Draft Decision Ausgrid

Regulatory proposal 2024 to 2029

(1 July 2024 to 30 June 2029)

Attachment 6
Operating expenditure

September 2023

AUSTRALIAN ENERGY REGULATOR

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6 Operating expenditure

Operating expenditure (opex) is the forecast of operating, maintenance and other non-capital costs incurred in the provision of standard control services (SCS). Forecast opex is one of the building blocks we use to determine a service provider's total regulated revenue requirement.

This attachment outlines our assessment of Ausgrid's proposed opex forecast for the 2024–29 regulatory control period.

6.1 Draft decision

Our draft decision is not to accept Ausgrid's proposed total opex forecast of $2,420.5 million ($2023–24) for the 2024–29 regulatory control period.[1] This is because we are not satisfied that it reasonably reflects the opex criteria, having regard to the opex factors.[2]

Our draft decision is to include our alternative estimate of total opex forecast of $2,254.3 million ($2023–24) for Ausgrid. This draft decision is:

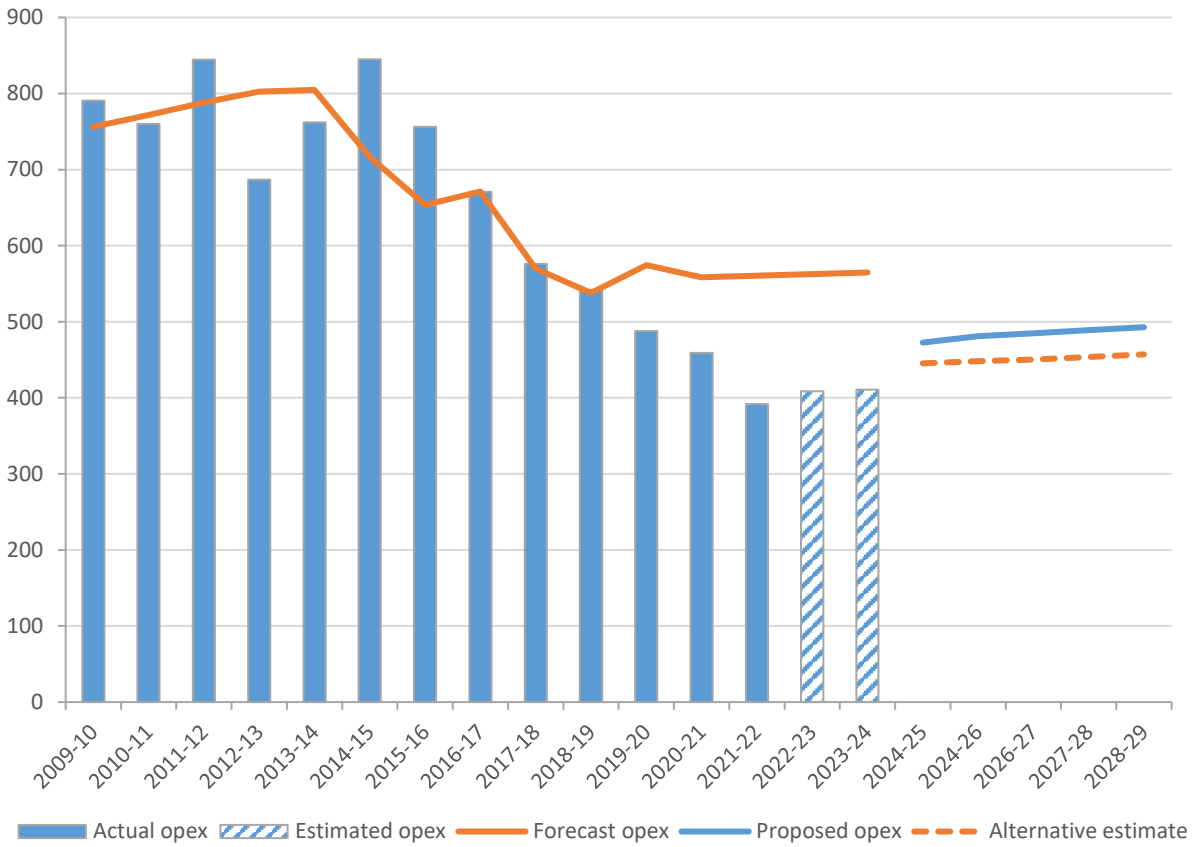
- $166.2 million ($2023–24) (or 6.9%) lower than Ausgrid's proposal for the 2024–29 regulatory control period.
- $96.8 million ($2023–24) (or 4.5%) higher than Ausgrid's actual (and estimated) opex in the 2019–24 regulatory control period.
- $566.3 million ($2023–24) (or 20.1%) lower than the opex forecast we approved in our final decision for the 2019–24 regulatory control period.

Figure 6.1 compares the opex forecast we approve in this draft decision to Ausgrid's proposal, the forecasts we approved for the last two regulatory periods from 2009–10 to 2023–24, and Ausgrid's actual and estimated opex across that period.

1 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 5.

2 NER, cl. 6.5.6(c) and cl. 6.5.6(e).

Figure 6.1 Historical and forecast opex ($2023–24)



Source: Ausgrid, *Economic benchmarking – Regulatory Information Notice response 2009–22*; AER, *Final decision PTRM 2009–14*; AER, *Final decision 2014–19 PTRM*; AER, *Final decision 2019–24 PTRM and Opex model*; Ausgrid, *2024–29 Regulatory proposal*, January 2023; AER analysis.

Table 6.1 sets out Ausgrid's opex proposal, our alternative estimate for the draft decision and the differences between these forecasts.

Table 6.1 Comparison of Ausgrid's proposal and our draft decision on opex ($million, 2023–24)

	Ausgrid Proposal	AER Alternative Estimate	Difference ($)	Difference (%)
Based on reported opex	**2042.8**	**2055.0**	**12.2**	**0.5%**
Efficiency adjustment	–	–	–	–
Base year non-recurrent efficiency gains	–	–26.3	–26.3	–1.1%
Base year adjustment: add SaaS (from capex)	154.7	74.3	–80.3	–3.3%
Base year adjustment: CAM adjustment	36.7	36.7	–0.0	–0.0%
Base year adjustment: Nature induced costs	21.8	–	–21.8	–0.9%
Base year adjustment: remove ongoing leases	–	–0.3	–0.3	–0.0%
Total base year adjustments	**213.2**	**110.7**	**–102.4**	**–4.2%**
2022–23 to 2023–24 increment	**10.1**	**10.0**	**–0.1**	**–0.0%**
Remove category specific forecasts	0.2	0.2	–0.0	–0.0%

	Ausgrid Proposal	AER Alternative Estimate	Difference ($)	Difference (%)
Trend: Output growth	30.4	28.8	–1.6	–0.1%
Trend: Price growth	48.3	42.8	–5.5	–0.2%
Trend: Productivity growth	–34.1	–32.3	1.8	0.1%
Total trend	**44.6**	**39.3**	**–5.3**	**–0.2%**
Step change: Cyber security	20.6	19.0	–1.6	–0.1%
Step change: Insurance premiums	9.5	–	–9.5	–0.4%
Step change: Community resilience	8.4	–	–8.4	–0.3%
Step change: Smart meter data	24.9	10.7	–14.2	–0.6%
Step change: Network innovation program	5.0	–	–5.0	–0.2%
Step change: ICT enablement for CER integration	10.4	4.6	–5.7	–0.2%
Step change: Property	–14.5	–14.5	–	–
Total step changes	**64.2**	**19.8**	**–44.4**	**–1.8%**
Category specific forecasts	**–**	**–**	**–**	**–**
Total opex, excluding debt raising costs	**2375.0**	**2208.7**	**–166.3**	**–6.9%**
Debt raising costs	45.4	45.5	0.1	0.0%
Total opex (including DRC)	**2420.5**	**2254.3**	**–166.2**	**–6.9%**

Source: Ausgrid, *Att. 6.1.a - Opex model*, 31 January 2023; AER analysis.
Note: Numbers may not add up to total due to rounding. Values of '0.0' and '–0.0' represent small non-zero amounts and '–' represents zero.

The following factors have contributed to our lower alternative total opex forecast:

- **Base year adjustments**: we have not included Ausgrid's proposed adjustment for nature induced costs, and our estimate for Software as a Service (SaaS) implementation costs is lower than Ausgrid's proposal. We have also included a non-recurrent base year efficiency adjustment for the removal of a major lease in the current regulatory control period.
- **Step changes**: we have not included Ausgrid's proposed step changes for insurance, network innovation and community resilience, and our estimates for the CER integration and smart meter data step changes are lower than Ausgrid's proposal.

Better Resets Handbook Expectations

Table 6.2 provides our assessment of the extent to which Ausgrid has met the Better Resets Handbook (the Handbook) expectations in relation to forecast opex.

Table 6.2 Better Resets Handbook Expectations

Opex expectations	Comment
1. Opex forecasting approach	• Ausgrid applied our standard base-trend-step forecasting approach to forecast opex for the 2024–29 period. The inputs and assumptions Ausgrid used to forecast opex forecast are consistent with those used in the Efficiency Benefit Sharing Scheme (EBSS).
2. Base opex	• Ausgrid used 2022–23 as the base year. Audited actual opex for this year is not yet available. For the final decision, we will update the base year opex estimate used in the draft decision.

Opex expectations	Comment
	• We consider it likely Ausgrid's opex in the base year (2022–23) will not be materially inefficient, and do not expect to make an efficiency adjustment.
3. Trend	• Ausgrid applied our standard approach to forecast the opex rate of change or trend growth forecast for price, output and productivity growth.
4. Step changes	• Ausgrid proposed seven step changes, including one negative step change, representing 2.7% of total forecast opex. We consider this does not meet our expectation of few or no proposed step changes. • We have undertaken a targeted review of three step changes related to Ausgrid's smart meter data step change ($24.9 million), ICT enablement for CER integration ($10.4 million), and cyber security step change ($20.6 million). • The three step changes constitute 2.3% of Ausgrid's total forecast opex. Ausgrid also proposed small step changes for community resilience and innovation expenditure, which we have assessed in conjunction with the associated capex proposals.
5. Category specific forecasts	• Ausgrid applied our standard approach to forecast debt raising costs.
6. Genuine consumer engagement on opex forecasts	• Overall, we consider Ausgrid demonstrated a genuine approach to consumer engagement in relation to its opex proposal. CCP26 considered Ausgrid's Reset Customer Panel pushed Ausgrid to ensure that every aspect of the regulatory proposal was delivering value for customers. CCP26 also stated that Ausgrid's customer engagement program was very broad and deep, being the most extensive engagement observed by a Consumer Challenge Panel.

6.2 Ausgrid's proposal

Ausgrid's proposal applied a 'base-step-trend' approach to forecast opex for the 2024–29 regulatory control period, consistent with our standard approach.[3]

In applying our base step trend approach to forecast opex, Ausgrid:[4]

- used reported opex in 2022–23 as the base from which to forecast ($408.6 million ($2023–24) or $2,042.8 million ($2023–24) over the next regulatory control period)
- adjusted its total base forecast opex by:
  - adding $213.2 million ($2023–24) for:
    - SaaS costs that will be reported as opex, rather than capex, in the forecast period ($154.7 million)
    - costs to be moved from alternative control services to standard control services under a new Cost Allocation Method (CAM) ($36.7 million)
    - additional nature induced emergency response costs ($21.8 million)
- added $0.2 million ($2023–24) to account for the removal of opex categories forecast separately from its base opex.

