Draft decision

United Energy electricity distribution determination

1 July 2026 – 30 June 2031

Attachment 2 – Capital expenditure

September 2025

AUSTRALIAN ENERGY REGULATOR

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Capital expenditure (capex) refers to the money required to build, maintain or improve the physical assets needed to provide standard control services (SCS).[1] Generally, these assets have long lives, and a distributor will recover capex from customers over several regulatory control periods. A distributor's capex forecast contributes to the return of and return on capital building blocks that form part of its total revenue requirement.

Under the regulatory framework, a distributor must include a total forecast capex that it considers is required to meet or manage expected demand, comply with all applicable regulatory obligations, to maintain the safety, reliability, quality, and security of its network and contribute to achieving targets for reducing Australia's greenhouse gas emissions (the capex objectives).[2]

We must decide whether or not we are satisfied that this forecast reasonably reflects prudent and efficient costs and a realistic expectation of future demand, cost inputs, and other relevant inputs (the capex criteria).[3] We must make our decision in a manner that will, or is likely to, deliver efficient outcomes in terms of the price, quality, safety, reliability and security of supply, and contribute to achieving targets for reducing Australia's greenhouse gas emissions, for the benefit of consumers in the long term, as required under the National Electricity Objective (NEO).[4]

The *AER's capital expenditure assessment outline* explains our and distributors' obligations regarding capex under the National Electricity Law and Rules (NEL and NER) in more detail.[5] It also describes the techniques we use to assess a distributor's capex proposal against the capex criteria and objectives. Where relevant we also assess capex associated with emissions reduction proposals taking into account our Guidance on amended *National Electricity Objectives*.[6]

Total capex framework

We analyse and assess capex drivers, programs, and projects to inform our view on a total capex forecast. However, we do not determine forecasts for individual capex drivers or determine which programs or projects a distributor should or should not undertake. This is consistent with our ex-ante incentive-based regulatory framework.

Once the ex-ante capex forecast is established, there is an incentive for distributors to provide services at the lowest possible cost, because the actual costs of providing services will determine their returns in the short term. If distributors reduce their costs, the savings are shared with consumers in future regulatory control periods. This incentive-based framework

1 These are services that form the basic charge for use of the distribution system.

2 NER, cl. 6.5.7(a).

3 NER, cl. 6.5.7(c).

4 NEL, ss. 7, 16(1)(a).

5 AER, *Capex assessment outline for electricity distribution determinations*, February 2020.

6 AER, *Guidance on amended National Electricity Objectives*, September 2023.

provides distributors with the flexibility to prioritise their capex program given their circumstances and due to changes in information and technology.

Distributors may need to undertake programs or projects that they did not anticipate during the revenue determination. Distributors also may not need to complete some of the programs or projects proposed if circumstances change, these are decisions for the distributor to make. We consider a prudent and efficient distributor would consider the changing environment throughout the regulatory control period and make decisions accordingly.

Importantly, our decision on total capex does not limit a distributor's actual spending. We set the forecast at a level where the distributor has a reasonable opportunity to recover its efficient costs.

Assessment approach

We provide guidance on our assessment approach in several documents, including the following which are of relevance to this decision:

- Expenditure Forecast Assessment Guidelines.[7]
- Regulatory Investment Test for Distribution and Transmission (RIT-D and RIT-T) Guidelines.[8]
- Asset Replacement Industry Note.[9]
- Information and Communication Technologies (ICT) Guidance Note.[10]
- Better Resets Handbook – Towards consumer centric proposals.[11]
- Guidance note on network resilience.[12]
- Interim guidance note on the Value of Emissions Reduction.[13]

Our draft decision has been based on the information before us at this time, which includes:

- the distribution network service provider's (DNSP's) regulatory proposal and accompanying documents and models
- the DNSP's responses to our information requests
- stakeholder comments in response to our Issues Paper
- technical review and advice from our consultant's reports. In January 2025, we engaged Energy Market Consulting associates (EMCa) to assist us in reviewing certain aspects of United Energy's capex proposals; and Baringa for demand forecasting advice.

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7 AER, *Expenditure Forecast Assessment Guideline for Distribution*, August 2022. The legal requirements of the AER under the NEL and the NER in assessing capex are outlined in section 2.1.

8 AER, *RIT-T and RIT-D application guidelines (minor amendments) 2017,* September 2017.

9 AER, *Industry practice application note for asset replacement planning,* January 2019.

10 AER, *AER publishes guidance on non-network ICT capital expenditure assessment approach*, November 2019.

11 AER, *Better Resets Handbook – Towards consumer-centric network proposals*, December 2021.

12 AER, *Network resilience: A note on key issues*, April 2022.

13 AER, *Guidance note on emissions reduction: Interim Guidance Note*, 16 June 2025.

2.1 Draft decision

Our draft decision is to not accept United Energy's proposed total forecast capex of $1,399.3 million ($2025–26) for the 2026–31 period. This is because we are not satisfied that it reasonably reflects the capex criteria – in particular, we are not satisfied that it reasonably reflects the prudent and efficient costs to meet the capex objectives).

Our substitute forecast is $1,045.7 million, which is 25.3% below United Energy's forecast. We consider this forecast will provide for a prudent and efficient service provider in United Energy's circumstances to meet the capex objectives.

We encourage United Energy to respond to the issues we have raised in our draft decision and welcome further supporting information in its revised regulatory proposal.

United Energy's proposed forecast capex and our substitute estimate is set out in Table 2.1.

Table 2.1 AER's draft decision on United Energy's total net capex forecast for 2026–31 ($2025–26, million)

	2026–27	2027–28	2028–29	2029–30	2030–31	Total
United Energy's proposal	272.7	264.4	259.3	304.3	298.7	1,399.3
AER's draft decision	214.4	211.3	206.3	211.0	202.8	1,045.7
Difference ($)	**-58.3**	**-53.2**	**-53.0**	**-93.3**	**-95.8**	**-353.6**
Difference (%)	**-21.4%**	**-20.1%**	**-20.4%**	**-30.6%**	**-32.1%**	**-25.3%**

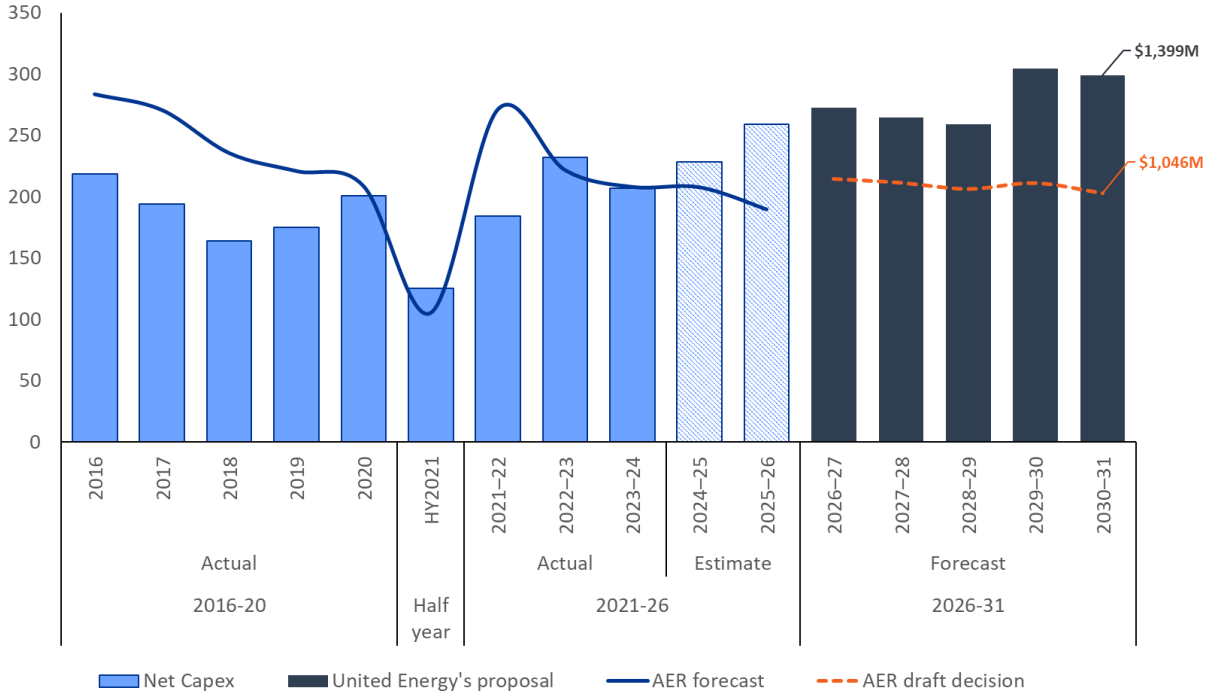
Source: United Energy's regulatory proposal, AER analysis. Numbers may not sum due to rounding.

2.2 Overview of United Energy's proposal

United Energy's forecast includes $1,399.3 million ($2025–26) capex over the 2026–31 period.

Figure 2.1 outlines United Energy's historical capex trend, its proposed forecast for the 2026–31 period, and our draft decision. Consistent with our usual practice, the chart presents a time-series of United Energy's net capex.

Figure 2.1 United Energy's historical and forecast capex ($2025–26, million)



Source: United Energy's regulatory proposal and AER analysis.
Note: Capex is net of disposals and capital contributions.

As can be seen in Figure 2.1, United Energy is forecasting a step up in 2026–31; a 26.1% increase from its current period spend. We note that it is expected to overspend in the current period, where it is estimating to spend the most in the last 2 years of the current period. In the previous period, United Energy underspent materially. This may trigger an ex-post review in the 2031–36 regulatory determination. However, United Energy incurred total capex is below its regulatory forecast for the current ex-post review period (2020 to 2023–24 regulatory years) and on this basis, the overspending requirement for an efficiency review of past capex is not satisfied.

Our alternative forecast, which is a reduction of 25.3% relative to United Energy's forecast, is 5.8% lower than United Energy's historical spend. We note that our alternative forecast being lower than United Energy's current period spend is driven by United Energy's materially lower forecast for property capex for 2026–31 ($17.8 million) compared to the current period ($156.2 million).

Table 2.2 provides a breakdown of United Energy's capex proposal. In the forecast period, the main drivers of United Energy's capex forecast are repex, augex, ICT, and capitalised overheads.

Table 2.2 United Energy's capex forecast by category compared with actual/estimated capex in 2021–26 ($2025–26, million)

Capex category	United Energy's 2021–26 capex	United Energy's 2026–31 forecast	Change from 2021–26	Contribution to increase in net capex	Proportion of total forecast capex
Replacement	433.8	520.5	20.0%	29.9%	37.2%
Resilience	0.0	30.7	N/A	N/A	2.2%
Innovation	0.0	9.8	N/A	N/A	0.7%
Augmentation	98.4	148.6	50.9%	17.3%	10.6%
Connections	52.8	97.0	83.7%	15.3%	6.9%
ICT	240.7	287.4	19.4%	16.1%	20.5%
Property	156.2	17.8	-88.6%	-47.8%	1.3%
Fleet	22.7	64.4	183.1%	14.4%	4.6%
CER integration	29.3	17.6	N/A	N/A	1.3%
Cyber security	0.0	19.4	N/A	N/A	1.4%
Non-network capex – other	0.9	1.0	16.8%	0.1%	0.1%
Capitalised overheads	175.3	187.0	6.7%	4.0%	13.4%
Total capex (less capital contributions)	**1,210.2**	**1,401.1**	**15.8%**		
less Disposals	-100.2	-1.8	-98.2%		
Net capex	**1,109.9**	**1,399.3**	**26.1%**		

Source: United Energy's regulatory proposal and AER analysis. United Energy's 2021–26 actual/estimated in this table differs from its RIN data as per its response to IR009.

