario. We have done this to reduce model size and improve usability

Customers on BAN003 will also see a reduction in SAIFI as a result of having their supply restored via the healthy WND024 feeder when faults occur on the BAN003 feeder.

Figure 4 below shows a single line diagram of the BAN003-WND024 outage example.

FIGURE 4 BAN003-WND024 OUTAGE EXAMPLE



We do not consider there is reasonable grounds to remove our proposed SAIFI benefits, so we have reinstated our SAIFI benefit in our modelling.

3.3.2 Worst served value

We have developed network specific customer values that represent the willingness to pay of our customers for select outcomes. The outcome of this customer engagement demonstrates that our customers are willing to pay to support a number of service areas that are currently not recognised in the AER's economic framework.

We set out information on the development of our customer values in section 2.2.1 of our resilience business case as well as specific information around the use of our worst served customer value. We also provided additional detail to the AER on the calculation of our customer values through an additional information request.[14] We restate the explanation from our information request below:

> *In 2021, we completed a significant body of work with our customers to develop an estimate of the value they place on various services, such as network resilience, enabling solar exports and reliability for worst served customers.*
>
> *At the recommendation of the Customer Advisory Panel (CAP), these values were re-tested and updated in 2023 to ensure they remained reflective of our customers' views. It was also prudent to re-test and update the values given the economic environment had changed materially and customers' preferences may have evolved accordingly. Values produced during this re-testing were very similar to the initial values produced in 2021, demonstrating that customers continued to value these services.*

[14] PAL IR006 Q14

Our customer values were derived using the following methodology:

- *customers were provided educational material on each quantified value, including the baseline and improvement level before commencing the survey*
- *customers were then asked their average electricity bill, and WTP for service improvements*
- *the customer preference for investment (ranking) was used to determine the proportion of total WTP allocated to each service area.*

…

The desired reliability improvement [for our worst served customer value] relates to reducing the number of customers who experience greater than 500 minutes off supply per annum from 22,572 to 15,000.

The weighted average of residential (89 per cent) and small business (11 per cent) customers provided our value of $151.43/kWh.

The AER's current economic framework has no mechanism to account for areas that suffer from a less reliable supply of electricity, which are typically located in regional and rural areas of our network. Typically, reliability investments are funded through our service target performance incentive scheme (STPIS), however this scheme focuses on reductions in average reliability across the network, rather than areas that are receiving significantly worse reliability levels. As a consequence, it is generally not economic to undertake investments that support lower density regions of our network, as it does not materially impact the total average reliability across the network. This has led to some areas of our network experiencing outages over three times longer than the average.

Our customers have acknowledged that this is an unequitable outcome and have shown a strong willingness to fund investments that will increase the reliability in some of these worst served locations. This includes support from customers in our metropolitan area. We have therefore deployed this customer value in our worst served customer modelling where a customer or township experiences beyond 500 minutes of outages per annum. We consider this value addresses a deficiency of the current economic framework and more accurately represents the value our customers attribute to investments that improve worst served customers. We also note that contrary to the AER's decision, we have not 'added' our value to the VCR. That is, once we begin applying the worst served customer value at our outage threshold we no longer apply a VCR benefit. It is therefore a substitute value rather than an additive value.

We have also been particularly conservative in applying our worst served customer value, limiting to select investments in worst served areas across our network. The total of these investments is significantly below the total incremental expenditure supported by our customers to address worst served customers.

As such, we are unclear why the AER considers applying this value is unreasonable, as our worst served customer value represents value that is not captured by the AER's current economic framework. We have therefore restated our worst served customer value in our modelling on the basis of strong customer support and the fact that it is not additive to the VCR.

Following the re-instatement of our worst served customer value and SAIFI benefits, each of our proposed tie-line investments is economic to undertake in the 2026-31 regulatory period.

Our revised regional and rural worst served customer program is shown below in table 5.

TABLE 5 REVISED PROPOSAL: WORST SERVED CUSTOMER PROGRAM ($M, 2026)

PROJECT	FY27	FY28	FY29	FY30	FY31	TOTAL
Worst served customer program	0.8	5.8	5.8	2.1	-	14.6

For further information visit:

Powercor.com.au

CitiPower and Powercor Australia

CitiPower and Powercor Australia

CitiPower and Powercor Australia