[3] Ausgrid, *Att. 6.1.a - Opex model*, 31 January 2023.

[4] Ausgrid, *Att. 6.1.a - Opex model*, 31 January 2023.

- added an estimate of the difference between the base year opex and the opex it will incur in the final year of the current regulatory period, increasing opex by $10.1 million ($2023–24)
- applied its overall rate of change forecast to its final year adjusted opex estimate, increasing opex by $44.6 million ($2023-24). This included:
  - output growth ($30.4 million ($2023–24))
  - price growth ($48.3 million ($2023–24))
  - productivity growth (–$34.1 million ($2023–24))
- added 7 step changes totalling $64.2 million ($2023–24) for:
  - insurance ($9.5 million ($2023–24))
  - cyber security ($20.6 million ($2023–24))
  - ICT enablement for CER integration ($10.4 million ($2023–24))
  - smart meter data ($24.9 million ($2023–24))
  - network innovation ($5.0 million ($2023–24))
  - community resilience ($8.4 million ($2023–24))
  - property (–$14.5 million ($2023–24))
- added $45.4 million ($2023–24) of debt raising costs to arrive at a total opex forecast of $2,420.5 million ($2023–24) over the 2024–29 regulatory control period.

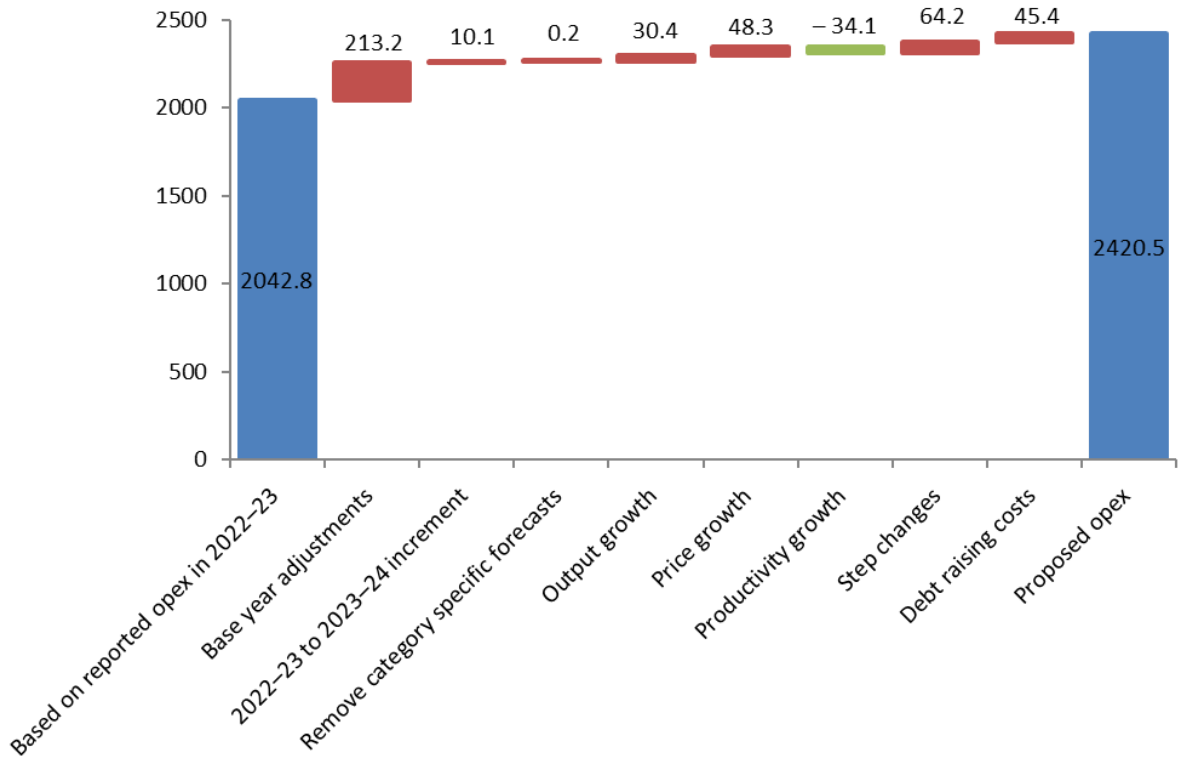
Table 6.3 Ausgrid's proposed opex for the 2024–29 period ($million, 2023–24)

	2024–25	2025–26	2026–27	2027–28	2028–29	Total
Total Opex, excluding debt raising costs	463.6	472.1	475.8	479.9	483.7	2,375.0
Debt raising costs	9.0	9.1	9.1	9.1	9.1	45.4
Total Opex, including debt raising costs	**472.6**	**481.2**	**484.9**	**489.0**	**492.8**	**2,420.4**

Source: Ausgrid, *Att. 6.1 - Proposed operating expenditure - Public*, 31 January 2023, p. 5.
Note: Numbers may not add up to total due to rounding. Values of '0.0' and '–0.0' represent small non-zero amounts and '–' represents zero.

Figure 6.2 shows the different components that make up Ausgrid's opex forecast for the 2024–29 period.

Figure 6.2 Ausgrid's proposed opex ($million, 2023–24)



Source: AER analysis.

Ausgrid's total opex forecast of $2,420.5 million ($2023–24) for the 2024–29 period is $400.1 million ($2023–24), or 14.2%, lower than the amount we determined in our 2019–24 decision for Ausgrid[5] and $263.0 million ($2023–24), or 12.2%, higher than its actual/estimated spend over the 2019–24 regulatory control period.

6.2.1 Stakeholder views

We received 8 submissions on Ausgrid's proposal which discussed opex issues. These are summarised in Table 6.4 below, but key themes included:

- that stakeholders had observed a strong and extensive effort by Ausgrid to engage with its customers and other relevant stakeholders in developing its proposal
- that the AER should conduct a careful analysis of Ausgrid's proposed base adjustments and step changes to ensure that they are prudent and efficient.

We have taken these submissions into account in developing the positions set out in this draft decision.

Table 6.4 Submissions on Ausgrid's 2024–29 opex proposal

Stakeholder(s)	Issue	Description
Origin EnergyAustralia	Base opex	• Concern that Ausgrid's underspend in its current regulatory period does not represent sustainable efficiency improvements.[6]

5 AER, *Final decision - Ausgrid distribution determination 2019–24 - Overview*, April 2019, p. 32.

6 Origin Energy, *Submission - 2024–29 Electricity Determination - NSW and ACT*, May 2023, pp. 3–5.

Stakeholder(s)	Issue	Description
		• Important for AER to confirm that Ausgrid's underspend in the current regulatory period is not offset by future opex increases such as base year adjustments and step changes.[7] • Expenditure based on forecasts should be well substantiated to ensure that it cannot be delayed until future periods when inflationary impacts are reduced.[8]
Origin	Base adjustments	• Concerned with Ausgrid's proposed base year adjustments relating to changed accounting practices, services reclassification or capitalisation policies, as these make it difficult to assess the efficiency of the base year.[9]
Origin CCP26 Red and Lumo Ausgrid's Reset Customer Panel	Step changes	• Ausgrid's proposed step changes represent significant increases in opex, these should be rigorously examined by the AER to determine if they are appropriate.[10] • CCP26 observed a lack of clarity about the definition of resilience. In particular, CCP26 observed an insufficient distinction between reliability and resilience. For example, the Voice of Consumer Panel (VOCP) recommendation 10 (which is used in support of resilience expenditure) was focused specifically on reliability.[11] • In relation to CER Enablement, CCP26 submitted that the technical aspects of Ausgrid's proposals were not well understood by customers. CCP26 considers that Ausgrid's late intervention on the VOCP 'net-zero' recommendation weakened the validity of this recommendation.[12] • CCP26 noted that the VOCP gave a strong and consistent message in support of innovation expenditure, particularly where it supported the energy transition.[13] • CCP 26 observed that the regulatory proposal accurately reflects the cyber security preferences contained in VOCP recommendation 6 and the associated minority report. Ausgrid's regulatory proposal responds to the diverse customer views on how aggressively to pursue this expenditure.[14] • The AER should conduct a forensic examination of the new and emerging areas of capital and operational expenditure in the regulatory proposals across resilience, CER integration and innovation expenditure. There is concern that the proposed expenditures are excessive and may not deliver the benefits that they claim. Furthermore, competitive markets will deliver more efficient and innovative customer focused solutions than regulated monopolies. As such, the AER should undertake this examination regardless of whether these expenditures have been developed jointly by consumers.[15] • It is appropriate to exclude both innovation and resilience programs from the 2024–29 regulatory control period EBSS.[16]

7 Origin Energy, *Submission - 2024–29 Electricity Determination - NSW and ACT*, May 2023, pp. 3–5.

8 Energy Australia, *Submission - 2024–29 Electricity Determination - NSW and ACT*, May 2023, p. 1.

9 Origin Energy, *Submission - 2024–29 Electricity Determination - NSW and ACT*, May 2023, p. 3.

10 Origin Energy, *Submission - 2024–29 Electricity Determination - NSW and ACT*, May 2023, p. 1.

11 CCP26, *Advice to the AER - 2024–29 Electricity Determination - Ausgrid*, May 2023 updated June 2022, p. 11.

12 CCP 26, *Advice to the AER - 2024–29 Electricity Determination - Ausgrid*, May 2023 updated June 2022, p. 11.

13 CCP26, *Advice to the AER - 2024–29 Electricity Determination - Ausgrid*, May 2023 updated June 2022, p. 11.

14 CCP26, *Advice to the AER - 2024–29 Electricity Determination - Ausgrid*, May 2023 updated June 2022, p. 11.

15 Red Energy & Lumo Energy, *Submission - 2024–29 Electricity Determination - NSW*, May 2023, p. 2.

16 Ausgrid's Reset Customer Panel, *2024–29 Electricity Determination - Ausgrid*, May 2023, pp. 8–9.

6.3 Assessment approach

Our role is to decide whether to accept a business's total opex forecast. We are to form a view about whether a business's forecast of total opex 'reasonably reflects the opex criteria'.[17] In doing so, we must have regard to the opex factors specified in the National Electricity Rules (NER).[18]

The *Expenditure forecast assessment guideline* (the Guideline), together with an explanatory statement, sets out our assessment approach in detail.[19] While the Guideline provides for greater regulatory predictability, transparency and consistency, it is not mandatory. However, if we make a decision that is not in accordance with the Guideline, we must state the reasons for departing from the Guideline.[20]

Our approach is to assess the business's forecast opex over the regulatory control period at a total level, rather than to assess individual opex projects. To do so, we develop an alternative estimate of total opex using a 'top-down' forecasting method, known as the 'base-step-trend' approach.[21] We compare our alternative estimate with the business's total opex forecast to form a view on the reasonableness of the business's proposal. If we are satisfied the business's forecast reasonably reflects the opex criteria, we must accept the forecast.[22] If we are not satisfied, we substitute the business's forecast with our alternative estimate that we are satisfied reasonably reflects the opex criteria.

In making this decision, we take into account the reasons for the difference between our alternative estimate and the business's proposal, and the materiality of the difference. Further, we are required to take into consideration interrelationships between opex and the other building block components of our decision.[23]

Figure 6.3 summarises the ‘base-step-trend’ forecasting approach.