Notes: Numbers may not sum due to rounding. United Energy's 2021–26 actual/estimate may include cyber security capex in other categories that is not identifiable in the Category Analysis RIN. United Energy's regulatory proposal shows forecast capex for each category and project in $real 2025–26 un-escalated dollars. In this paper, we present all forecast capex for the 2026–31 period in $real 2025–26 escalated dollars. We re-categorised United Energy's 2026–31 forecast to align with how we assessed each category. We re-categorised $26.9 million of augex, $3.4 million of ICT, and $0.3 million of fleet to resilience. We re-categorised $19.4 million of ICT to cyber security. We also re-categorised $5.0 million of repex and $4.8 million of augex to innovation.

2.3 Reasons for draft decision

We reviewed United Energy's capex drivers, programs and projects to inform our view on a total capex forecast that reasonably reflects the capex criteria. We conducted top-down analysis such as examining trends and forecast costs compared with historical capex, and inter-relationships between cost categories. To complement this, we conducted a bottom-up analysis of United Energy's major programs and projects.

Our capex assessment focused primarily on the material capex categories that either represented a significant uplift in expenditure, had stakeholder interest, or are new and evolving areas such as CER and resilience. Capex that was relatively small and forecast using established modelling approaches and inputs in line with our expectations, meant that we did not need to undertake a more detailed analysis of the individual programs and projects. Our draft decision is reflective of this approach.

Further, in considering the scope of our review we had regard to how United Energy has performed against the Better Resets Handbook expectations for capex.[14] Our assessment against each expectation is set out in Table 2.3. We consider that United Energy has satisfied the capex expectations related to genuine consumer engagement on its capex proposal and has partly satisfied the remaining expectations. We have therefore undertaken a bottom-up review in most capex categories.

Table 2.3 United Energy's performance against the capex expectations

Capex expectations	AER position
1. Top-down testing of the total capex forecast and at the category level	United Energy has not satisfied this expectation because: • Its proposed total capex forecast is materially above (26.1%) current period actual/estimates. • It is proposing a step up in the forecast for some capex categories, with a material step up in the largest components of capex. • The repex modelling results indicate that United Energy has higher unit rates and shorter replacement lives compared to the other 13 NEM DNSPs. As United Energy's modelled repex is 64% of its total repex, the repex model results indicates that a closer review of United Energy's repex forecast is required. • There is a decreasing trend in SAIFI from 2015 to 2024, suggesting that reliability of its network is generally improving overtime.
2. Evidence of prudent and efficient decision-making on key projects and programs	United Energy partly satisfied this expectation. While it provides quantitative evidence of prudent and efficient decision-making such as cost benefit analysis for some projects and programs, it has not done so for several parts of its forecast. Further, in some cases where it has provided quantitative evidence, we found overestimated costs and/or benefits such that we are not satisfied that its preferred option will result in the greatest net benefit to consumers. There is also a lack of quantitative portfolio prioritisation and optimisation given the proposed increase in capex.
3. Evidence of alignment with asset and risk management standards	United Energy has partly satisfied this expectation. While there is evidence of good asset management, we found a lack of risk monetisation in certain key areas of capex which is not in line with good industry practice.

[14] AER, *Better Resets Handbook – Towards Consumer Centric Network*, December 2021, pp 19–23.

Capex expectations	AER position
4. Genuine consumer engagement on capex proposals	Overall, United Energy has satisfied this expectation. We acknowledge the significant engagement undertaken by United Energy with its Customer Advisory Panel (CAP).[15] The Consumer Challenge Panel (CCP32) noted the engagement for CitiPower was part of an engagement program for the CPU businesses. The CCP32 submits that United Energy used responses to the Draft Plan well and incorporated feedback into the final proposal with a significant range of 'Test and Validate' discussions and events.[16]

Overall, we found the majority of United Energy's forecast of $1,399.3 million would be required to maintain the safety, reliability and security of electricity supply of its network.

We are satisfied that our alternative forecast of total capex of $1,045.7 million is reasonable and sufficient for United Energy to maintain its network. While our alternative forecast is 5.8% below United Energy's current period actual/estimates, this result is driven the lumpy nature of United Energy's property expenditure. For example, United Energy has a materially lower forecast for property capex for 2026–31 ($17.8 million) compared to the current period ($156.2 million).

Given United Energy's performance against our top-down findings, we have undertaken a bottom-up review on most capex categories.

We have accepted United Energy's forecast where it has provided sufficient evidence to support prudency and efficiency of its forecast. This is the case for its forecast for property, fleet, cyber security, other non-network, and some aspects of its repex forecast (such as its pole top structures and overhead conductor program).

We have not accepted United Energy's forecast in full (reducing it by 25.3%) because we found that it did not provide sufficient quantitative evidence to support the material step up in the forecast. This relates to our findings for United Energy's repex forecast for its poles, underground cables, distribution transformers, and distribution switchgear programs. For these programs, we found material data discrepancies which reduced our confidence in the forecast. There was also a lack of quantitative evidence to support the forecast step up. In those cases, our alternative forecast is based on United Energy's current period actual volume and/or spend in those programs.

Our other reductions to United Energy's proposed capex are because it did not provide cost benefit analysis to demonstrate that its preferred higher cost option is prudent and efficient. This is the case for capex associated with, for example, its poles and distribution transformers program where it did not consider other options in testing its preferred investment, even though it is proposing a material step up in volumes relative to the historical period.

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15 Customer Advisory Panel, *Customer Advisory Panel report on United Energy's Regulatory Proposal 2026–31*, April 2025.

16 CCP32, *CCP32 Advice to the Australian Energy Regulator on the 2026–31 Regulatory Proposal for United Energy's Electricity Distribution Network*, May 2025, pp 10–11.

In other cases where United Energy did provide cost benefit analysis, such as the customer driven electrification and Lower Mornington Peninsula supply upgrade augex projects, we found overestimated costs and/or benefits in its economic analysis. We also found its preferred investments did not have positive net benefit once more reasonable assumptions are applied.

Our draft decision sets out reasons for our position including information gaps and/or lack of supporting information. We invite United Energy to address these issues in its revised proposal. We would also encourage United Energy to engage with its customers about its revised proposal. We acknowledge the extensive customer engagement that United Energy on its capex proposal and would encourage it to continue to ensure that its customers' preferences are considered in its revised proposal.

Bottom-up review

Our bottom-up review found that United Energy provided sufficient evidence to support the forecast for some capex categories; namely in property, fleet, cyber security and other non-network and some aspects of its repex forecast. However, for the other areas of capex, United Energy did not demonstrate that its higher forecast is prudent and efficient, relative to its current period actual/estimates.

Table 2.4 sets out our draft decision for United Energy by capex category.

Table 2.4 United Energy's capex forecast and our draft decision by category ($2025–26, million)

Capex category	United Energy's Proposal	AER's draft decision	Difference ($)	Difference (%)
Replacement	520.5	453.3	-67.2	-12.9%
Resilience	30.7	12.8	-17.9	-58.4%
Innovation	9.8	2.1	-7.7	-78.8%
Augmentation	148.6	44.0	-104.6	-70.4%
Connections	97.0	88.8	-8.2	-8.5%
ICT	287.4	242.9	-44.5	-15.5%
Property	17.8	17.8	0.0	0.0%
Fleet	64.4	64.4	0.0	0.0%
CER integration	17.6	14.6	-2.9	-16.8%
Cyber security	19.4	19.4	0.0	0.0%
Non-network capex – other	1.0	1.0	0.0	0.0%
Capitalised overheads	187.0	177.0	-10.1	-5.4%

Capex category	United Energy's Proposal	AER's draft decision	Difference ($)	Difference (%)
Total capex (less capital contributions)	**1,401.1**	**1,138.0**	**-263.1**	**-18.8%**
less Disposals	-1.8	-1.8	0.0	0.0%
Modelling adjustments		-90.5		
Net capex	**1,399.3**	**1,045.7**	**-353.6**	**-25.3%**

Source: United Energy's regulatory proposal and AER analysis.
Notes: Numbers may not sum due to rounding. For United Energy's proposal, we re-categorised capex to align with how we assessed each category. We re-categorised $26.9 million of augex, $3.4 million of ICT, and $0.3 million of fleet to resilience. We re-categorised $19.4 million of ICT to cyber security. We also re-categorised $5.0 million of repex and $4.8 million of augex to innovation.

Table 2.5 summaries our reasons for accepting parts of United Energy's forecast by capex driver. For capex drivers that we do not accept, our reasons are set out in Appendix A.

Our findings on each capex driver are part of our broader analysis and should not be considered in isolation. We do not approve an amount of forecast expenditure for each individual capex driver or project/program. However, we use our findings on the different capex drivers to assess a regulated business' proposal as a whole and arrive at an alternative estimate for total capex where necessary. Our decision on total capex does not limit a regulated business' actual spending.