17 NER, cl. 6.5.6(c).

18 NER, cl. 6.5.6(e).

19 AER, *Expenditure forecast assessment guideline - distribution*, August 2022.

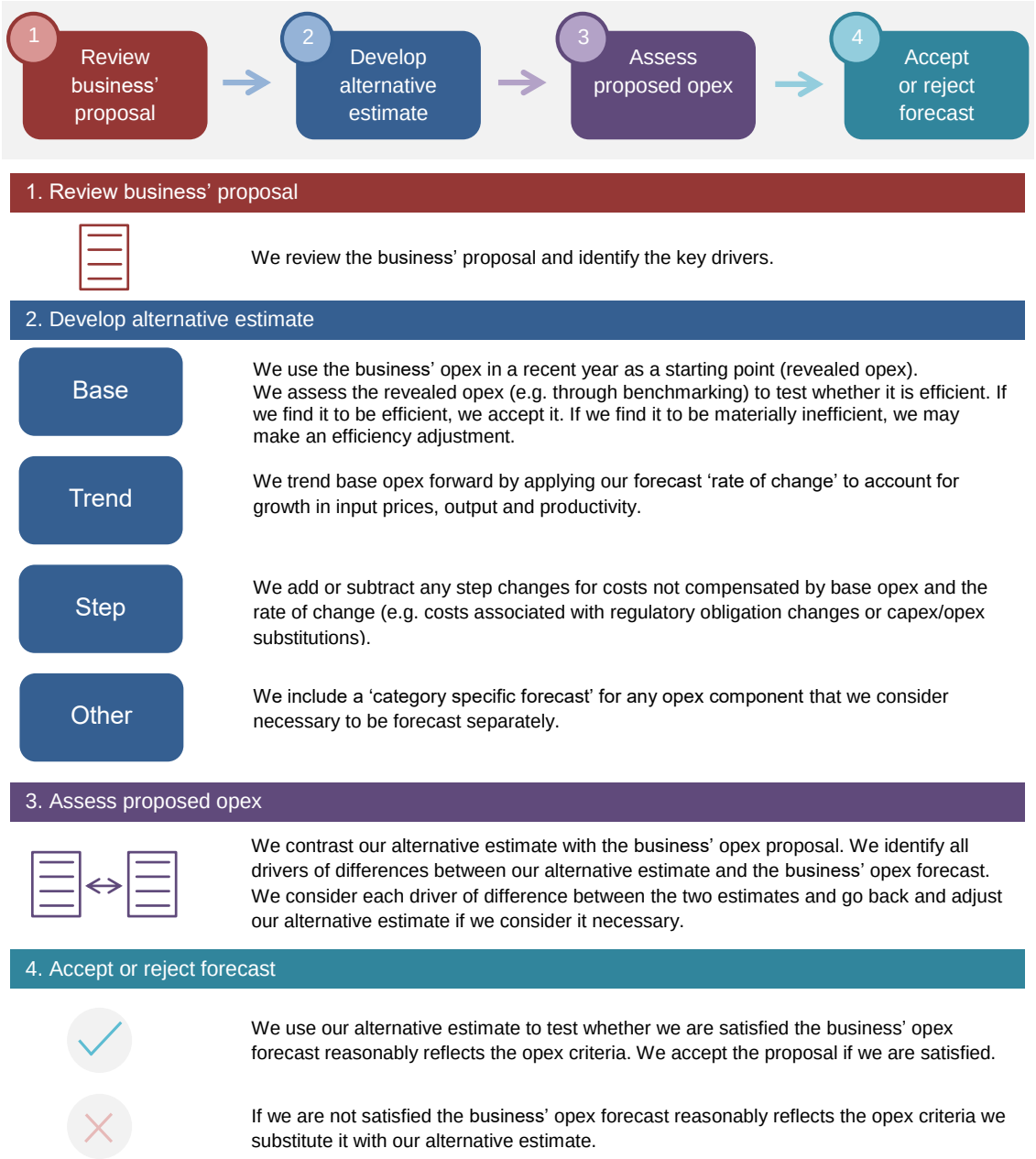
20 NER, cl. 6.2.8(c).

21 A 'top-down' approach forecasts total opex at an aggregate level, rather than forecasting individual projects or categories to build a total opex forecast from the 'bottom up.'

22 NER, cl. 6.5.6(c).

23 NEL, s. 16(1)(c).

Figure 6.3 Our opex assessment approach



6.3.1 Interrelationships

In assessing Ausgrid's total forecast opex, we also take into account other components of its proposal that could interrelate with our opex decision. The matters we considered in this regard included:

- the EBSS carryover—the estimate of opex for 2023–24 (the final year of the current regulatory control period) that we use to forecast opex should be the same as the level of opex used to calculate EBSS carryover amounts. This consistency ensures that the business is rewarded (or penalised) for any efficiency gains (or losses) it makes in the final year the same as it would for gains or losses made in other years

- the operation of the EBSS in the 2019–24 regulatory control period, which provided Ausgrid an incentive to reduce opex in the base year
- the impact of cost drivers that affect both forecast opex and forecast capital expenditure (capex). For instance, forecast labour price growth affects forecast capex and our forecast price growth used to estimate the rate of change in opex
- the approach to assessing the rate of return, to ensure there is consistency between our determination of debt raising costs and the rate of return building block
- the outcomes of Ausgrid's engagement with consumers and stakeholders in developing its proposal and any feedback we have had.

6.4 Reasons for draft decision

We do not accept Ausgrid's proposed opex forecast of $2,420.5 million ($2023–24), including debt raising costs, for the 2024–29 regulatory control period because we are not satisfied that it reflects the opex criteria, having regard to the opex factors.

Our draft decision is to include our alternative total opex forecast of $2,254.3 million ($2023–24). This is $166.2 million, or 6.9%, lower than Ausgrid's forecast. We are satisfied our alternative estimate of total forecast opex for Ausgrid reasonably reflects the opex criteria, having regard to the opex factors.[24]

Table 6.1 sets out Ausgrid's proposal, our alternative estimate that is the basis for the draft decision, and the difference between our draft decision and the proposal.

The main drivers for the differences are also set out in Section 6.1 and we discuss the components of our alternative estimate, and our assessment of Ausgrid's proposal, below. Full details of our alternative estimate are set out in our opex model, which is available on our website.

6.4.1 Base opex

This section provides our view on the prudent and efficient level of base opex that Ausgrid needs for the safe and reliable provision of electricity services over the 2024–29 regulatory control period.

We discuss the choice of base year in section 6.4.1.1 and set out our analysis of the efficiency of base year opex in section 6.4.1.2

6.4.1.1 Proposed base year

Ausgrid proposed a base year of 2022–23[25] and base year opex of $408.6 million ($2023–24) or $2,042.8 million ($2023–24) over the five years of the next regulatory control period.[26] Ausgrid selected 2022–23 as its base year because:[27]

- it is the most recent regulatory year for which audited regulatory accounts and other financial information will be available when we make our final decision in April 2024

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24 NER cl. 6.5.6(c) and cl. 6.5.6(e).

25 Ausgrid, *Att. 6.1 - Proposed operating expenditure,* 31 January *2023*, p. 14.

26 Ausgrid, *Att. 6.1.a - Opex model*, 31 January 2023.

27 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 14.

- it considered it best represents its underlying operating conditions in the current 2019–24 period, and the conditions it expects for the 2024–29 period. At the time it submitted its proposal, 2022–23 had not included unusual events or factors that indicated it would not be reflective of Ausgrid's normal operating environment
- while it did not yet know its actual opex in 2022–23, its base year estimate was its latest forecast. Ausgrid stated that it used our opex roll forward models, and the latest benchmarking results, to estimate whether its base year can be considered efficient, or not materially inefficient, according to our preferred methodology.

We consider it is feasible to use 2022–23 as the base year. This is because it will be based on actual opex in the final decision. Based on the estimate provided by Ausgrid, it appears representative of base opex required for the next regulatory control period. While there will be year to year fluctuations in reported opex over the current regulatory period, due to the interaction with the EBSS, we do not have concerns with the choice of base year, provided we find Ausgrid's opex in the base year to be not materially inefficient. However, because we do not yet have audited opex for 2022–23, we will not be able to confirm this until our final decision.

We have updated the base opex amount for 2022–23 to $2055.0 million ($2023–24). The difference between Ausgrid's proposed amount and our alternative estimate is due to:

- the use of different inflation forecasts. We have used the latest inflation forecasts published by the Reserve Bank of Australia (RBA). We consider these inflation forecasts are the best forecast possible in the circumstances because they reflect the most up-to-date information available
- including leases as opex for the remainder of the current control period. We discuss the change in the accounting treatment of leases in section 6.4.1.3.1 below.

6.4.1.2 Efficiency of Ausgrid's opex

As summarised in section 6.3, and in our *Expenditure Forecast Assessment Guideline*, our preferred approach for forecasting opex is to use a revealed cost approach. This is because opex is largely recurrent and stable at a total level. Where a distribution business is responsive to the financial incentives under the regulatory framework, the actual level of opex it incurs should provide a good estimate of the efficient costs required for it to operate a safe and reliable network and meet its relevant regulatory obligations. However, we do not rely on the a priori assumption that the business's revealed opex is efficient. We examine the trend in opex and use our top-down benchmarking tools, and other assessment techniques, to test whether the business is operating efficiently historically and particularly in the base year.

As set out below, we consider opex in the base year, 2022–23, is not materially inefficient as indicated by Ausgrid's opex trend over time and our benchmarking results, and we have used Ausgrid's estimate of its 2022–23 actual opex to develop our alternative estimate.

6.4.1.2.1 Analysis of Ausgrid's revealed costs

As shown in Figure 6.1, Ausgrid's opex has decreased significantly since 2014–15, the start of the last regulatory control period. In particular, between 2014–15 and the proposed base year of 2022–23 opex has decreased by 51.6%. Further, in the current regulatory control period Ausgrid's actual average annual opex (2019–20 to 2021–22) of $446.1 million

($2023–24) is $232.0 million ($2023–24) lower than actual average annual opex for the 2014–19 regulatory control period.

Further, Ausgrid's actual and estimated opex in the current regulatory control period (2019–24) is 23.5% below our opex forecast.[28] This includes Ausgrid's estimated opex in the base year (2022–23), which is 27.4% below the approved forecast opex for that year.

We consider this trend analysis demonstrates the significant reductions in opex Ausgrid has achieved over time, which as set out below in the benchmarking analysis have resulted in improved relative efficiency.

6.4.1.2.2 Benchmarking the efficiency of Ausgrid's opex over time

We have used our benchmarking tools and other cost analysis to assess and establish whether Ausgrid is operating relatively efficiently, both over time and in the base year. Our benchmarking results indicate there is sufficient evidence that Ausgrid's revealed opex has become relatively efficient in recent years. While Ausgrid was historically amongst the lowest performing distributors in terms of its benchmarking results, it has shown significant improvement since 2015, including in its proposed base year. From this, we are able to conclude that Ausgrid performs well compared to other networks in relation to its opex in the base year, which we do not consider is materially inefficient.