Table 2.5 Summary of our findings and reasons, by capex driver

Driver	AER's findings and reasons
Replacement	Our draft decision does not include United Energy's repex forecast of $520.5 million as part of our total capex forecast. Instead, we have included a substitute estimate of $453.3 million, which is $67.2 million (12.9%) lower than United Energy's forecast. Where United Energy has provided sufficient evidence, we have accepted a step up in the forecast relative to current period spend. This is the case with United Energy's forecast for its conductor program, where it has proposed a material step up relative to current period spend. We found United Energy's economic analysis included reasonable inputs and assumptions. Our reductions to United Energy's forecast are because, for some programs (poles, underground cables, distribution transformers), United Energy did not provide sufficient evidence to support the step up relative to current period spend. We found material data discrepancies which reduced our confidence in the forecast. There was also a lack of quantitative evidence to support the forecast step up. In those cases, our alternative forecast is United Energy's current period spend. More generally, we found that United Energy did not provide cost benefit analysis to support most of its forecast. As set out in our asset replacement guidance note, we expect businesses to undertake

Driver	AER's findings and reasons
	economic analysis to demonstrate prudency and efficiency of its preferred investment. We consider a cost benefit analysis to be critical evidence especially where United Energy is forecasting a material step up in forecast volumes and/or unit rates. This is because the option that results in the greatest net benefit may change with material forecasted changes in volumes and/or unit rates. This is further discussed at Appendix A.1.
Resilience	Our draft decision does not include United Energy's resilience forecast of $35.2 ($30.7 million capex, $4.4 million opex) million as part of our total expenditure forecast. Instead, we have included a substitute estimate of $12.7 million ($12.7 million capex, $0 opex), which is $22.5 million (63.9%) lower than United Energy's forecast. Our bottom-up review of United Energy's resilience proposal found that while it demonstrated the prudency of investment, it did perform the necessary options analysis to demonstrate that its proposed solution was efficient. As a result, we consider that United Energy has materially overestimated costs and benefits such that its proposed option is not the efficient option. Our alternative forecast has substituted in a more cost-efficient solution This is further discussed at Appendix A.4.
Innovation	Our draft decision does not include United Energy's innovation forecast of $16.3 million ($9.8 million in capex, $6.5 million in opex) million as part of our total capex forecast. Instead, we have included a substitute estimate of $3.7 million ($2.1 million in capex, $1.7 million in opex) million, which is $12.6 million (77.3%) lower than United Energy's forecast. Our bottom-up review found several of United Energy's proposed projects to not be innovative or expenditure that we would otherwise expect to be a business-as-usual activity. We also have not excluded United Energy's innovation program from CESS. CitiPower, Powercor and United Energy have each proposed similar innovation expenditure proposals. They submitted very similar information in their business cases and other supporting evidence for these projects. As such, we have assessed the innovation expenditure forecast proposed by the 3 businesses at the aggregate level and make specific business observations where relevant. This is further discussed in Appendix A.6 in Attachment 2 (capital expenditure) of our draft decision on CitiPower's regulatory proposal.[17]
Augmentation	Our draft decision does not include United Energy's augex forecast of $148.6 million as part of our total capex forecast. Instead, we have included a substitute estimate of $44.0 million, which is $104.6 million (70.4%) lower than United Energy's forecast.

[17] AER, *Draft decision: CitiPower electricity distribution determination 1 July 2026 – 30 June 2031*, *Attachment 2 – Capital expenditure*, September 2025.

Driver	AER's findings and reasons
	Our bottom-up review found that some of United Energy's forecast at the project level is not prudent and efficient. While we made no changes to the demand forecast, we found issues in United Energy's cost benefit analysis including issues with optimal timing, high costs and incorrect use of value of customer reliability (VCR). We have reduced United Energy's $70.4 million customer-driven electrification project by $62.1 million. This reduction reflects issues such as the use of VCR for voltage valuation and increases in forecast complaint numbers that are not well supported. We have not included the Lower Mornington Peninsula supply upgrades forecast for $41.1 million in our alternative forecast. While United Energy needs to manage voltage collapse risk in the Lower Mornington Peninsula area, expanding the existing non-network solution is likely a more cost-effective approach than constructing a new 54 km line. This is further discussed at Appendix A.2.
Connections	Our draft decision does not include United Energy's forecast of $97.0 million for connections as part of our total capex forecast. Instead, we have included a substitute estimate of $88.8 million, which is $8.2 million (8.5%) lower than United Energy's forecast. We have identified issues with United Energy's unit rates. For "business as usual" connections, we have updated the unit rate calculation for the forecast period based on an averaging period spanning the current period (2021–23). This is further discussed at Appendix A.3.
ICT	Our draft decision does not include United Energy's ICT total expenditure forecast of $324.5 million ($287.4 million capex, $37.1 million opex) as part of our total expenditure forecast. Instead, we have included a substitute estimate of $275.9 million ($242.9 million capex, $33.1 million opex) which is $48.6 million (15%) lower than United Energy's forecast. Our assessment concurs with EMCa's technical assessment and findings which found CPU did not provide sufficient evidence to demonstrate its aggregate ICT forecast is prudent and efficient. This is further discussed at Appendix A.4 in Attachment 2 (capital expenditure) of our draft decision on CitiPower's regulatory proposal.[18]
Property	Our draft decision includes United Energy's property forecast of $17.8 million as part of our total capex forecast. We tested United Energy's forecast at the top-down and bottom-up level and are satisfied that its forecast is prudent and efficient.

[18] AER, *Draft decision: CitiPower electricity distribution determination 1 July 2026 – 30 June 2031*, *Attachment 2 – Capital expenditure*, September 2025.

Driver	AER's findings and reasons
Fleet	Our draft decision includes United Energy's fleet forecast of $64.4 million as part of our total capex forecast. This forecast is $41.7 million higher than its current period actual/estimated spend of $22.7 million. United Energy submits this uplift is driven by the insourcing of external contracts which in turn contributes to an increase in its fleet investment. We have reviewed United Energy's historical fleet spend, the timing of replacement, and the proposed benefits/cost savings of its forecast. We also note United Energy's forecast disposals for fleet are reflective of historical averages. We are satisfied that United Energy's forecast is reasonable and reflective of the efficient costs of a prudent operator.
CER integration	Our draft decision does not include United Energy's forecast of $36.5 million in totex ($17.6 million capex, $18.9 million opex) for CER integration as part of our total expenditure forecast. Instead, we have included a substitute estimate of $28.1 million in totex ($14.6 million capex, $13.5 million opex), which is $8.4 million (23.0%) lower than United Energy's forecast. CitiPower, Powercor and United Energy (CPU) have adopted a common strategy for addressing CER. For CER ICT, these are also enterprise-wide investments for which expenditure is allocated between the three entities. Due to their commonality, CPU's strategy and forecast programs has been assessed collectively. We have considered EMCa's findings and agree that while CPU's expenditure to introduce flexible services is prudent and efficient, it has not provided sufficient information to demonstrate prudency and efficiency of its remaining 2 projects. This is further discussed at Appendix A.5 in Attachment 2 (capital expenditure) of our draft decision on CitiPower's regulatory proposal.[19]
Cyber security	Our draft decision includes United Energy's cyber security total expenditure forecast of $38.2 million ($19.4 million capex, $18.8 million opex) as part of our total expenditure capex forecast. CPU's cyber security total expenditure forecast is $75.6 million. Our assessment concurs with EMCa's findings that CPU has provided sufficient evidence of increased cyber threat risk and therefore that its shift from SP-1+ to SP-2 is reasonable. CPU has also provided evidence of how its proposed activities will address the gap between SP-1+ and its move to SP-2. They have also provided an options analysis to demonstrate that its preferred investments are efficient.[20]

[19] AER, *Draft decision: CitiPower electricity distribution determination 1 July 2026 – 30 June 2031*, *Attachment 2 – Capital expenditure*, September 2025.

[20] Energy Market Consulting associates, *Review of Proposed Expenditure on Cyber Security*, *CitiPower, Powercor and United Energy 2026-2031 Regulatory Proposals*, report for the AER, EMCa, 2025.

Driver	AER's findings and reasons
Non-network capex – other	Our draft decision includes United Energy's forecast of $1.0 million for other non-network (i.e., tools and equipment) as part of our total capex forecast. United Energy demonstrated to us that its forecast is based on historical expenditure. We are satisfied its forecast method is reasonable and the proposed expenditure efficient.
Capitalised overheads	We have accepted United Energy's method for calculating capitalised overheads, which is consistent with the AER's standard approach. We have made reductions to United Energy's forecast of $187.0 million for capitalised overheads to account for reductions to the wider capex forecast as well as other modelling adjustments. We have included a substitute estimate of $177.0 million, which is $10.0 million (5.3%) lower than United Energy's forecast.
Disposals	We have included United Energy's disposals forecast in its total capex forecast.
Modelling adjustments	Our draft decision includes standard modelling adjustments for updated inputs to inflation and labour real cost escalation. We also included adjustments to internal and contract labour. United Energy submitted that its labour is outsourced and therefore does not have any forecast direct network internal labour.[21] Therefore, our draft decision capex model re-classifies any internal labour as contract labour for all direct network capex. Given we do not apply real cost escalation to contract labour, we also applied zero real cost escalation for this cost component. Adjustments for internal and contract labour reduces out alternate forecast by $65.2 million. Updates to inflation and labour real cost escalation reduces our alternate forecast by a further $25.3 million. In its capex model, United Energy's base year for its capex inputs were in end year $2025–26, which is the beginning of its forecast regulatory period. It is unclear of the method and inputs that United Energy has used to escalate its costs to end year $2025–26 given this is a forecast year. In its revised proposal, we encourage United Energy to explain how it escalated its base year costs and apply a non-forecast base year to the capex model.
Ex-post review	We are required to provide a statement on whether the roll forward of the regulatory asset base (RAB) from the previous period contributes to the achievement of the capex incentive objective.[22] The capex incentive objective is to ensure that, where the RAB is subject to adjustment in accordance with the NER, only expenditure that

21 United Energy, *Response to information request 039*, July 2025, p 20.

22 NER, cl. 6.12.2(b).

Driver	AER's findings and reasons
	reasonably reflects the capex criteria is included in any increase in value of the RAB.[23] Where, during the review period,[24] a distributor's capex exceeds its allowance (and therefore the overspending requirement is satisfied),[25] we may reduce the RAB by the amount of capex that we are satisfied does not reasonably reflect the capex criteria.[26] We have reviewed United Energy's capex performance for the 2020 to 2023–24 regulatory years. United Energy incurred total capex below its regulatory forecast for the ex-post review period. On this basis, the overspending requirement for an efficiency review of past capex is not satisfied.

23 NER, cl. 6.4A(a).

24 NER, cl. S6.2.2A(a1).

25 NER, cl. S6.2.2A(b).

26 AER, Capital Expenditure Incentive Guideline, November 2013, p. 17; and NER, cl. S6.2.2A(f)

A Reasons for decision on key capex categories

This appendix sets out our assessment of key capex categories and programs/projects within United Energy's total capex forecast. It also sets out the reasons for our decision. This appendix includes:

- Repex (A.1)
- Augex (A.2)
- Connections (A.3)
- Resilience (A.4).

We note that CitiPower, Powercor and United Energy submitted information that is very similar in content to support its forecast for the same or similar list of projects for specific capex categories. Given these similarities, our assessment of the proposals for ICT, CER integration and innovation is based on the aggregate total expenditure forecast presented by these 3 businesses. We set out our findings and determination (including on United Energy's proposed forecasts) for these capex categories in our draft decision capital expenditure attachment for CitiPower.[27]

A.1 Repex

We do not accept that United Energy's repex forecast of $520.5 million would form part of a total capex forecast that reasonably reflects the capex criteria. Our draft decision includes $453.3 million in repex, which is $67.2 million (or 12.9%) lower than United Energy's proposal.

A.1.1 United Energy's proposal

United Energy submits that for the 2026–31 regulatory period '... the key drivers of increasing replacement expenditure include uplifts in wood pole and risk-based overhead conductor replacements. These increases, however, are partially offset by a reduction in zone substation replacement works following significant investment in the current and previous regulatory periods.'[28]

Table A1.1 sets out United Energy's forecasts for its repex programs compared to its current period spend. As can be seen, United Energy is proposing a 20.0% increase in the forecast period compared to current period actual/estimates.[29]

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27 AER, *Draft decision: CitiPower electricity distribution determination 1 July 2026 – 30 June 2031*, *Attachment 2 – Capital expenditure*, September 2025.

28 United Energy, *Regulatory proposal 2026–31, Part B: explanatory statement, Revenue and expenditure forecasts*, 31 January 2025, p 39.

29 Rather than using RIN data for this comparison, we relied on United Energy's response to information request IR009

Table A1.1 United Energy's repex forecast by program compared with actual/estimated capex in 2021–26 (2025–26, million)

Program	2021–26 actual/est	United Energy 2026–31 forecast	Change from 2021–26 (%)	% of total repex
Poles	98.2	131.8	34.3%	25.3%
Pole top structure	109.9	112.3	2.2%	21.6%
Overhead conductors	14.8	68.6	362.5%	13.2%
Underground cables	37.5	48.5	29.4%	9.3%
Services lines	21.9	22.9	4.6%	4.4%
Distribution transformers	35.1	44.7	27.4%	8.6%
Distribution switchgear	42.7	55.2	29.3%	10.6%
ZSS transformers	8.6	8.4	-1.8%	1.6%
ZSS switchgear	0.5	6.2	1124.2%	1.2%
SCADA	42.3	14.0	-66.8%	2.7%
Other	19.9	7.8	-60.8%	1.5%
Total repex	**431.4**	**520.5**	**20.7%**	

Source: United Energy's regulatory proposal and AER analysis. The 2026–31 forecast repex uses United Energy's capex model and 2021–26 actuals/estimated repex uses its RIN data.
Note: Doesn't include the innovation program. Total repex for 2021–26 actual/estimated does not reconcile with Table 2.2 ($433.8m) due to errors with United Energy's RIN data.

United Energy submits that:[30]

> In the current period we will materially exceed our regulatory allowance for replacement activities, particularly for poles and pole-top structures. This expenditure reflects rising input costs from the pandemic and ongoing global supply chain pressures, although our contract with our primary service provider muted some of these cost impacts.

To derive its forecasts, it used several forecasting methods including historical trend, condition-based risk model (CBRM), and economic analysis.

A.1.2 Reasons for our decision

We have reviewed the information United Energy provided in support of its repex forecast. We engaged EMCa to review aspects of United Energy's proposed repex. Where required, we have sought further information from United Energy through information requests.

[30] United Energy, *Regulatory proposal 2026–31*, p 39.

We undertook a top-down assessment which informed our bottom-up assessment of United Energy's proposed repex. Table A1.2 sets out United Energy's forecast and our draft decision at a program level.

Table A1.2 United Energy's repex forecast and our draft decision at a program level ($2025–26, million)

Program	United Energy's 2021–26 actual/est	United Energy's 2026–31 forecast	AER draft decision	% change (forecast vs draft decision)
Poles	98.2	131.8	93.6	-29.0%
Pole top structure	109.9	112.3	112.3	0.0%
Overhead conductors	14.8	68.6	68.6	0.0%
Underground cables	37.5	48.5	41.0	-15.3%
Services lines	21.9	22.9	22.9	0.0%
Distribution transformers	35.1	44.7	30.7	-31.4%
Distribution switchgear	42.7	55.2	48.9	-11.3%
ZSS transformers	8.6	8.4	7.2	-14.5%
ZSS switchgear	0.5	6.2	6.2	0.0%
SCADA	42.3	14.0	14.0	0.0%
Other	19.9	7.8	7.8	0.0%
Total repex	**431.4**	**520.5**	**453.3**	**-12.9%**

Source: United Energy's proposal and AER analysis. The 2026–31 forecast repex uses United Energy's capex model and 2021–26 actuals/estimated repex uses its RIN data.
Note: Doesn't include the innovation program. Total repex for 2021–26 actual/estimated does not reconcile with Table 5.2 ($433.8m) due to errors with United Energy's RIN data.

A.1.2.1 Top-down assessment

Our top-down assessment revealed that United Energy's proposed step up in repex of 20.0% in the forecast period relative to current period spend requires a closer review.[31] In particular, our top-down assessment found:

- United Energy is proposing an increase in repex relative to the current period for some programs. The main drivers of the step up is in its pole, overhead conductor, underground cable, distribution transformer and distribution switchgear programs. For other programs, it is proposing forecasts mostly in line or lower than historical spend.

[31] Rather than using RIN data for this comparison, we relied on United Energy's response to information request IR009.

- United Energy is expecting to overspend by 13.3% in the current period and submits that this is due to rising input costs and specific replacement requirements for some assets.
- United Energy does not perform well against the AER's repex model. The repex modelling results indicate that United Energy has comparatively higher unit rates and shorter replacement lives compared to the other 13 NEM DNSPs. As United Energy's modelled repex is 64% of its total repex, the repex model results indicate that a closer review of United Energy's repex forecast is required.
- United Energy's SAIFI results indicate improvement in performance overtime, with a decreasing trend in interruption frequency from 2015 to 2024, suggesting that reliability of its network is generally improving overtime.

A.1.2.2 Bottom-up assessment

Our bottom-up review found that the majority of United Energy's forecast at the program level is not prudent and efficient. We make some following overall observations:

- Where United Energy has provided sufficient evidence, we have accepted a step up in the forecast relative to the current period spend – We have accepted United Energy's forecast for its conductor's program because there appears to be increasing failures in HV conductors. Also, United Energy's supporting material including its risk model and inputs and assumptions in that model are reasonable.
- For some programs (poles, underground cables, distribution transformers and distribution switchgears), United Energy did not provide sufficient evidence to support the step up relative to current period spend - We found material data discrepancies which reduced our confidence in the forecast. There was also a lack of quantitative evidence to support the forecast step up. In those cases, our alternative forecast is United Energy's current period actual volume and/or spend in those programs.
- In a number of cases, we did not have confidence that United Energy's forecasting approach to volumes would result in prudent and efficient outcomes – United Energy uses its CBRM to forecast volumes for the bulk of its programs. We do not have confidence that this approach results in the most efficient outcome. United Energy uses the CBRM to predict the probability of failure (PoF), probability of consequence (PoC), and a health index (ranging from 0 to 10), where it intervenes when the health index exceeds a certain number (7 and above). Typically, the results of the CBRM are subsequently used in a cost benefit analysis (in terms of PoF and PoC) to determine the optimal investment that would result in net benefits to consumers. We found that United Energy did not undertake the critical end step of a cost benefit analysis (the monetisation of cost and benefit), instead assuming that its deterministic outcome from the CBRM is prudent and efficient.
- United Energy did not provide cost benefit analysis to support most of its forecasts – As set out in our asset replacement guidance note, we expect businesses to undertake economic analysis to demonstrate prudency and efficiency of its preferred investment. We consider a cost benefit analysis to be critical evidence especially where United Energy is forecasting a material step up in forecast volumes and/or unit rates. This is because the option that results in the greatest net benefit may change with material forecasted changes in volumes and/or unit rates. This is the case for United Energy's forecast for its poles program where a cost benefit analysis was not provided even

though United Energy is proposing a material step up in volumes relative to the historical period.

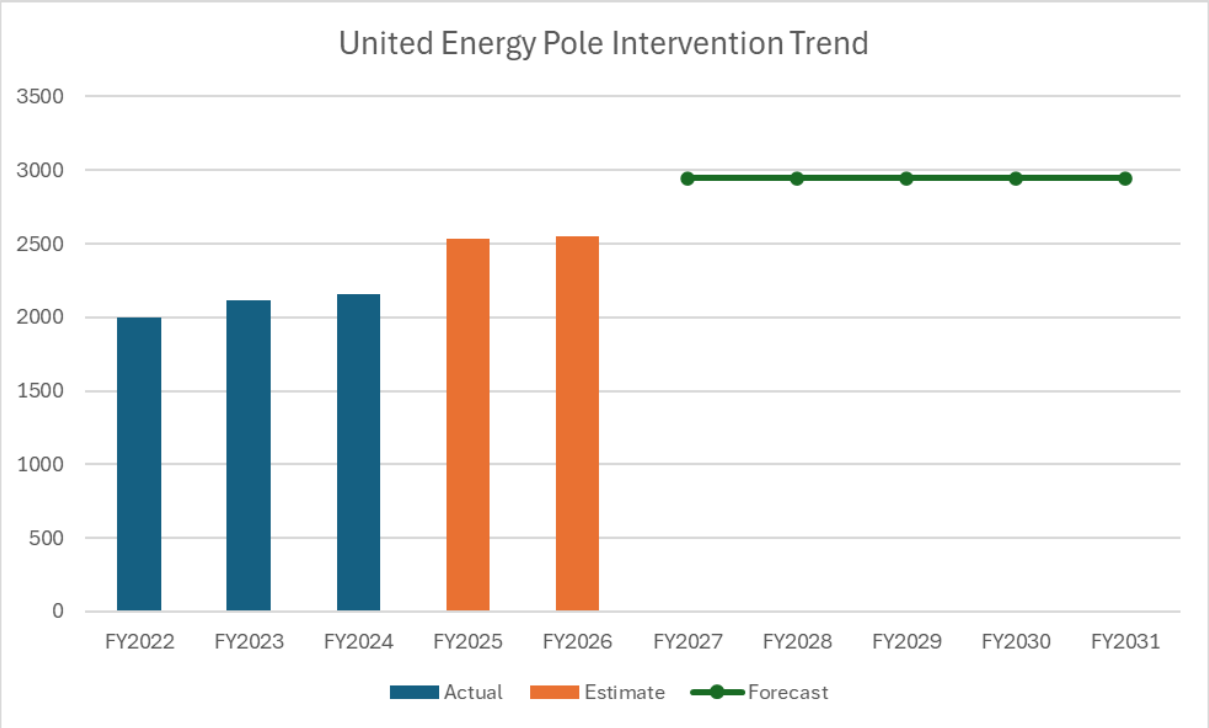
We discuss each of our findings on United Energy's forecast for each of its repex programs below.

Pole replacement

United Energy proposes $131.8 million for its pole replacement program. This is a step up of 34.3% relative to current period actual/estimates, which is driven by an increase in the volume of pole interventions from 11,354 in 2021–26 to 14,720 in 2026–31. It submits that the uplift in wood pole interventions in 2026–31 is because "While pole failures have been relatively low, the failure rate has increased steadily since 2017.1 In addition, wood pole defects have started to increase. Defects are a leading indicator of potential pole failures."[32]

Figure 2.2 sets out United Energy's proposed pole volume trend. As can be seen, United Energy is forecasting 2 uplifts in its volumes, this being a 22% increase in defects towards the end of the current period and then a further 19% increase in defects in 2026–31.

Figure 2.2 United Energy's pole intervention volumes overtime



Note: AER analysis.
Source: United Energy's CA RIN and reset RIN.

Our draft decision is to not accept United Energy's forecast for its pole replacement program. Our alternative forecast is $93.6 million which is derived using our substitute volumes of 10,452 poles. This alternative forecast is 29.0% lower than United Energy's forecast. We found that United Energy did not provide sufficient evidence to support the step up for 2026–31 relative to current period actuals/estimates. Our alternative forecast is based on the

[32] United Energy, *ASSET CLASS OVERVIEW: POLES*, January 2025, p 2.

historical average (3-years) of pole interventions of 2,090 per annum (or 10,452 over 5 years). We have not included the estimated data for the last 2 years of the current period as United Energy has not provided sufficient evidence to support the step up in these years. We have also applied United Energy's historical staking rate.