We have used a variety of economic benchmarking tools to test the efficiency of Ausgrid's opex. Benchmarking broadly refers to the practice of comparing the economic performance of a group of service providers that all provide the same service as a means of assessing their relative performance. Our annual benchmarking reports include information about the use and purpose of economic benchmarking, and details about the techniques we use to benchmark the efficiency of distribution businesses in the NEM.[29]

While opex at the total level is generally recurrent, year-to-year fluctuations can be expected. To shed light on Ausgrid's general level of operating efficiency, in this section we first look at the efficiency of Ausgrid's opex over a period of time, using our top-down benchmarking tools. This is followed in section 6.4.1.2.3 by looking at the efficiency of opex in the base year (2022–23).

Period-average econometric opex cost function efficiency scores

This section presents the results of four econometric opex cost function models that compare the relative opex efficiency of distributors in the NEM. These model the relationship between opex (as the input) and outputs, and so measure opex efficiency. The results presented reflect an average efficiency score for each distributor over a specified period – the long period (2006 to 2021) and the short period (2012 to 2021). We examine the short period as it can take some time for more recent improvements in efficiency by previously poorer performing distribution businesses to be reflected in period-average efficiency scores. These efficiency scores do not account for the presence of operating environment factors (OEFs), as discussed further below.

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28 AER, *Ausgrid 2019–24, Distribution - Final decision - PTRM*, April 2019; Ausgrid, *Distribution economic benchmarking - regulatory information notice response 2019–20 to 2021–22;* AER analysis.

29 AER, *Annual Benchmarking Report, Electricity distribution network service providers*, November 2022.

The results in our *2022 Annual Benchmarking Report* from the four econometric opex cost function models indicate that when examined over time Ausgrid's opex has been relatively inefficient. Over the long period Ausgrid was ranked last out of 13 DNSPs (with a model-average efficiency score of 0.45) and in the short period it was ranked twelfth out of 13 distributors (with an efficiency score of 0.49).[30] Our standard approach is to use an efficiency score 0.75 comparison point, rather than 1.0, to recognise data and modelling imperfections when assessing the relative efficiency of distributors. Where the econometric model-average score is below 0.75, we take this as prima facie evidence that a distributor has been operating materially inefficiently over the relevant period. With Ausgrid having model-average scores for the two benchmarking periods of below 0.50 this is the case with Ausgrid's efficiency score performance.

For this draft decision, we have updated the econometric opex cost function model results from the *2022 Annual Benchmarking Report*. Most importantly this is for our approach to addressing the impact of differences in capitalisation on the benchmarking results.[31] We consider making these updates is appropriate for this draft decision as it reflects the most up-to-date data/approaches which will be incorporated into the *2023 Annual Benchmarking Report* that will inform our final decision. These updated results do not significantly change the econometric opex cost function model-average efficiency scores for Ausgrid. With these updates in both the long and short periods Ausgrid is ranked twelfth out of 13 DNSPs, although in the long period its efficiency score has improved from 0.45 to 0.51 and over the short period from 0.49 to 0.56.[32]

Opex multilateral partial factor productivity (MPFP) over time

We also use productivity index number techniques to enable comparisons of productivity levels over time and between businesses. The multilateral total factor productivity (MTFP) index measures the total factor productivity of each business, whereas the opex and capital multilateral partial factor productivity (MPFP) indexes measure the productivity of opex or capital inputs respectively. Our opex MPFP efficiency results are also not adjusted for material OEFs. From our *2022 Annual Benchmarking Report* these results show Ausgrid was:

- thirteenth in 2021 in terms of MTFP which is largely consistent with its historic ranking, although we note that since 2012 Ausgrid has increased its overall productivity (MTFP) by 1.8% per annum, compared with the industry average of 0.5% per annum
- tenth in terms of opex MPFP, noting while Ausgrid was in the bottom three network businesses for opex MPFP between 2006 and 2018, it has been one of the most

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30 AER, *2022 Annual Benchmarking Report - Electricity distribution network service providers*, November 2022, pp. 34–35; Quantonomics, *Benchmarking results for the AER - Distribution*, November 2022, pp. 35 and 39.

31 AER, *How the AER will assess the impact of capitalisation differences on our benchmarking – Draft guidance note*, May 2023. Note that we have also updated the ratcheted maximum demand estimates for Evoenergy as included in its proposal. See AER, *Draft Decision - Evoenergy Regulatory Proposal 2024 to 2029 - Attachment 6 - Operating Expenditure*, September 2023 for more details.

32 These updated results are discussed and presented in more detail in AER, *Draft Decision - Evoenergy Regulatory Proposal 2024 to 2029 - Attachment 6 - Operating Expenditure*, September 2023.

improved distributors since 2015 and its opex MPFP performance improved by 9.0% in 2021 compared to 2020.[33]

Unlike the econometric opex cost function modelling, at this stage we have not updated the MTFP / MPFP modelling from the *2022 Annual Benchmarking Report* for our preferred approach to addressing capitalisation issues. We are considering implementation issues which need to be worked through to determine if and how this can be undertaken. The absence of updating to the MTFP / MPFP modelling somewhat moderates direct comparability to the econometric results.

6.4.1.2.3 Benchmarking the efficiency of Ausgrid's estimated base year opex

Given the evidence outlined above about the relative inefficiency of Ausgrid's opex over time, but noting the recent improvements, we have undertaken additional analysis. Following past decisions, this involves application of our economic benchmarking roll-forward-model, which includes adjusting for OEFs, to more directly test the efficiency of Ausgrid's estimated opex in the base year. We use the results from our econometric opex cost function benchmarking and our benchmarking roll-forward model to derive an estimate of efficient base year opex, and compare this to Ausgrid's estimated base year opex, in order to determine whether there is an efficiency 'gap' and if so what size this gap is. Where modelled efficient rolled-forward base year opex is above estimated opex in the base year, we infer there is no efficiency 'gap' and actual opex is not materially inefficient. We reach this conclusion for Ausgrid's estimated opex in the base year.

The results of using our benchmarking roll-forward model to derive estimated efficient base year opex and comparing it to estimated base year opex for Ausgrid are set out in Figure 6.4 for the long benchmarking period and in Figure 6.5 for the short period.[34] These use the econometric opex cost function benchmarking results from the *2022 Annual Benchmarking Report* updated as outlined above, including to take into account the AER's approach to addressing capitalisation differences in benchmarking. Further detail about how we derive estimated efficient base year opex can be found in our draft decision for Evoenergy as well as in recent decisions.[35]

In Figure 6.4, our estimates of efficient network services opex plus capitalised corporate overheads (over the long period including adjustments for OEFs) in the base year are shown

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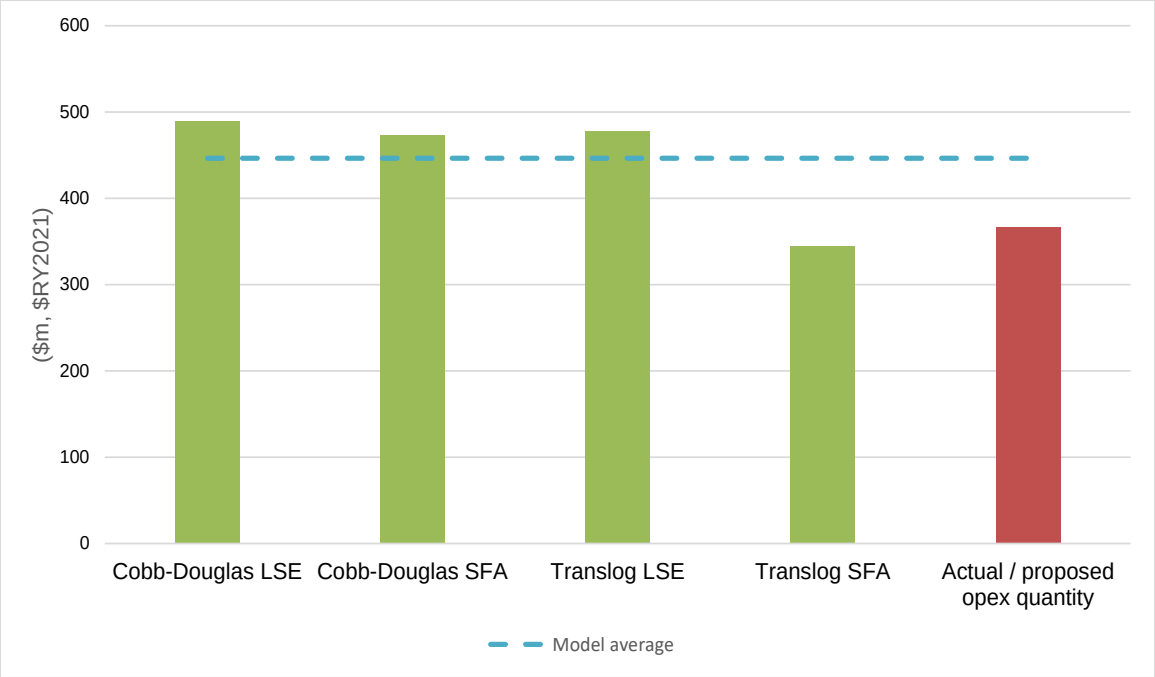
33 AER, *Annual Benchmarking Report - Electricity distribution network service providers*, November 2022, pp. 20–29.

34 We benchmark distribution businesses on the basis of the network services component of standard control services opex, which comprises the majority of standard control services opex. Network services opex excludes opex categories that are part of standard control services opex, such as opex for metering, customer connections, street lighting, ancillary services and solar feed-in tariff payments.

35 AER, *Draft Decision - Evoenergy Regulatory Proposal 2024 to 2029 - Attachment 6 - Operating Expenditure*, September 2023; AER, *Final Decision - Jemena determination 2021–26 - Attachment 6 - Operating Expenditure*, April 2021, p. 25.

in green, with an average of $446.6 million ($RY 2021)[36] as shown by the blue dashed line. Ausgrid's estimated network services opex plus capitalised corporate overheads in the base year of 2022–23 is shown in red ($367.3 million ($RY 2021)). As can be seen, our estimated efficient base year opex plus capitalised corporate overheads (the blue dashed line) is above Ausgrid's estimated network services opex plus capitalised corporate overheads, indicating that estimated opex in the base year is not materially inefficient. Similarly, in Figure 6.5 our estimates of efficient network services opex plus capitalised corporate overheads in the base year over the short period (shown in green, with an average of $432.8 million ($RY 2021) as per the blue dashed line), are above Ausgrid's estimated network services opex plus capitalised corporate overheads in the base year of 2022–23. Again, this further indicates that Ausgrid's estimated opex in the base year is not materially inefficient.