We came to our draft decision having regard to the following findings:

- Like EMCa who reviewed the decay model for Powercor and CitiPower, we found United Energy's decay model to lack transparency around input data. Further, we had reconciliation issues with United Energy's actual and forecast volumes in its proposal compared to the decay model volumes, an observation consistent with EMCa's for CitiPower and Powercor. For United Energy, we found that its actual and expected pole volume to be materially different to the model results.
- United Energy did not provide cost benefit analysis to support the prudency and efficiency of the step up in pole expenditure in the forecast period. In particular, United Energy did not test alternative intervention/different volume options to demonstrate the prudency and efficiency of its forecast. We consider this to be critical evidence especially given that United Energy is forecasting a material step up in pole volumes not just in the last 2 years of the current period but also a further step up in 2026–31.
- United Energy been not provided sufficient evidence that there has been an increase in historical defect volumes. We observe a flat trend in intervention volumes since 2019. Typically, we would expect pole defect volumes to align closely with pole intervention volumes where a condition-based approach has been used to derive pole intervention volumes. While we can align recent years defect volume against the pole intervention volume in the RIN (i.e. around 2,100 poles per annum since 2021–22), there are unexplained differences in the earlier years that gives the appearance of an increase in defects (i.e. for 2019, 1,500 defects in United Energy's proposal versus 2,160 pole interventions in the RIN). Based on our review of the RIN data, United Energy pole interventions have been around 2,100 poles per annum since 2019. United Energy provided no information to suggest that the identified defects in any given year can be materially different to the pole intervention volume under a condition-based approach.
- Contrary to United Energy's submission, we found its historical failure to be comparatively low and stable. United Energy poles performance for the past 7 years is below 0.4 failure for every 10,000 poles. This is well below industry guide of 1 failure for every 10,000 poles (and performs better than Powercor and CitiPower). While there is a slight increase in failure in 2018, 2019 and 2020, it started at a very low point of 0.1 failure for every 10,000 poles in 2017 (i.e. less than 2 failures). Failures have also returned to this level in recent years (i.e. 2022-23 and 2023-24). Given its population of 167,000 poles and the low failure volume (i.e. 2 to 8 failures per annum), we consider that the observed increase in 2018, 2019 and 2020 is likely to be related to natural volatility than a sign of emerging risk.

Overhead conductors

United Energy proposes $68.6 million for its overhead conductors' program. Our draft decision is to accept United Energy's forecast for this program. We found that United Energy provided sufficient evidence to support the prudency and efficiency of its investment, including the material step up in 2026–31 relative to current period actual/estimates.

We reviewed United Energy's risk analysis and modelling and came to our draft decision having regard to the following findings:

- Calculation of failure rates does not seem unreasonable, therefore the increasing failure rate trend in HV conductors is an area of concern;
- United Energy's risk-based bottom-up framework is reasonable;
- Most assumptions and inputs within its risk analysis are reasonable. For instance, the unit rates applied do not appear to be overestimated and the calculation of unserved energy is reasonable.
- While United Energy's sensitivity analysis results in intervention for some feeders having a negative cost benefit, this does not materially change the overall outcome of the proposed capex being supported.

We note that this program has the overall effect of improving reliability, which requires a STPIS adjustment. We therefore expect United Energy to propose a STPIS adjustment in its revised proposal to ensure that it does not get rewarded for improvements in reliability that customers would have already paid for.

Underground cables

United Energy proposes $48.5 million for its underground cable program. This is a step up of 29.4% relative to current period actuals/estimates. Our draft decision is to not accept United Energy's forecast. Our alternative forecast is $41.0 million which is based on United Energy's current period spend. We found that United Energy did not provide sufficient evidence to support the step up in the forecast. There is a lack of clarity as to how United Energy has derived the step up in the forecast given that United Energy submits that its forecast is based on historical average volumes in the current period and it does not propose a material increase in unit rates in its business case. United Energy submits that:[33]

> Given the random nature of underground cable failures, including the variable length of any corresponding cable replacements, our fault and corrective forecasts for underground cable systems are based on a simple average over the previous 5-year period.

We also observed discrepancies in United Energy's submitted RINs between its historical actual and forecast expenditure at the sub-category level.

Distribution transformers

United Energy proposes $44.7 million for its distribution transformer program. This is a step up of 27.4% relative to current period actual/estimates. This program is comprised of defective pole transformer ($16.5 million), defective kiosk transformer ($18.9 million), and defective ground transformer ($9.3 million) replacements. The step up appears to be driven by an increase in the overall replacement volume.

Our draft decision is to not accept United Energy's forecast. Our alternative forecast of $30.7 million is based on United Energy's current period actuals over the first three years. We

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[33] United Energy, *ASSET CLASS OVERVIEW: UNDERGROUND CABLES*, January 2025, p 9.

found that United Energy did not provide sufficient evidence to support the step up for 2026–31.

We came to our draft decision having regard to the following:

- Historical failure trend is relatively consistent with no indication of emerging risks. While there is an increase in pole transformer defects in recent years, this is largely offset by an equivalent decrease in non-pole transformer defects such that the total distribution transformer defects remain relatively constant for the past 5 years.
- Based on our review of the RIN data, United Energy is expecting a 42.0% step up in its annual replacement volume for 2024–25 and 2025–26 (fourth and fifth year in the current period) relative to the annual replacement volume of the first 3 years of the current period. However, we cannot align the actual and forecast defect volumes in the business case with the replacement volumes in the RIN for distribution transformers. As with our observation with poles, we would expect defect volumes to align closely with replacement volumes where a condition-based approach has been used to derive replacement volumes. While it is possible to repair certain distribution transformers defects (unlike pole defects), repairs are typically captured as an opex activity and should be relatively constant.
- Its age profile is relatively young with about 700 (or 5.0%) of the population over 50 years of age (the typical service life of this type of assets). United Energy proposal to replace 1,166 distribution transformers (or 8.2%) of the population appears excessive given both its historical performance and age profile.

Given the above findings and a lack of cost benefit analysis to support the step up in expenditure in the forecast period, we are not satisfied that United Energy's forecast is prudent and efficient.

Our alternative forecast uses data that we have more confidence in; that is, the 3 years of actual intervention in the current period. We did not use the estimated data for the last 2 years of the current period as United Energy has not provided sufficient evidence to support the material step up in these years. We invite United Energy to address the data discrepancies and provide other analysis to support its forecast. In coming to our final decision, we will also have regard to actual volumes in 2024-25 (fourth year in the current period), which will be available after our draft decision.

Distribution switchgears

United Energy proposes $55.2 million for its distribution switchgear program. This is a 29.3% step up from current period actual/estimates. This program comprises of defective switch ($33.2 million), defective fuse and surge diverter ($14.1 million), and other distribution ($7.8 million) replacements. The step up is driven by an increase in replacement volume in defective fuses and surge diverters. Our draft decision is to not accept United Energy's forecast. Our alternative forecast is $48.9 million which is close to United Energy's historical spend.

We came to our draft decision, having regard to the following:

- While there is an increase in pole mounted switchgear failures from 2021 to 2023, there is also a decrease in pole mounted switchgear defects in the same period. United

Energy stated that this is due to a particular type of manual gas switch failures (i.e. ILJIN) which has a design defect and is the subject to a targeted replacement program and updated inspection practices.[34]

- In its business case, United Energy is proposing to replace 5,510 defective switches next period from a population of 13,396 or 41.1% of the population.[35] Based on our review of the RIN data, a volume of 5,510 represents about 6% of the population. We suspect this is a reporting error as there is a material difference in the age profile data between the business case and the RIN. We also could not reconcile distribution switchgears repex between the capex model and the RIN forecasts.
- For the defective fuse and surge diverter program, there is a 43.8% step up from 2024–25 and 2025–26 (fourth and fifth year in the current period) relative to the annual replacement volume of the first 3 years of the current period based on our review of the RIN data. In its business case, United Energy stated that these assets are typically run to failure given their low value and provided no supporting information on the reason for a step up in the current and next period.[36]

Our alternative forecast uses data that we have more confidence in; that is, the 3 years of actual intervention in the current period. We did not use the estimated data for the last 2 years of the current period as United Energy has not provided sufficient evidence to support the material step up in these years. We invite United Energy to address the data discrepancies and provide other analysis to support its forecast. In coming to our final decision, we will also have regard to actual volumes in 2024-25 (fourth year in the current period), which will be available after our draft decision.

Pole top structures

United Energy proposes $112.3 million for its pole top structures program. This is similar to its current period spend. We note that its forecast is driven by a slightly lower volume forecast offset by a higher average unit cost forecast compared to the current period. Our draft decision is to accept United Energy's forecast. We consider that United Energy has provided sufficient information to support the prudency and efficiency of its forecast. In particular, we found that:

- United Energy's replacement volume trend is relatively consistent, averaging round 5,700 per annum in the last 4 years while it is proposing a lower volume of 5,500 per annum next period.
- While the unit costs have increased, it is within the average of the Victorian DNSPs (and materially lower than Powercor and CitiPower); and
- Failure rates are relatively stable at around 30 to 40 failures per annum on a population of 253,932.

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34 United Energy, *ASSET CLASS OVERVIEW: DISTRIBUTION SWITCHGEAR*, January 2025, p 6.

35 United Energy, *ASSET CLASS OVERVIEW: DISTRIBUTION SWITCHGEAR*, p 4, 10.

36 United Energy, *ASSET CLASS OVERVIEW: DISTRIBUTION SWITCHGEAR*, p 6.

Substation switchgears, substation transformers, service lines, SCADA and other replacement programs

Our draft decision position is to accept United Energy's forecast for its substation switchgear, substation transformers, service lines, SCADA and 'other' programs. We note that its forecasts for these programs are below its current period actual/estimates. We also consider that it has provided sufficient information to support its forecast for 2026–31.

United Energy submitted that it its other replacement program had a misallocation with another category in its reset RIN.[37] In its revised proposal, we encourage United Energy to re-submit its reset RIN adjusting for any errors it found since submitting its initial proposal.

A.2 Augex

We do not accept that United Energy's augex forecast of $148.6 million would form part of a total capex forecast that reasonably reflects the capex criteria. Our draft decision includes $44.0 million in augex, which is $104.6 million (or 70.4%) lower than United Energy's proposal.

A.2.1 United Energy's proposal

United Energy has proposed $180.3 million for augex. We consider $4.8 million of proposed capex is network innovation and $26.9 is resilience and have assessed this as such. For our draft determination, we have assessed the remaining $148.6 million as augex and referred to this amount for the remainder of this section.

United Energy expects to underspend its augex by 9.6% in the current period which it submits is due to several factors including:[38]

- reductions due to stronger-than-expected solar export solutions
- Doncaster augmentation partially deferred due to higher costs
- COVID-related demand uncertainty and supply delays.

United Energy's forecast is a material step up (50.9%) relative to its current period spend. It notes that the increase is primarily driven by an increase in its demand forecast and demand driven capex as a result.[39] United Energy has proposed $111.5 million for demand driven and $37.1 million for non-demand driven augex. The key drivers of demand driven augex for United Energy are increasing peak demand, population growth and electrification of gas and transport.

A.2.2 Reasons for our decision

In coming to our decision, we have reviewed the information United Energy provided in support of its augex forecast and had regard to findings from consultants EMCa and Baringa We engaged EMCa to review aspects of United Energy's proposed augex and Baringa to review United Energy's demand forecast. When assessing United Energy's proposal for augex, we had regard to major project business cases, key assumptions, identification of

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37 United Energy, *Response to information request 039*, July 2025, p 18.

38 United Energy, *Regulatory proposal 2026–31*, p 31.

39 United Energy, *Regulatory proposal 2026–31*, p 31.

need, historical comparison, options and cost benefit analysis. Where required, we have sought further information from United Energy through information requests.

We undertook a top-down assessment which informed our bottom-up assessment of United Energy's proposed augex.

A.2.2.1 Top-down assessment

Our top-down assessment revealed that United Energy's proposed step up in augex of 50.9% in the forecast period relative to current period spend required a more in-depth assessment. Our top-down assessment found:

- The quality and transparency of the economic analysis and investment options considered by United Energy requires review.
- United Energy's demand forecasting model requires a full review to justify the large increases in demand.
- United Energy is proposing an increase in augex relative to the current period in particular in its demand driven augex. The key drivers of demand driven augex for United Energy are increasing peak demand, population growth and electrification of gas and transport.
- United Energy is expecting to underspend by 9.6% in the current period but its forecast for 2026–31 is materially higher. The increase in its forecast for 2026–31 is partially driven by United Energy's large customer driven electrification program.

A.2.2.2 Bottom-up assessment

We make some following overall observations:

- *United Energy's Cost benefit analysis was not sufficient in some cases*

  We engaged EMCa to undertake a targeted review of 2 augex projects ($111.3 million or 74.9%). These are the customer driven electrification ($70.4 million) and Lower Mornington supply upgrades ($41.1 million) projects.

  We note the following key findings identified by EMCa:[40]

  - United Energy has selected the highest net present value (NPV) option in each case (except for projects based on a compliance obligation) and the business cases presented both the optimal timing of the project and sensitivity analyses focussed on the NPV. The sensitivity analysis was focused on the robustness of the NPV against negative changes however, it did not include changes to the optimal timing.
  - United Energy presented business cases and supporting cost-benefit analysis (CBA) models that provided foundational material to support assessment. However, CBA models were not transparent and contained hard-coded data. In some cases, United Energy's responses to information requests did provide the additional detail necessary but there were still some responses with hard coded data.

[40] EMCa, *United Energy 2026 – 2031 Regulatory Proposal: REVIEW OF ASPECTS OF PROPOSED EXPENDITURE ON AUGEX, REPEX AND VEGETATION MANAGEMENT,* report to the AER, EMCa, 2025 p 37-39.

- One issue from the business cases and CBA models is the limited information on the cost estimation for projects and that in several cases the cost estimates are too high.
- For the demand-driven projects EMCa were satisfied that there was a need for United Energy to consider means of mitigating the risk of unserved energy with increasing demand. United Energy presented a good range of options but did not consider any non network solutions to economically defer network expansion.
- Overall concerns with United Energy's analysis include not adequately justified timings, high costs and incorrect use of VCR.

Our assessment concurs with EMCa's findings and we have undertaken a similar analysis for the remaining projects and found similar concerns for some projects.

- *Issues were identified with the demand forecast but these did not materially affect the augex forecast*

  We engaged Baringa Consulting to review CPU's demand forecasts. Baringa assessed the methodologies and assumptions underpinning the demand forecast.

  We note the following key findings identified by Baringa:[41]

  - CPU's forecasting approach is generally well-documented, though there are inconsistencies in the treatment of block loads.
  - Baringa had some concern with the maximum demand forecast due to validation challenges with the Blunomy model and the exclusion of gas electrification impacts. Baringa also had moderate concerns with the minimum demand forecast. However, errors in the maximum and minimum demand forecasts have opposite effects on augex and customer energy resources (CER) enablement expenditure. As such, issues with maximum and minimum demand have had no material impact on the augex at a project level.
  - Customer number forecasts did raise some concern, with the stated methodology appearing inconsistent with regulatory information notices (RIN) data and likely overstating growth given historically slower customer growth. This did not have an impact on augex at the project level.

  We agree with Baringa's findings on the demand forecast. Specifically, we agree that despite the issues identified by Baringa, we do not consider it had a material impact on our conclusions on augex. We have not made any adjustments for the demand forecast and all our adjustments related to the issues identified with the cost benefit analysis above.

Our bottom-up review found that some of United Energy's forecast at the project level is not prudent and efficient. While we made no changes to the demand forecast, we found issues in United Energy's cost benefit analysis including issues with optimal timing, high costs and the incorrect use of VCR. Our project specific issues are discussed in more detail below. Table A2.1 sets out our alternative forecast for United Energy's augex projects.

[41] Baringa, *Report to AER on United Energy Demand Forecast*, July 2025, pp 6, 27–36.

Table A2.1 United Energy's augex forecast by project compared with draft decision ($2025–26, million)

Project	United Energy forecast	Reduction	Draft decision
Customer-driven electrification	70.4	62.1	8.3
Lower Mornington Peninsula supply upgrades	41.1	41.1	0.0
System security	13.2	0.0	13.2
Communications	9.4	0.0	9.4
Operational technology	6.2	0.0	6.2
Metering	4.3	1.4	2.8
HV feeder program	2.9	0.0	2.9
Power quality	0.6	0.0	0.6
Subtransmission upgrades	0.5	0.0	0.5
Total augex	**148.6**	**104.6**	**44.0**

Source: United Energy regulatory proposal, AER analysis. Numbers may not sum due to rounding.

For the projects in Table A2.1 that we have accepted we found these are prudent and efficient investments. We assessed United Energy's business cases and models and found that United Energy assessed investment options using reasonable assumptions and provided options analysis where relevant. Where projects were ongoing business as usual programs we found that the costs were consistent with historical spending. For projects proposed to meet compliance obligations we found that United Energy had proposed the least cost option to rectify the issue.

We have made adjustments to proposed metering capex to reflect our updates to communications equipment unit costs. This includes reducing unit costs and installation costs to better align with historically approved costs for a few types of communications equipment. Please see Attachment 15 – Metering Services for details.

We discuss our findings on United Energy's forecast where we recommend an alternative forecast below.

Customer driven electrification

United Energy proposes a $70.4 million capex program to improve its steady-state voltage compliance by investing in proactive augmentation, and reactive augmentation, with a preference for proactive investment that maintains existing voltage performance levels. Our draft decision is to not accept United Energy's forecast and to include an alternative forecast of $8.3 million which is $62.0 million lower than United Energy's forecast.

Our analysis of the cost benefit analysis model has shown that United Energy has not justified the need to conduct this level of augmentation during the next regulatory period. Our

alternative forecast applies historical costs from the current regulatory period to maintain voltage compliance.

We came to our draft decision having regard to the following findings identified by EMCa:[42]

- EMCa were satisfied that United Energy is likely to have to spend on maintaining voltage compliance above the functional limit over the next regulatory period due to forecast demand and the expected trend to electrification. However, United Energy's modelling indicates it is likely to maintain compliance beyond the end of the next regulatory period and we consider that the impact of voltage decline is likely to be less than United Energy has forecast.
- Based on the information provided, the jump from 4 voltage complaints in FY24 to 62 voltage complaints forecast for FY27, is not reasonable from the information provided. In United Energy's 2023 and 2024 annual RINs, it recorded 2 and 4 complaints related to technical quality of supply respectively. However, United Energy has included a forecast of 62 complaints in its model for FY27. United Energy has not provided sufficient justification for the gap between the RIN and the inputs to United Energy's model.
- The use of VCR to value energy served to customers at less than 216 volts is not a valid application of the VCR. United Energy values energy supplied to customers at non-compliant voltages using the VCR. EV charging interruption is the main example given for valuing curtailment using VCR. Using the VCR to assign value to energy supplied with non-compliant voltages is not consistent with the AER's intended application of it, even for curtailment of EV charging. 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. Customer impacts of undervoltage would be much less than VCR. There is likely delay to EV charging but this is not typically real-time critical. EMCa expect that 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 EMCa assume to be modest impacts. United Energy's use of VCR to attribute an economic cost to undervoltage supply overestimates this cost, leading to an overestimation of the economic benefits of rectification.
- United Energy would not risk breaching its voltage compliance obligations[43] within the next regulatory control period. EMCa consider that there are approaches that are less expensive than a large augmentation project that can be used to maintain this obligation. This includes using AMI data to deploy a mix of focused HV, LV, proactive and reactive interventions where and when required. United Energy can also use non network approaches, including Flexible Services, to mitigate voltage decline. United Energy has not demonstrated the need and justification to maintain voltage service at current levels throughout the period.

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42 EMCa, *United Energy 2026 – 2031 Regulatory Proposal: REVIEW OF ASPECTS OF PROPOSED EXPENDITURE ON AUGEX, REPEX AND VEGETATION MANAGEMENT,* report to the AER, EMCa, 2025 p 29-37.

43 Victorian Essential Services Commission, Electricity distribution code of practice clause 20.4.1

We have considered EMCa's findings and agree that United Energy has not justified this level of augmentation during the next regulatory period. In particular, we consider that the use of VCR to value undervoltage is not appropriate and that the impacts would be much less. We also consider that the increase in voltage complaints is not reasonable, and United Energy needs to consider approaches that are less expensive to maintain its functional compliance obligations.

Based on the information provided United Energy can maintain voltage compliance obligations with existing expenditure. We do not consider that United Energy's proposal justifies the step up in expenditure for this project in the next regulatory period. Given the range of issues we consider that historical costs is an appropriate alternative estimate, as United Energy has not justified the need for additional expenditure beyond historical spending. However, we invite United Energy to consider this project in its revised proposal while taking into account the concerns we have raised.

Lower Mornington Peninsula supply upgrades

United Energy proposes a $41.1 million capex program to provide reliable supply of electricity across the Lower Mornington Peninsula area as forecast demand continues to increase. The project aims to avoid the risk of voltage collapse and widespread outages by constructing a 54 km 66 kV sub-transmission line from Higgins (HGS) to Rosebud (RBD) zone substations by FY31. United Energy currently have an operational non-network solution program across the Lower Mornington Peninsula to defer economic augmentation. This program includes 9MW of diesel generation and battery energy storage. United Energy's preferred option is to construct the HGS-RBD sub-transmission line in FY31 and continue with the non-network solution throughout the forecast period until the line's completion at the end of the period.

Our draft decision is to not accept United Energy's forecast and to not include this project in our alternative forecast. We recommend United Energy continues with the current non network solution in the 2026–31 period and reconsiders this project in the next regulatory control period.