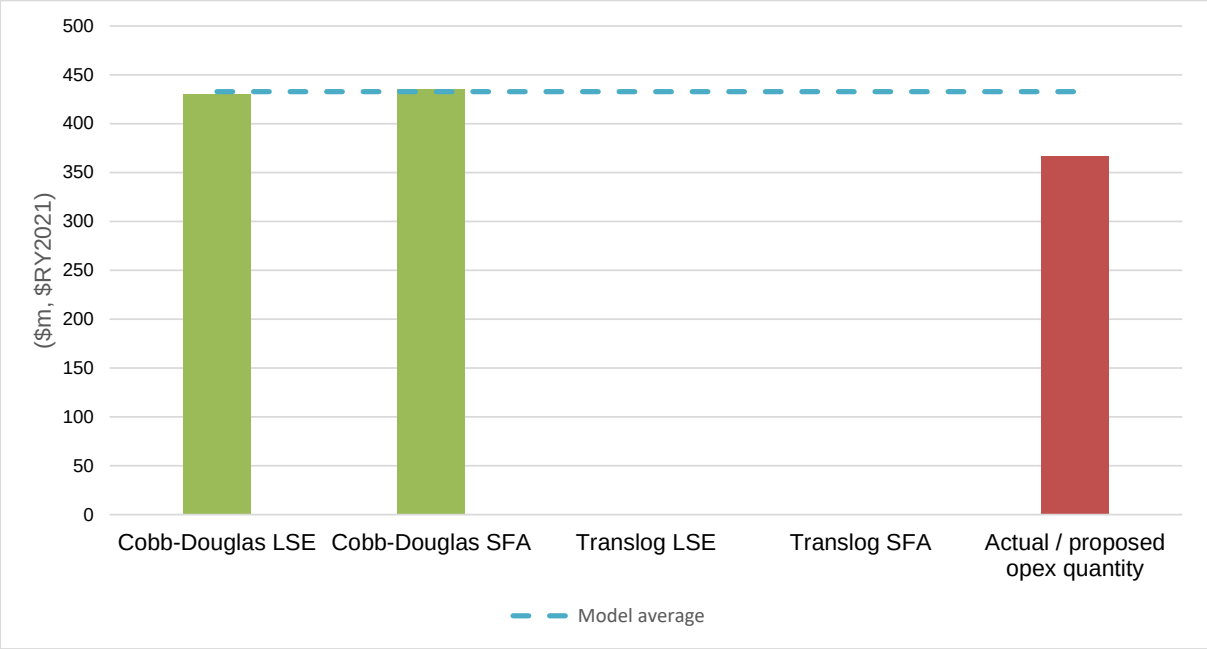
Figure 6.4 Estimates of efficient network services opex using data over the 2006–21 period ($ million, RY21)



Source: Quantonomics, *Benchmarking results for the AER – Distribution*, November 2022; AER analysis.

[36] Consistent with our benchmarking, the figures in our benchmarking roll-forward model are expressed in constant-price or 'opex quantity' terms, whereby the nominal (mid-year) opex series is deflated into constant-price dollars of the last year of the dataset used in the benchmarking for the most recent Annual Benchmarking Report. The benchmarking roll-forward model used in this decision draws on the results of our *2022 Annual Benchmarking Report*, which incorporates data up to regulatory year 2021, which in the case of the NSW/ACT DNSPs is Financial Year 2021. This means the opex figures are in constant-price $December 2021 dollars. They are therefore not comparable to figures expressed in $2023–24 terms. However, the purpose and output of the roll-forward model analysis is the efficiency gap, expressed in percentage terms.

Figure 6.5 Estimates of efficient network services opex using data over the 2012–21 period ($ million, RY 2021)



Source: Quantonomics, *Benchmarking results for the AER – Distribution*, November 2022; AER analysis.

Note: We exclude the efficiency score for the Translog LEE and SFA models for Ausgrid as they do not satisfy the monotonicity requirement. Monotonicity is a key economic property required for these econometric opex cost function models, which is that an increase in output can only be achieved with an increase in inputs (opex), holding other things constant.

We consider this analysis shows that Ausgrid's lower opex, and improved productivity performance, in recent years has translated into opex in the base year of 2022–23 which is not materially inefficient. As a result, for this draft decision we have used Ausgrid's estimated base year opex in our alternative estimate. We will update this analysis in our final decision when we will have audited actual opex data for 2022–23 to confirm this result.

6.4.1.3 Adjustments to base year opex

Ausgrid proposed a total adjustment to its base opex of $42.6 million ($2023–24) or $213.2 million ($2023–24) over the five years.[37] These adjustments were for SaaS implementation costs, adoption of a new cost allocation methodology, and additional opex for nature induced costs. We have considered these proposed adjustments and have adjusted our alternative estimate of opex in the base year of $411.0 million ($2023–24) by $22.1 million ($2023–24) or $110.7 million ($2023–24) over 5 years to:

- remove $0.1 million ($2023–24) for the reclassification of ongoing lease costs as capex in the 2024–29 regulatory period. This decreases our alternative estimate of total opex by $0.3 million ($2023–24) over 5 years. We explain this adjustment in section 6.4.1.3.1.
- remove $5.3 million ($2023–24) for the removal of non-ongoing lease costs from forecast opex in the 2024–29 regulatory period via a non-recurrent efficiency adjustment.

[37] Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, pp. 21–22.

This decreases our alternative estimate of total opex by $26.3 million ($2023–24) over 5 years. We explain this adjustment in section 6.4.1.3.1.
- add $14.9 million ($2023–24) for the reclassification of SaaS costs as opex in the 2024–29 regulatory period. This increases our alternative estimate of total opex by $74.3 million ($2023–24) over 5 years. We explain this adjustment in section 6.4.1.3.2.
- add $7.3 million ($2023–24) for the CAM adjustment (as a placeholder at this stage). This increases our alternative estimate by $36.7 million ($2023–24) over 5 years. We explain this adjustment in section 6.4.1.3.3.
- add $0.03 million ($2023–24) for the estimated final year opex for the removal of opex categories forecast separately. This increases our alternative estimate by $0.2 million ($2023–24) over the 5 years. We explain this adjustment in section 6.4.1.3.5.
- add $2.0 million ($2023–24) for the increase in opex between the base year (2022–23) and 2023–24 (final year increment). This increases our alternative estimate by $10.0 million ($2023–24) over the 5 years. We explain this adjustment in section 6.4.1.3.6.

The key differences between our total adjustment and that of Ausgrid is:

- we have included a base adjustment and non-recurrent efficiency adjustment for the removal of lease costs from base year opex
- we have included a lower base year adjustment for SaaS implementation costs
- we have not included the base year adjustment for nature induced costs.

6.4.1.3.1 Lease costs accounting treatment change

Ausgrid did not propose adjustments to base opex for lease costs in its proposal but noted our view that operational leases should be treated as opex in the current period, and the accounting change reallocating these leases from opex to capex applied in the 2024–29 period.[38] However, Ausgrid argued that this would mean that for one lease it would not recover the efficient cost as either capex or opex, and would also trigger an EBSS penalty. As such, Ausgrid did not adopt this approach in its regulatory proposal but sought to work with the AER to resolve this matter.

In response to our request for further information, Ausgrid advised that operating lease expenditures had been reported as capex in its RINs for the 2019–24 regulatory period.[39] Ausgrid stated that it had not adopted our preferred approach as it needed time to assess the implications, including understanding what the status of a major lease would have been had it occurred under the accounting rules at the time of its 2019–24 determination.

Ausgrid later stated that for one major lease, which started and ended in the 2019–24 regulatory period, removing it from base year opex via a base adjustment resulted in a windfall loss.[40] Ausgrid argued that for this lease a non-recurrent efficiency adjustment was the appropriate mechanism to remove the cost of this lease from base year opex, as this approach ensured no windfall gains/losses. Ausgrid proposed a non-recurrent efficiency

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38 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 22.

39 Ausgrid, *Response to IR#038 - Opex - property leases*, 21 June 2023, p. 2.

40 Ausgrid, *Response to IR#038 - Opex - property leases*, 21 June 2023, p. 5.

adjustment of –$5.3 million ($2023–24) to account for the removal of this lease from base year opex.[41]

We acknowledge that under the guidance provided on AASB16, which came into effect on 1 July 2019, lease costs now must be treated as capex.[42] However, we consider our August 2022 advice, to align the accounting treatment of expenditure within a period with the approved expenditure treatment for that period, represents the appropriate approach for regulatory purposes. Under this approach there would be no opportunity for networks to incur windfall gains or losses that have resulted purely from movement of expenditure between opex and capex due to mid-period accounting changes. As such, we have adjusted Ausgrid's reported opex to include all lease costs it incurred over the 2019–24 regulatory period to accurately reflect Ausgrid's actual incurred opex.[43] We have also included a base adjustment of –$0.1 million ($2023–24) to remove its ongoing lease costs from its base year opex for forecasting purposes, which reflects the change in accounting treatment of lease costs as capex in the 2024–29 regulatory control period. This approach is consistent with our recent decision on TransGrid's 2023–28 revenue proposal.[44]

Additionally, we agree with Ausgrid's proposed treatment of the major lease noted in its proposal. As the lease started and ended in the current period, a non-recurrent efficiency adjustment is the appropriate approach in order to maintain the appropriate sharing of opex efficiencies. In our alternative estimate we have included a –$5.3 million ($2023–24) non-recurrent efficiency adjustment to remove this major lease from base year opex.

6.4.1.3.2 SaaS implementation costs

Ausgrid proposed an adjustment to base year opex of $30.9 million ($2023–24) for SaaS expenses ($154.7 million over the 2024–29 regulatory period). This relates to an accounting standards guidance change which clarified that most SaaS costs should be treated as opex (historically treated as capex). In our alternative we have included a forecast of $14.9 million ($2023–24) for SaaS expenses ($74.3 million over the 2024–29 regulatory period), which in total is $80.3 million ($2023–24) lower than Ausgrid's proposal.

In its proposal, Ausgrid submitted that in April 2021, the International Financial Reporting Interpretations Committee (IFRIC) released prescriptive guidance in relation to the treatment of costs associated with implementing SaaS IT solutions.[45] In particular, IFRIC clarified that such costs cannot be capitalised (and must be expensed) if an entity does not control the software, which was a change from its previous accounting treatment. Ausgrid confirmed that it had followed our standard approach and continued to treat SaaS costs as capex in the current period for regulatory purposes.[46]

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41 Ausgrid, *Response to IR#046 - property leases - mid-year period*, 7 July 2023, p. 4; This equates to the –$4.9 million ($2022–23) referenced in Ausgrid's response IR#046.

42 Department of Finance, *Guide to implementing AASB 16 Leases, Resource Management Guide 110*, June 2020.

43 We also made an opposing adjustment to capex and removed lease costs from the RAB roll forward model to ensure no double counting of lease costs.

44 AER, *Transgrid 2023–28 - Final Decision - Attachment 6 Operating expenditure*, April 2023, p. 12.

45 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 21.

46 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 Jan 2023, p. 22.

Ausgrid's proposal provided detailed business cases outlining the drivers behind each ICT project and NPV analyses to support their prudency and efficiency.[47] In response to our request for further information, Ausgrid provided a detailed cost build-up of its proposed base adjustment and reconciled these costs against the costs provided in its NPV analysis for each relevant ICT project.[48] It also confirmed any costs related to other opex step changes such as cyber security and CER-related ICT had been excluded from the ICT costs proposed in its SaaS base adjustment.

We engaged Energy Market Consulting Associates (EMCa), to assist us in our assessment of Ausgrid's proposed ICT projects, including the Enterprise Resource Planning (ERP) upgrade program (which represented a significant portion of its SaaS ICT costs).

Ausgrid proposed 4 options for its ERP upgrade program, which are outlined in EMCa's report:[49]

1. do nothing
2. option 1 – base case (technical upgrade)
3. option 2 – enhance (consolidate, simplify and add capabilities)
4. option 3 – new (migrate to new system).

EMCa's analysis supported the prudency of Ausgrid undertaking this ERP upgrade program in general. However, EMCa concluded that a mismatch in the length of time for calculating costs as opposed to benefits biased Ausgrid's economic analysis for its preferred option (option 2).[50] After undertaking its own analysis, EMCa recommended that the prudent option for undertaking the ERP program is option 1 rather than option 2.