We came to our draft decision having regard to the following findings identified by EMCa:[44]

- EMCa found that as peak demand is concentrated in predictable holiday spikes, continuing or expanding the current non network solution in FY31 may be a cost-effective way to defer the new line. The cost in the CBA model for this option is $111k per year commencing in FY32 and increasing by about $111k per year every second year. The cost estimate does not appear to have been derived from the market. There are multiple suppliers of diesel generators and temporary leases are generally available. These could readily be factored into the cost-benefit analysis ahead of the RIT-D process, and if United Energy chooses to submit a RIT-D for its preferred project, the market will have the opportunity to respond and provide network support. United Energy has not explicitly or adequately assessed this option.

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44 EMCa, *United Energy 2026 – 2031 Regulatory Proposal: REVIEW OF ASPECTS OF PROPOSED EXPENDITURE ON AUGEX, REPEX AND VEGETATION MANAGEMENT,* report to the AER, EMCa, 2025 p 23-27.

- United Energy also does not appear to have considered expansion of the power station for one or more years to defer the need for the HGS-RBD 66kV line either. We recommend that this option is explored before any commitment is made to the new 66kV line.

We have considered EMCa findings and agree that it is more cost effective to continue with the current non-network solution in the 2026–31 period. We recommend United Energy reconsiders this project in the next regulatory control period.

A.3 Connections

We do not accept that United Energy's net connections capex forecast of $97.0 million and capital contributions (type 1) of $327.4 million would form part of a total capex forecast that reasonably reflects the capex criteria.[45] Our draft decision includes $88.8 million in net connections capex and $299.6 million in capital contributions. When compared with United Energy's proposal, this is a decrease of $8.2 million (8.5%) in net connections and $27.9 million (8.5%) in capital contributions.

A.3.1 United Energy's proposal

United Energy proposed $97.0 million for total net connections capex. United Energy's net connections capex forecast represents an 83.7% increase in expenditure compared to current period actual/estimates of $52.8 million. United Energy has explained the continuing housing shortages across Victoria and the development of the Suburban rail loop have significantly contributed to this uplift.[46] United Energy also proposed $327.4 million in capital contributions (type 1), which is a 4.9% increase from the current period of $312.2 million, and $7.9 million for grid-connected batteries.

Table A3.2.6A3.1 summarises the changes in total net connections and capital contributions from the current period to the forecast period.

Table A3.2.6 United Energy's connections proposal ($2025–26, million)

United Energy's proposal	2021–26 actuals/est	2026–31 forecast	% change
Net connections	52.8	97.0	83.7%
Capital contributions	312.2	327.4	4.9%

United Energy engaged with its consultant Macromonitor to develop its forecast modelling approach for connections capex. Macromonitor applied an econometric model that incorporates historical trends, demographic forecasts, occupant/purchase demand and expected growth in various customer types in developing its final forecasts for connection volumes and unit rates. It has also provided a summary of their forecasting methodology for both residential and non-residential connections which employs:

- publicly available data

[45] Contributions from customers can be via direct funding (Type 1 contributions) or in contributed or gifted assets (Type 2 contributions). Only Type 1 capital contribution has been considered in making this decision.

[46] United Energy, *Regulatory Proposal 2026–31*, p 55.

- known projects and
- a detailed analysis of economic influences used in their econometric model.

Across the material business as usual (BAU) connection types, United Energy forecasts an average increase of 25.5% from its current period volumes.[47] We excluded embedded generation connections in calculating this increase as they were immaterial in net connections and skewed the volume aggregate. Macromonitor has attributed drivers such as a reduction in interest rates and continuing housing shortages to the increasing volumes.[48]

A.3.2 Reasons for our decision

For our analysis of United Energy's connections, we have divided the capex into 2 categories: BAU connections, and large bespoke connections (which include grid-connected batteries).

We engaged Baringa to assess United Energy's connections volumes. We came to our draft decision having regard to Baringa's findings and our assessment of United Energy's connection volumes, unit rates and associated methodologies.

A.3.2.1 BAU connections

Our draft decision includes $80.9 million in BAU net connections capex and $274.2 million in capital contributions, which is $8.2 million (9.2%) and $27.9 million (9.2%) lower than United Energy's proposal respectively.

We broadly accept United Energy's forecast volumes for BAU connection types. Baringa found the alignment of the gross state product growth rates with historical trends ensured volumes forecasts were realistic, reflecting long-term economic dynamics.[49] Further, Macromonitor had used publicly available sources such as the ABS as inputs for their projections, which were able to be verified. Based on Baringa's assessment we are satisfied that the forecast connection volumes are prudent and efficient. However, we note some of United Energy's forecast volumes methodology could benefit from increased transparency of its intermediary calculation steps.

We do not consider United Energy's forecast unit rates are reasonable as it used 2022–23 unit rates as the basis for its forecast. United Energy submits that the 2023–24 year is not a sensible basis for unit rates due to outlier projects and mismatches between costs incurred and revenue.[50] While United Energy considered the prior years' unit rates were are not a reliable indicator of forecast unit rates because of volatility during the pandemic, it did not sufficiently explain how the selection of a single year addresses the issue of volatility.[51] We consider that using a longer historical trend better reflects forecast unit rates, particularly where volatility is an issue. For this reason, our alternative forecast is based on 2 years

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47 BAU connections consists of residential, commercial and industrial, subdivision and embedded generation connection types. United Energy, *UE MOD 6.01 - Connections - Jan2025 - Public,* January 2025.

48 Macromonitor, *UE ATT 6.03 - MacroMonitor - Forecasts by region August 2024 - Jan2025 - Public,* August 2024, pp 1, 9; United Energy, *Regulatory Proposal 2026–31*, p 59.

49 Baringa, *Baringa_AER_Victorian distribution demand_United Energy_Final report_v2.0,* July 2025, p 27.

50 United Energy, *Response to information request 016: CESS and Connections,* 14 April 2025, p 5.

51 United Energy, *Response to information request 016*, p 6.

(2021–22 and 2022–23) of actual unit rates in the 2021–26 period.[52] This results in a $8.2 million or a 9.2% decrease in net connections. We intend to update this to include the fourth year when the data is available.

We also reviewed the capital contributions formula. In response to an information request, United Energy clarified that the contribution rates have been calculated from samples of completed projects by connection category.[53] These samples are updated based on the global weighted average costs of capital. We consider this methodology reasonable.

We encourage United Energy to respond to the issues we have raised in its revised proposal. We also welcome further supporting information, including actual capex from 2024–25, policy changes, and updated economic and demographic statistics which could materially impact its forecast assumptions.

A.3.2.2 Large bespoke connections

We accept United Energy's grid-connected batteries proposal of $7.9 million. This is because it is based on an established forecasting methodology, noting that these connections are offset by substantial capital contributions.

A.4 Resilience

We do not accept that United Energy's total expenditure (totex) forecast of $35.2 million ($30.7 million capex, $4.4 million opex) for resilience would form part of a total expenditure forecast that reasonably reflects the expenditure criteria. We have included $12.7 million ($12.7 million capex, $0 million opex) in our alternative estimate.

A.4.1 United Energy's proposal

United Energy proposes a network resilience totex forecast of $35.2 million comprised of 4 programs. United Energy submits that its network resilience '… investments have been driven by the outcomes from recent Victorian Government reviews, and strongly supported by stakeholder and customer feedback.'[54]

Table A4.1 provides a breakdown of these programs.

Table A4.1 United Energy's 2026–31 resilience initial proposal ($2026 real, million)

Project/program	Capex	Opex	Total
Shoreham Zone Substation	27.0	0.0	27.0
Situational awareness for extreme weather	3.4	2.8	6.2
Mobile emergency response vehicles	0.3	0.0	0.3
Community support officers	0.0	1.6	1.6
Total resilience forecast	**30.7**	**4.4**	**35.2**

52 We have omitted 2023–24 data due to mismatches between costs incurred and revenue in this period.

53 United Energy, *Response to information request 016*, p 5.

54 United Energy, *NETWORK AND COMMUNITY RESILIENCE*, 31 January 2025, p 12.

To understand how extreme weather events are likely to impact its network and communities over the next regulatory period and beyond, United Energy engaged AECOM to undertake a climate impact assessment. This assessment used existing independent literature, including the Victorian Government's Climate Science Report and the Electricity Sector Climate Information, to identify and map climate risks and hazards.[55]

In assessing potential resilience investments, United Energy also included the AER's recently released value of network resilience. For its proposed programs, United Energy also undertook a cost benefit assessment.

A.4.2 Reasons for our decision

We acknowledge the continual need for investments by networks to better manage extreme weather events and the projected increase in climate related risk. We are aware that modelling the impact of extreme weather events on networks is a challenging and new area of forecasting. We acknowledge the efforts made by United Energy to understand those impacts and have accepted its climate risk modelling, noting that we are still at a learning stage of modelling climate risk.

We also recognise United Energy's extensive customer engagement to better understand its customers' preferences on resilience-related expenditure, especially around community resilience initiatives. We have accepted the proposed capex for these initiatives. We have also accepted the need for the initiatives that are in line with the Network Outage Review as we consider these will assist in planning for, and quicker restoration and recovery after, an extreme weather event.[56]

Where we recommend not accepting community resilience related opex, this is because we do not consider incremental step changes for these minor costs are warranted under our opex forecasting approach.

We have not accepted United Energy's forecast in full. This is because while we found that network investments are prudent, we were not provided with sufficient evidence that its proposed solution was efficient, and therefore the option that would achieve the greatest net benefit to consumers. In particular, we consider that it overestimated the benefits associated with the programs and therefore the capex to achieve these benefits.

Below we set out our assessment of United Energy's proposal against our resilience guidance note, and our review of United Energy's bottom-up forecast.

A.4.2.1 Assessment against network resilience guidance note criteria

In assessing the prudency and efficiency of United Energy's climate resilience program, we have had regard to the extent that its proposal satisfies relevant criteria in our guidance note on network resilience.

Overall, we consider United Energy has satisfied some of the network resilience guidance note criteria. While it engaged well with its customers about network resilience expenditure

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55 United Energy, *Network and Community Resilience*, p 9.

56 Department of Energy, Environment and Climate Action, *Network Outage Review – Final Report*, September 2024.

and made efforts in modelling climate risk and how that risk impacts its assets, we found that for one program, United Energy materially overestimated costs and benefits such that its preferred option is not the efficient option.

Identified need

United Energy engaged AECOM to undertake a climate impact assessment and to develop a methodology to measure how these climate hazards will impact its network in the future. The majority of this modelling focused on bushfire and flood as United Energy submits that modelling related to other types of extreme events is still maturing (i.e. windstorm).

We consider that United Energy has demonstrated a reasonable increase in the rate of risk of unserved energy due to climate change. It has also made efforts to develop a causal link between the proposed resilience expenditure and the increase in risk from floods and bushfire.

Testing of the preferred option

We consider that United Energy has not satisfied this criterion.

For its Shoreham Zone Substation program, while we acknowledge that this investment is prudent, we consider that United Energy has materially overestimated the costs to mitigate the risk and also overestimated benefits. We therefore do not have confidence that its preferred option is the option that achieves the greatest net benefit.

Genuine customer engagement

We consider that United Energy has satisfied this criterion.

The CCP32 considers that United Energy undertook reasonable engagement with its wider customer group as well as at the community level. United Energy conducted 3 resilience workshops with customers, supported by Forethought, during March 2024 held in Red Hill, Ballarat and online with 37 people participating across the workshops. The joint DNSP resilience framework activities included an additional 136 people.[57]

United Energy's Customer Advisory Panel (CAP) considers that United Energy has undertaken a sincere, thorough and sustained engagement program, including diverse customer groups and other stakeholders.[58] The CAP also notes its support for the community resilience initiatives, notably the community support officers. [59]

A.4.2.2 Findings on United Energy's bottom-up forecast

Shoreham Zone Substation

United Energy submits that the new Shoreham zone substation in the Lower Mornington Peninsula (LMP) area is required to maintain service standards of four heavily vegetated,

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57 United Energy Consumer Challenge Panel, *CCP32 Advice to the Australian Energy Regulator on the 2026–31 Regulatory Proposal for United Energy Electricity Distribution Network*, 14 May 2025, p15.

58 Customer Advisory Panel, *Customer Advisory Panel report on United Energy's Regulatory Proposal 2026–31*, April 2025, p1.

59 Customer Advisory Panel, *Customer Advisory Panel report on United Energy's Regulatory Proposal 2026–31*, April 2025, p 28.

short rural feeders that have been identified as amongst the least resilient supply areas across United Energy's network.[60]

United Energy proposed this program in tandem with its augex proposal to build a 66kV sub-transmission line in the LMP area due to the growth in residential electricity demand (see section A.2). United Energy submits the LMP area is characterised by mostly holiday homes, therefore, maintaining security of supply during peak holiday periods is the main driver for this investment, with holiday loads close to double the load of standard summer peaks.

Our draft decision accepts the prudency of the proposed program. However, we consider the costs of the proposed intervention are materially overestimated, and our alternative forecast reflects the adjustment to a more reasonable cost. Our alternative forecast is $9.0 million.

While we acknowledge AECOM's climate impact assessment, we have several concerns with United Energy's cost benefit analysis where we consider that the benefits have been overestimated. We found:

- United Energy has not undertaken sufficient root cause and options analysis to demonstrate that its preferred investment is the most efficient - there are other feasible options that could also mitigate the outage concerns in the LMP area. Commonly used solutions we observed from other DNSPs include more frequent/heavier vegetation clearance and/or use of mobile generators.[61]
- United Energy's preferred option does not appear to have regard to the transient nature of the customer base in the LMP where load peaks occur mostly during holidays – this means the load factor in the LMP is relatively low and the use of average load to determine the likely benefits might not be appropriate. In addition, transient situations like these further support a generator solution as a substation solution would be underutilised most of the time.
- United Energy has not made any adjustments for the same benefits occurring across programs resulting in a double-counting of benefits – United Energy's situational awareness program, which we have included in our alternative forecast, has forecasted a 4% reduction in Customer Average Interruption Duration Index. If the program results in quicker restoration of power to a customer after an outage or prevent certain outages altogether, this reduces the need for other resilience programs. Yet no adjustment has been made in United Energy's modelling to account for double-counting of benefits.
- United Energy's forecast effectiveness of the investment of 45% is overestimated – the proposed substation solution aims to split the existing 4 short rural feeders into 8 feeders.[62] During a major event where multiple failures occur throughout the area, a new substation is unlikely to achieve this level of effectiveness as many of these faults will still need to be repaired to restore supply in a staggered manner. In addition, if strategic

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60 United Energy, *Network and Community Resilience*, 31 January 2025, p 18.

61 We note that Ergon Energy and Energex deploys mobile generators at the HV level during outages. We also accepted the mobile generator program for SAPN and Ergon Energy in recent proposals where it quantified as well as demonstrated the effectiveness of these type of programs for outages over 6 hours.

62 This involves separating the 4 existing feeders around the middle and supplying these separated feeders via the new substation.

placement of generators is ineffective as United Energy submits then a substation solution would also be ineffective as a substation offers a source of supply not materially different to the deployment of multiple generators. In comparison, mobile generators offer more flexibility as it can be deployed in different locations on an as-needs basis compared to a new substation at a fixed location.

For the above reasons, we do not consider that United Energy's forecast to be efficient. To derive our alternative forecast, we have substituted the construction of a new zone substation with mobile generators. We also note that investment in mobile generators is likely to result in benefits to consumers sooner than a new substation. United Energy has forecast that the Shoreham zone substation would not come into effect until 2031 while investing in mobile generators would result in the benefits being realised much sooner if a major event is to occur next period. Our alternative forecast of $9.0 million is based on a unit rate of $1.5 million for the HV mobile generators with a capacity of 1,500kVA. 6 units would produce the equivalent capacity to supply the average demand across the four feeders targeted for investment at a cost of $9.0 million. This compares favourably to the cost of building a new zone substation at $26.9 million.

Situational awareness for extreme weather

United Energy submits its proposed investment is required to enable it and Powercor to support coordinated responses to major weather events across the network to meet government and community expectations.[63] This program is shared with Powercor, with a 50:50 split in costs.

United Energy and Powercor propose purchasing/developing IT systems that will allow improved visualisation and an optimised fault response through the automation of data extraction processes and improved 2-way sharing of data. We have included this program in our alternative forecast as we consider that it allows United Energy to better respond to the recommendations in the Network Outage Review.

We note that United Energy's modelling forecasts that its preferred option would result in a 4% improvement in Customer Average Interruption Duration Index during MED events. As we have accepted this program, we have reduced the maximum achievable benefits modelled within the rest of United Energy's resilience expenditure by the same amount.

In relation to opex, United Energy proposed $2.8 million for situational awareness, consisting of labour and contract fees associated with the capex investment. We have not included these costs in our alternative forecast of total opex.

Through the opex base-trend-step forecasting approach, United Energy is provided an opex uplift through the trend rate of change factor established on a top-down basis. Typically, we consider small step changes such as these incremental IT costs are more likely to be accounted for through the rate of change factor and/or productivity improvements. Step changes should relate to material cost increases that are unlikely to be managed within base opex or through the rate of change. We provide this guidance on step changes in both the Expenditure Forecast Assessment Guideline and the Better Resets Handbook.

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63 United Energy, *NETWORK AND COMMUNITY RESILIENCE*, p 77.

Mobile emergency response vehicles

United Energy proposes to purchase one mobile emergency response vehicle. We found that some of the capabilities of the mobile emergency response vehicles are not a network service (e.g., providing refreshments, WiFi, secure device charging). However, most of the costs relate to capabilities that are considered a network service (such as relay key electrical safety and outage information to consumers, the control room, and other resilience actors).

We have included the full capex for this program in our alternative forecast because we found the costs to be prudent and efficient. We also consider this program aligns with the recommendations in the Network Outage Review.

Community support officers

United Energy proposed opex of $1.6 million to onboard 2 new community support officers to strengthen community partnerships and enable better sharing of information across parties. Broadly, their responsibilities include increased community and emergency response agency engagement, establishing community resilience plans, and undertaking scenario and response modelling. United Energy submitted this is currently undertaken on an ad-hoc basis, employing one Major Client Manager to work across CitiPower, Powercor and United Energy, with a small component to support an on-ground presence during outage events.

United Energy stated this initiative is based on recommendations from the 2 Victorian Government resilience reviews: the *2021 Electricity Distribution Network Resilience Review* and *2024 Network Outage Review*. United Energy also emphasised that this initiative is consistent with a recurring community engagement theme since 2021 to maintain a local resilience planning presence. United Energy's Customer Advisory Panel supports this program, as does the Consumer Challenge Panel.

We sought additional information from United Energy to test the efficiency of proposed costs and the need for a step change in the 2026–31 period, specifically:

- the nature and cost of network and community resilience opex in the current period, including the 2024–25 base year
- why the business has delayed implementation of the proposed community resilience initiatives to the 2026–31 period and not responded sooner to community and government feedback and recommendations.

In its response, United Energy submitted it was unable to isolate resilience expenditure in the current period from activities such as emergency response. United Energy further submitted that it had engaged with customers over a three-year period to ensure its proposal is aligned to both customer and government expectations. United Energy considered it would not be prudent to presuppose outcomes from the Victorian Government's response to the network resilience review (finalised in September 2023).

We recognise this program is strongly supported by customers and government stakeholders and agree it would be prudent for United Energy to undertake these activities. However, we have not included this step change in our alternative estimate of total forecast opex as we do not consider there is a need for a step change under our opex forecasting framework for these minor incremental costs.

We note that United Energy has materially underspent opex relative to its forecast allowance in the current period. Our top-down opex forecasting approach provides for a forecast of prudent and efficient total opex for the period. Actual expenditure allocation and prioritisation within the period remains at the discretion of the business. United Energy states that, to date, much of its network and community resilience activities have focused on emergency response, with limited proactive investments. United Energy does not have dedicated roles related to network and community resilience, and in response to our information request[64] stated:

> To date, we have declined invitations to participate in municipal planning due to resource constraints. We are also unable to maintain a proactive approach to engaging communities on resilience, electrification, or other BAU responsibilities … Instead, we maintain a reactive approach in which we attend meetings upon request, subject to competing resourcing requirements, such as major customer engagement.

Given the material opex underspend in the current period, we do not consider resource constraints to be a justification for the approach taken in the current period, and therefore the need for a step change in the 2026–31 period. We consider the community engagement feedback received over several years by United Energy, and the timing of the Network Resilience review recommendations / Victorian Government response, suggest United Energy has had the opportunity and capacity to prudently address the identified need for this program in the current period.

Through the opex base-trend-step forecasting approach, United Energy is provided an opex uplift through the trend rate of change factor established on a top-down basis. Typically, we consider small step changes are more likely to be accounted for through the rate of change factor and/or productivity improvements. Step changes should relate to material cost increases that are unlikely to be managed within base opex or through the rate of change. We provide this guidance on step changes in both the Expenditure Forecast Assessment Guideline and the Better Resets Handbook.

As discussed above, United Energy appears to have been aware of the likely need for additional community resilience expenditure since the initial years of the current period and has not satisfactorily justified the delayed implementation of this investment. We do not consider it appropriate or necessary to include a step change for this program in our alternative estimate of total forecast opex for United Energy in these circumstances.

64 United Energy, *IR022 – Community and network resilience* , 13 May 2025, p 6.

Shortened forms

Term	Definition
AER	Australian Energy Regulator
ACS	alternative control services
augex	augmentation expenditure
capex	capital expenditure
CBRM	condition-based risk model
CER	consumer energy resources
CESS	capital expenditure sharing scheme
DNSP	distribution network service providers
EMCa	Energy Market Consulting associates
ICT	information and communications technology
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Energy Objectives
NER	National Electricity Rules
opex	operating expenditure
RIT-D	Regulatory Investment Test for distribution network service providers
RIT-T	Regulatory Investment Test for transmission network service providers
SAIFI	system average interruption frequency index
SCS	standard control services
VCR	value of customer reliability
ZSS	zone substation