Additionally, EMCa provided advice on Ausgrid's proposed cyber security expenditure, across both capex and opex (cyber security step change and SaaS base adjustment opex components). While EMCa was satisfied that Ausgrid is likely to face a material increase in its cyber risk over the 2024–29 regulatory control period, its analysis concluded that Ausgrid had not demonstrated the scope of the proposed expenditure was economically justified.[51] EMCa recommended a reduction to Ausgrid's cyber security expenditure based on its own analysis of what an efficient business of Ausgrid's criticality, size and complexity would incur in the 2024–29 regulatory control period.

We accept that there is no double counting of costs already covered in other aspects of Ausgrid's proposal. However, taking into account advice from our technical consultant EMCa and our analysis of the issues identified, we are not satisfied that Ausgrid's proposal demonstrates the efficiency of its proposed approach for its ERP upgrade program or its cyber security expenditure. We have adopted EMCa's recommended reductions to these

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47 Ausgrid, *Att. 5.9a–l*, 31 January 2023.

48 Ausgrid, *Response to IR#045 - SaaS base year adjustmen*t, 13 July 2023.

49 EMCa, *Ausgrid 2024–29 Regulatory Proposal: Review of proposed expenditure on CER and for ERP expenditure*, August 2023, pp. 49–52.

50 EMCa, *Ausgrid 2024–29 Regulatory Proposal: Review of proposed expenditure on CER and for ERP expenditure*, August 2023, p. 58.

51 EMCa, *Ausgrid 2024–29 Regulatory Proposal: Review of proposed expenditure on ICT Cyber Security*, August 2023, p. 38.

elements of Ausgrid's proposed base adjustment for SaaS costs in our alternative estimate of forecast opex.

In our alternative estimate, we have included a base adjustment of $14.9 million ($2023–24) for SaaS expenses to reflect the impact on opex caused by the adoption of the latest accounting standards guidance. This amount is $16.1 million ($2023–24) (or $80.3 million, over the 2024–29 regulatory period) lower than Ausgrid's proposal. See section 6.4.3.2 for further discussion on cyber security step change and Attachment 5 for further discussion on our assessment of Ausgrid's proposed ICT expenditure.

6.4.1.3.3 CAM adjustment

Ausgrid proposed an increase in base opex of $7.3 million ($2023–24) ($36.7 million over the next regulatory control period), to account for the impact of its new CAM in the 2024–29 regulatory control period.[52]

In October 2022 Ausgrid submitted a revised CAM to the AER to apply from 1 July 2024, which we approved.[53] The new CAM results in some costs moving from alternative control services (ACS) opex to standard control services (SCS) opex. Accordingly, Ausgrid proposed an adjustment to base opex to reflect the impact of the new CAM in the next regulatory control period.

Ausgrid calculated the adjustment amount with reference to historical data, by comparing opex under the current CAM with opex under the new CAM for the five years from 2018–19 to 2022–23. This resulted in a net movement of $7.3 million ($2023-24) to standard control services opex as a base year adjustment.[54]

We are satisfied that it is appropriate to make an adjustment to base opex to account for the effect of the new CAM and have included Ausgrid's initial estimate of the efficient amount for this adjustment in our alternative estimate of total forecast opex.

However, from our engagement with Ausgrid, we understand Ausgrid now considers that the use of historical data may understate the efficient base adjustment amount. Ausgrid is considering an alternative method to forecast this adjustment for its revised proposal.

We will therefore consider Ausgrid's proposed base year adjustment for its updated CAM further in our final decision and encourage Ausgrid to consult with stakeholders and the AER as necessary to provide transparency on this aspect of its revised proposal opex forecast. We have used Ausgrid's initial proposal of $7.3 million ($2023–24) ($36.7 million over the next regulatory control period) as a placeholder for this draft decision.

6.4.1.3.4 Nature induced costs

Ausgrid proposed an increase in base opex of $4.4 million ($2023–24) ($21.8 million over the next regulatory control period) for nature induced emergency response costs.[55]

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52 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 21.

53 AER, *Decision Paper - Ausgrid Cost Allocation Method*, October 2022.

54 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 21.

55 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 21.

Ausgrid considered an adjustment was necessary because the costs to respond to major events such as storms can be highly variable from year to year. Ausgrid stated that the amount included in its estimated opex for the base year was lower than the average level it has incurred recent years.

We advised Ausgrid that an adjustment for nature induced costs would only be required if abnormally low (or high) nature induced costs lead to abnormally low (or high) total opex. Historically this has not been the case.[56] Further, if an adjustment were required it should be made as a non-recurrent efficiency gain such that any positive adjustment to forecast opex would have an offsetting and (almost) equal negative adjustment to EBSS carryovers. Ausgrid agreed with this view.

We sought further information from Ausgrid regarding the current value of nature induced costs incurred to date in 2022–23, and whether it expected that nature induced costs in 2022–23 will be significantly higher, or lower, than average levels. Ausgrid advised that, based on its expenditure for the year to date, its actual nature induced costs in 2022–23 were unlikely to be materially different to the historic average. On this basis, Ausgrid agreed its proposed base year adjustment for nature induced costs was not justified. We have therefore not included the base adjustment for nature induced costs in our alternative estimate of forecast opex.

6.4.1.3.5 Removal of category specific forecasts

In some circumstances, particularly where a category of opex is not being forecast on a revealed cost basis, it may be removed from the base year expenditure. We refer to these as 'category specific forecasts' (see section 6.4.4). In our alternative estimate, we have removed debt raising costs from base opex, which added $0.2 million ($2023–24) to base opex, which is the same as Ausgrid's proposal. Debt raising costs for the 2024–29 regulatory control period will be forecast separately. This treatment is consistent with our standard approach, as well as Ausgrid's initial proposal.

6.4.1.3.6 Final year increment

Our standard practice to calculate final year opex is to add the estimated change in opex between the base year (2022–23) and the final year (2023–24) of the current (2019–24) period to the base year opex amount.[57]

We have included $10.0 million ($2023–24) for the final year increment in our alternative estimate, which is $0.1 million ($2023–24) lower than the $10.1 million ($2023–24) Ausgrid proposed. This difference is caused by our use of more recent inflation figures, not available at the time Ausgrid submitted its proposal.

Stakeholder submissions

In terms of stakeholder submissions, Origin Energy was concerned with the opex underspend achieved by Ausgrid in the 2019–24 regulatory period and whether this underspend reflected sustainable efficiency improvements.[58] Origin noted that base

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56 Ausgrid, *Information request AGD IR#029 - Opex - Nature induced costs base adjustment*, 28 May 2023.

57 AER, *Expenditure forecast assessment guideline - distribution*, August 2022, pp. 24–25.

58 Origin Energy, *Submission - 2024–29 Electricity Determination - NSW and ACT*, May 2023, pp. 3–4.

adjustments and step changes effectively reset baseline opex and act to negate past savings, and thus future consumer benefits, while the NSP is rewarded through the EBSS for the reduction in its base opex during the period. Origin was particularly concerned with adjustments relating to changed accounting practices, service reclassification or capitalisation policies as it believed changes of this type make it difficult to assess the true efficiency of the base year and impact the comparability of opex over regulatory periods.

We recognise that Ausgrid has achieved opex efficiency gains in the 2019–24 regulatory control period, and it is therefore important that these efficiencies are shared with consumers through lower forecast opex in the 2024–29 regulatory control period. This is consistent with the operation of the incentive framework. Where there are changes over time in accounting practices, service classifications and capitalisation policies across NSPs that affect opex, we account for these through adjustments in our annual benchmarking assessments, which we then use to determine the efficiency of base year opex. We also assess any proposed base opex adjustments and step changes in opex costs, and make adjustments where necessary, to ensure only prudent and efficient costs are reflected in total forecast opex. We will continue to regularly examine the effectiveness and appropriateness of our opex forecast assessment process and efficiency incentives, and implement changes where needed.

6.4.2 Rate of change

Having determined an efficient starting point, or base opex, we trend it forward to account for the forecast growth in prices, output and productivity. We refer to this as the rate of change.[59]

Ausgrid applied our standard approach to forecasting the rate of change. It proposed:

- **Price growth:** to adopt the input price weightings of 59.2% labour and 40.8% non-labour, as used in our annual benchmarking report. It forecast labour price growth using an average forecast wage price index (WPI) growth from both BIS Oxford Economics and KPMG. It also added the legislated superannuation guarantee increases to its labour price growth forecasts.[60]
- **Output growth:** to apply the output weights from our four econometric benchmarking models as adopted in our most recent determinations.[61]
- **Productivity growth:** to use our 0.5% per year productivity growth forecast.[62]

The rate of change proposed by Ausgrid contributed $44.6 million ($2023–24), or 1.8%, to Ausgrid's total opex forecast of $2,420.5 million ($2023–24). This equates to opex increasing by 0.6% each year. We have included a rate of change that increases opex by 0.7% each year in our alternative estimate.

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59 AER, *Expenditure forecast assessment guideline - distribution*, August 2022, pp. 25–26.

60 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, January 2023, pp. 38–39.

61 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, January 2023, pp. 39–40.

62 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, January 2023, p. 40.

We compare both forecasts in Table 6.2, and set out the reasons for the differences below.

Table 6.2 Forecast annual rate of change in opex, %

	2024–25	2025–26	2026–27	2027–28	2028–29
Ausgrid's proposal					
Price growth	1.0	0.9	0.4	0.3	0.4
Output growth	0.3	0.4	0.4	0.8	0.8
Productivity growth	0.5	0.5	0.5	0.5	0.5
Rate of change	**0.8**	**0.7**	**0.3**	**0.6**	**0.7**
AER alternative estimate					
Price growth	0.7	0.8	0.5	0.4	0.6
Output growth	0.3	0.4	0.4	0.8	0.8
Productivity growth	0.5	0.5	0.5	0.5	0.5
Rate of change	**0.5**	**0.7**	**0.4**	**0.8**	**0.8**
Difference	**–0.2**	**–0.1**	**0.1**	**0.1**	**0.1**

Source: Ausgrid, *Att. 6.1 - Proposed operating expenditure - Public*, January 2023, p. 38; AER analysis.
Note: The rate of change = (1 + price growth) × (1 + output growth) × (1 – productivity growth) – 1. Numbers may not add up to totals due to rounding. Values of '0.0' and '–0.0' represent small non-zero amounts and '–' represents zero.

6.4.2.1 Forecast price growth

Ausgrid proposed average annual price growth of 0.6%, which increased its total opex forecast by $48.3 million ($2023–24). The average of the real annual price growth we used in our alternative estimate of total opex was also 0.6%. This increases our total opex alternative estimate by $42.8 million ($2023–24). Although we forecast the same average real annual price growth rate as Ausgrid, this results in a lower increase in total opex because we forecast lower price growth in the earlier years, and higher growth in the later years.

Both we and Ausgrid forecast price growth as a weighted average of forecast labour price growth and non-labour price growth:

- both we and Ausgrid used an average of two WPI growth forecasts for the electricity, gas, water and waste services (utilities) industry in New South Wales to forecast labour price growth, consistent with our standard approach. Ausgrid used forecasts from its consultant, BIS Oxford Economics, and KPMG. It sourced the KPMG forecasts from our final decision for Transgrid's electricity revenue determination. In our alternative estimate, we have replaced the KPMG forecasts Ausgrid used with updated forecasts from KPMG.[63]
- both we and Ausgrid applied a forecast non-labour real price growth rate of zero
- both we and Ausgrid applied the same weights to account for the proportion of opex that is labour and non-labour, 59.2% and 40.8%, respectively.

63 KPMG, *Wage Price Index Forecasts*, 18 August 2023, p. 38.

Consequently, the key difference between our real price growth forecasts and Ausgrid's is that we have updated our labour price growth forecast to include the more recent forecasts from KPMG.

Table 6.6 compares our forecast labour price growth with Ausgrid's proposal.

Table 6.6 Forecast labour price growth, %

	2023–24	2024–25	2025–26	2026–27	2027–28
Ausgrid's proposal					
KPMG	1.1	0.9	0.5	0.5	0.5
BIS Oxford Economics	1.2	1.1	0.9	0.5	0.9
Average	1.2	1.0	0.7	0.5	0.7
Superannuation guarantee increases	0.5	0.5	–	–	–
Average, including superannuation guarantee increases	**1.7**	**1.5**	**0.7**	**0.5**	**0.7**
AER's alternative estimate					
KPMG	0.3	0.7	0.8	0.9	0.9
BIS Oxford Economics	1.2	1.1	0.9	0.5	0.9
Average	0.7	0.9	0.9	0.7	0.9
Superannuation guarantee increases	0.5	0.5	–	–	–
Average, including superannuation guarantee increases	**1.2**	**1.4**	**0.9**	**0.7**	**0.9**
Overall difference	**–0.4**	**–0.1**	**0.2**	**0.2**	**0.2**

Note: Numbers may not add up to totals due to rounding. Values of '0.0' and '–0.0' represent small non-zero amounts and '–' represents zero.

Source: Ausgrid, *Att. 6.1 - Proposed operating expenditure - Public*, January 2023, pp. 38–39; KPMG, *Wage Price Index Forecasts*, 18 August 2023, p. 38; AER analysis.

We will receive updated labour price growth forecasts for the purpose of our final decision and will update our price growth forecasts in the final decision accordingly.

6.4.2.2 Forecast output growth

Ausgrid proposed average annual output growth of 0.5%, which increased its proposed opex forecast by $30.4 million ($2023–24). We have also forecast average annual output growth of 0.5%. This increases our alternative estimate of total opex by $28.8 million ($2023–24).

We and Ausgrid have forecast output growth by:

- calculating the growth rates for three outputs (customer numbers, circuit line length, and ratcheted maximum demand)
- calculating four weighted average overall output growth rates using the output weights from the four econometric opex cost function benchmarking models in our *2022 Annual benchmarking report*
- averaging the four model specific weighted overall output growth rates.

We discuss these below.

6.4.2.2.1 *Forecast growth of the individual output measures*

We are satisfied that Ausgrid's forecast of the growth in customer numbers, circuit length and ratcheted maximum demand reflect a realistic expectation and are largely consistent with forecast trends from external sources that have been previously tested and validated or historical growth rates. Specifically:

- **Customer numbers:** Ausgrid proposed forecast customer numbers based on the Housing Industry Association's dwelling starts forecast until 2024–25, and thereafter based on household projections from the NSW Department of Planning and Environment.[64] We have reviewed these forecasts and found them to be in line with historic average growth levels.
- **Circuit length**: Ausgrid used a 5-year historical trend to forecast the length of its distribution mains. For its transmission mains, it used its forward forecast capital program to forecast circuit length.[65]
- **Ratcheted maximum demand:** Ausgrid based its maximum demand forecasts on the four AEMO ISP 2022 scenarios:

  - Slow Change;
  - Progressive Change;
  - Step Change; and
  - Strong Electrification.

  Ausgrid identified Step Change as the most likely scenario. On this basis, Ausgrid adopted the Step Change forecast as the most likely scenario on which to apply planning models and expenditure forecasts.[66] Ausgrid is not forecasting demand to surpass its historic peaks until 2027–28, indicating no growth in ratcheted maximum demand in the years prior to this. We discuss our maximum demand forecasts further in Attachment 5.

Table 6.7 Forecast growth in individual output measures, %

	2024–25	2025–26	2026–27	2027–28	2028–29
Customer numbers	0.5	0.6	0.8	0.9	1.0
Circuit length	0.4	0.5	0.5	0.5	0.4
Ratcheted maximum demand	–	–	–	0.9	0.6

Note: Numbers may not add up to totals due to rounding. Values of '0.0' and '–0.0' represent small non-zero amounts and '–' represents zero.
Source: Ausgrid, *Att. 6.1.a - Opex model*, 31 January 2023.

6.4.2.2.2 *Output weights*

The output weights that we have used in our alternative estimate are set out in Table 6.8. These are calculated from the results in our *2022 Annual benchmarking report*. Ausgrid used the same output weightings.[67]

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64 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, January 2023, p. 39.

65 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, January 2023, p. 39.

66 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, January 2023, p. 40.

67 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 39.

Table 6.8 Output weights, %

	Cobb-Douglas SFA	Cobb Douglas LSE	Translog LSE	Translog SFA
Customer numbers	43.1	60.9	45.1	47.6
Circuit length	10.8	15.7	17.2	8.4
Ratcheted maximum demand	46.1	23.4	37.6	43.9

Source: Quantonomics, *Economic Benchmarking Results for the Australian Energy Regulator's 2022 DNSP Annual Benchmarking Report*, 17 November 2022, pp. 137–139; AER analysis.
Note: Numbers may not add up to totals due to rounding. Values of '0.0' and '–0.0' represent small non-zero amounts and '–' represents zero.

We will publish our *2023 Annual benchmarking report* in late November 2023. In our final decision, we will update our output growth rate forecasts to reflect the output weights in the *2023 Annual benchmarking report*. Full details of our approach to forecasting output growth are set out in our opex model, which is available on our website.

6.4.2.3 Forecast productivity growth

Ausgrid proposed average productivity growth of 0.5% per year. We have forecast the same average productivity growth of 0.5% per year, which reflects our standard approach.[68] This decreases our alternative opex estimate by $32.3 million ($2023–24) over the regulatory control period which is similar to the decrease in Ausgrid's forecast opex of $34.1 million. Our productivity growth forecast has a smaller impact on our total opex forecast than Ausgrid's because we made a smaller adjustment to base year opex.

6.4.3 Step changes

In developing our alternative estimate for the draft decision, we include prudent and efficient step changes for cost drivers such as new regulatory obligations or efficient capex / opex trade-offs. As we explain in the *Expenditure forecast assessment guideline* for electricity, we will generally include a step change if the efficient base opex and the rate of change in opex of an efficient service provider does not already include the proposed cost for such items and they are required to meet the opex criteria.[69]

Ausgrid's proposal included seven step changes totalling $64.2 million ($2023–24) or 2.7% of its proposed total opex forecast.[70] These are shown in Table 6.3 along with our alternative estimate for the draft decision, which is to include step changes totalling $19.8 million ($2023–24), or $44.4 million ($2023–24) lower than Ausgrid's proposal. Our lower alternative estimate is largely due to a lower estimate for Ausgrid's step changes for ICT enablement for CER integration and smart meter data, and not including Ausgrid's proposed step changes for insurance, network innovation and community resilience. We discuss this below.

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68 AER, *Expenditure forecast assessment guideline - distribution*, August 2022, p. 26; AER, *Final decision - Forecasting productivity growth for electricity distributors*, 8 March 2019.

69 AER, *Expenditure forecast assessment guideline - distribution*, August 2022, p. 26.

70 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 24.

Table 6.3 Proposed step changes ($million, 2023–24)

Step change	Ausgrid's proposal	AER's alternative estimate	Difference
Insurance	9.5	–	–9.5
Cyber security	20.6	19.0	–1.6
ICT enablement for CER integration	10.4	4.6	–5.7
Smart meter data	24.9	10.7	–14.2
Network innovation	5.0	–	–5.0
Community resilience	8.4	–	–8.4
Property	–14.5	–14.5	–
Total step changes	**64.2**	**19.8**	**–44.4**

Source: Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 24; AER analysis.
Note: Numbers may not add up to totals due to rounding. Values of '0.0' and '–0.0' represent small non-zero amounts and '–' represents zero.

6.4.3.1 Insurance

Ausgrid proposed a step change of $9.5 million ($2023–24) for an increase in insurance premiums over the 2024–29 regulatory period.[71] This relates to forecast increases in insurance premiums, for which Ausgrid considers the efficient costs are not provided by other components of its total forecast opex, including base year opex. Our draft decision is to not include the proposed insurance premium step change in our alternative estimate.

We have not included this step change in our alternative estimate as we consider the insurance premium increases are likely to be captured in the non-labour price growth (CPI) component of the rate of change.

Table 6.10 Insurance step change ($million, 2023–24)

	2024–25	2025–26	2026–27	2027–28	2028–29	Total
Ausgrid's proposal	0.8	1.8	2.3	2.5	2.1	9.5
AER alternative estimate	–	–	–	–	–	–
Difference	**–0.8**	**–1.8**	**–-2.3**	**–2.5**	**–2.1**	**–9.5**

Source: Ausgrid, *Att. 6.1 - Proposed operating expenditure - Public*, January 2023, p. 24; AER analysis.
Note: Numbers may not add up to totals due to rounding. Values of '0.0' and '–0.0' represent small non-zero amounts and '–' represents zero.

Ausgrid stated it has experienced significant increases in insurance premiums in recent years driven by climate change, which is causing more damage to the network, and the significantly higher risk of cyber security breaches.[72] Ausgrid engaged Marsh to provide

[71] Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 24.

[72] Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 25.

insurance premium forecasts for the full spectrum of its insurance program.[73] Marsh expected the trend of premium increases to continue in the 2024–29 regulatory period.[74]

We recently engaged Taylor Fry to assess the prudency and efficiency of forecast insurance premiums for our 2023–28 ElectraNet[75] and Transgrid[76] revenue determinations. We consider Ausgrid's forecast premiums, prepared by Marsh, are largely consistent with Taylor Fry's expectation of future premiums in that context, given prevailing market conditions. On this basis we consider Ausgrid's forecast insurance costs are likely to be reasonable.

Ausgrid, following discussions with AER staff, proposed to calculate their proposed step change amount as the difference between the cost forecasts prepared by Marsh and the insurance cost in the final year (2023–24), rather than relative to the base year 2022–23. This is consistent with the approach we adopted for insurance step changes included in ElectraNet's 2023–28 transmission determination. On 30 March 2023, the AER approved ElectraNet's 2022–23 insurance costs pass through event, to recover additional premium costs incurred in 2022–23.[77] Due to the interaction between the insurance cost pass through event for transmission businesses and the proposed step change, we considered this approach ensured that the final year equation of our base-step-trend approach treated all efficiency rewards and penalties in a similar manner.

Our historical assessment methodology for step changes, which have no interactions with approved cost pass through expenditure, has been to calculate the step changes with reference to the base year of the current regulatory period. We note Ausgrid has applied this methodology to all other proposed step changes. While there may be circumstances in which it is preferable to calculate step change costs with reference to the final year, such as the interaction between step change costs and an actual or potential cost pass through event as was the case with ElectraNet, for this draft decision we have calculated our alternative estimate for the insurance premium step change with reference to the base year. This is consistent with Ausgrid's treatment of other proposed step changes.

Our alternative estimate, calculated as the difference between Ausgrid's forecast insurance cost and the insurance costs in the base year (2022–23), is $15.7 million ($2023–24) over the 2024–29 regulatory control period. This is $6.2 million ($2023–24) higher than Ausgrid's proposed $9.5 million ($2023–24).

Our assessment considers the rate of change forecast, which considers the growth in non-labour prices, including potential increases in existing costs like insurance premiums. We expect some non-labour components will increase by more than CPI and some less than CPI. To the extent insurance premiums rise by more than CPI, we expect this will to an extent be offset by other non-labour costs rising by less than CPI. However, we note there may be circumstances where it is appropriate to consider increasing costs of individual cost categories, particularly where they represent a material proportion of total opex.

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73 Marsh, *Ausgrid - Att. 6.3 - Marsh insurance report*, 31 October 2022.

74 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 25.

75 AER, *ElectraNet 2023–28 - Draft decision - Attachment 6 - Operating expenditure*, September 2022, p. 19.

76 AER, *Transgrid 2023–28 - Draft decision - Attachment 6 - Operating expenditure*, September 2022, p. 20.

77 AER, *Determination - ElectraNet - 2022–23 insurance event cost pass through*, March 2023.

Our insurance premium step change alternative estimate of $15.7 million ($2023–24) represents 0.7 per cent of our forecast alternative estimate of total opex. We consider the costs do not represent a material proportion of opex and are not materially above the non-labour price growth (CPI) included in the rate of change, with the higher insurance premiums therefore likely to be offset by other non-labour costs rising by less than CPI.

We have therefore not included this step change in our alternative estimate of total forecast opex.

6.4.3.2 Cyber security

We have included a step change of $19.0 million ($2023–24) for cyber security in our alternative estimate of total forecast opex for the draft decision. This is $1.6 million ($2023–24) less than the estimate proposed by Ausgrid and reflects that we are not satisfied that the full proposed costs are prudent and efficient.

Table 6.11 Cyber security step change ($million, 2023–24)

	2024–25	2025–26	2025–26	2027–28	2028–29	Total
Ausgrid's proposal	2.4	4.0	4.4	4.7	5.1	20.6
AER alternative estimate	3.8	3.8	3.8	3.8	3.8	19.0
Difference	**1.4**	**–0.2**	**–0.6**	**–0.9**	**–1.3**	**–1.6**

Source: Ausgrid, *Att. 6.1 - Proposed operating expenditure - Public*, January 2023, p. 24; AER analysis.
Note: Numbers may not add up to totals due to rounding. Values of '0.0' and '–0.0' represent small non-zero amounts and '–' represents zero.

Ausgrid proposed $20.6 million ($2023–24) to uplift its cyber security maturity and achieve Security Profile 3 (SP–3) of the Australian Energy Sector Cyber Security Framework (AESCSF).[78] Ausgrid submitted each of the following obligations require up to date effective cyber protection:[79]

- Distribution Network Service Provider license conditions
- *Privacy Act 1988*
- *Electricity Supply Act 1995* (NSW)
- *National Electricity Law*
- *Security of Critical Infrastructure Act 2018* (Cwth)
- *Security Legislation Amendment Critical Infrastructure Act 2021*
- *Security Legislation Amendment (Critical Infrastructure Protection) Act 2022*.

Ausgrid also considered this security profile prudent to limit potential cascading consequences due to the interdependencies across the sector.[80] It highlighted its network's supply of power to essential services, including supplying the Sydney CBD and the third and eighth largest market of data centres in the Asia Pacific and international region respectively.[81]

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78 Ausgrid, *Att. 6.1 - Proposed operating expenditure - Public*, January 2023, pp. 24, 29–31.

79 Ausgrid, *Att. 5.9.c - Cyber security program*, 31 January 2023, p. 6.

80 Ausgrid, *Att. 6.1 - Proposed operating expenditure - Public*, January 2023, p. 30.

81 Ausgrid, *Att. 6.1 - Proposed operating expenditure - Public*, January 2023, p. 30.

In terms of the Security of Critical Infrastructure legislation, the *Security Legislation Amendment (Critical Infrastructure Protection) Act 2022* introduced an obligation for responsible entities to create and maintain a Critical Infrastructure Risk Management Program (CIRMP).[82] The CIRMP, amongst other things, requires Ausgrid to meet a cyber security maturity of SP–1 of the AESCSF.

The AESCSF was developed by the Australian Energy Market Operator, in conjunction with industry and government stakeholders, and provides guidance to the energy sector to uplift cyber security maturity and increase the sector's cyber resilience. It further provides for a self-assessment framework for measuring cyber security maturity levels against 11 domains. These domains represent groupings of cyber security practices that cover a broad range of areas such as risk management, event and incident response and external party practices.[83] The AESCSF program also includes the Electricity Criticality Assessment Tool (E-CAT), which is designed to assess the relative criticality of networks and other participants in the electricity sector. E-CAT's criticality banding for the electricity sub-sector rates a distribution business with a medium to high criticality rating.[84] The medium criticality rating translates to guidance that a business should be achieving a SP–2 maturity level, and high criticality rating SP–3. AEMO also states that the E-CAT should be treated as general guidance only and that results obtained from the E-CAT do not indicate that an entity has obligations under or is compliant with applicable Commonwealth legislation.[85]

We consider, within the context of the elevated and increasing cyber threat landscape, that it is likely to be prudent and good industry practice to seek to achieve a level of cyber security maturity that corresponds to a business's E-CAT criticality ratings guidance for SP maturity levels. At the same time, where proposed expenditure goes beyond a specific compliance obligation, the business should demonstrate the prudency and efficiency of the expenditure through an assessment of the net economic benefits.

Further details of our assessment of Ausgrid's proposed cyber security expenditure (both opex and capex) can be found in Attachment 5 of this draft decision. The discussion below focuses on the proposed opex step change component of these costs.

In developing this step change, Ausgrid assessed three options to uplift its cyber security maturity, selecting option 3 (highest cyber security maturity) as its preferred option.[86] This option targets full SP–3 maturity by the end of the 2024–29 period.[87] Ausgrid clarified that the costs for this option are driven by new resources with specialist skills, new software capabilities, and cyber awareness training for staff.[88]

We assessed the information provided in Ausgrid's proposal, including information received through information requests and a workshop, to justify its proposed step change costs of $20.6 million ($2022–23). We are not satisfied that the costs proposed by Ausgrid represent

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82 *Security of Critical Infrastructure Act 2018* (Cth), Part 2A.

83 AEMO, *The 2022 AESCSF Quick Reference Guide*, 19 April 2022.

84 AEMO, *The 2022 AESCSF Electricity Criticality Assessment Tool (E-CAT)*, 19 April 2022.

85 AEMO, *The 2022 AESCSF Overview*, 19 April 2022, p. 3.

86 Ausgrid, *Att. 5.9c - Cyber security program,* 31 January 2023, p. 19.

87 Ausgrid, *Att. 5.9c - Cyber security program, 31* January 2023, p. 26.

88 Ausgrid, *Att. 5.9c - Cyber security program,* 31 January 2023, p. 26.

the efficient costs of a prudent operator. Our draft decision instead includes a slightly lower step change amount of $19.0 million ($2023–24).

Overall, we consider it prudent for Ausgrid to continue to uplift its cyber security maturity and strengthen its cyber resilience. This is also supported by advice from our consultant, Energy Market Consulting associates (EMCa), which provided expert advice on the assessment of this step change as part of Ausgrid's total opex and capex proposal for cyber security costs.

However, we are not satisfied that Ausgrid has demonstrated its proposed expenditure to achieve full SP–3 maturity in the 2024–29 regulatory control period reasonably reflects prudent and efficient costs. This appears to represent an unnecessarily onerous target, with associated high costs that are not well justified by the identified risk reduction benefits.[89] Based on advice from our technical consultant EMCa, we consider it would likely be prudent for Ausgrid to adopt a risk prioritisation-based approach to achieve cyber security maturity beyond SP–2, and implement targeted SP–3 practices that provide significant risk reductions.[90] Further detail of our assessment of the prudency of Ausgrid's cyber security program is set out in Attachment 5 of this draft decision.

For our assessment of the efficient step change costs required by Ausgrid, we considered both Ausgrid's current maturity level and a prudent target cyber maturity level for the 2024–29 period, and associated cyber security resources. Our assessment showed that Ausgrid has prudently invested, in the current 2019–24 period, to advance its cyber security maturity commensurate with the current risk landscape.[91] However, we consider that Ausgrid's proposal for the 2024–29 regulatory control period included a significant increase to its cyber security resources.[92] EMCa's advice identified that, based on its experience and reviews of other equivalent service providers, this level of resourcing appears higher than would be required by an efficient service provider.[93] Benchmarking of Ausgrid's total proposed costs further showed that Ausgrid's cyber security program does not appear to be economically justified, and its ongoing opex cost above an efficient level.[94]

For our alternative estimate of forecast opex, we have included $19.0 million ($2023–24) for the cyber security step change. This is a reduction of $1.6 million ($2023–24), or 7.8%, to Ausgrid's proposed step change. This reflects our conclusion, based on EMCa's technical advice, that the likely efficient costs for Ausgrid's total proposed cyber security program are lower than the costs proposed by Ausgrid to fully achieve SP–3 maturity. We are satisfied that this lower estimate reflects the efficient amount Ausgrid requires to implement a prudent risk-based cyber security maturity uplift in the 2024–29 regulatory control period.

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89 EMCa, *Ausgrid 2024–29 Regulatory Proposal: Review of proposed expenditure on ICT Cyber Security*, August 2023, p. 18.

90 EMCa, *Ausgrid 2024–29 Regulatory Proposal: Review of proposed expenditure on ICT Cyber Security*, August 2023, pp. 18, 31–32.

91 EMCa, *Ausgrid 2024–29 Regulatory Proposal: Review of proposed expenditure on ICT Cyber Security*, August 2023, p. 18.

92 Ausgrid, *Att. 5.9c - Cyber security program,* 31 January 2023, p. 26.

93 EMCa, *Ausgrid 2024–29 Regulatory Proposal: Review of proposed expenditure on ICT Cyber Security*, August 2023, pp. 33–34.

94 EMCa, *Ausgrid 2024–29 Regulatory Proposal: Review of proposed expenditure on ICT Cyber Security*, August 2023, pp. 37–38.

6.4.3.3 ICT enablement for Consumer Energy Resource (CER) integration

Ausgrid proposed a $10.4 million ($2023–24) 'ICT enablement for CER integration' step change over the 2024–29 period. We have included a lower amount of $4.6 million ($2023–24) in our alternative estimate for the reasons outlined below.

Table 6.12 ICT enablement for CER integration step change ($million, 2023–24)

	2024–25	2025-26	2026–27	2027–28	2028–29	Total
Ausgrid's proposal	0.9	2.1	2.2	2.5	2.6	10.4
AER alternative estimate	1.4	0.8	0.7	0.9	0.8	4.6
Difference	**0.4**	**–1.3**	**–1.5**	**–1.6**	**–1.8**	**–5.7**

Source: Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 36; AER analysis.
Note: Numbers may not add due to rounding.

Ausgrid submitted that the 'ICT enablement for CER integration' step change was required to build foundational capabilities to become a dynamic platform and facilitate the cost-effective transition to net zero by 2050.[95] It submitted that unless this step change is included, it will not be able to achieve the opex objectives,[96] as its ability to efficiently manage and deliver services to CER customers would be compromised.[97] Ausgrid assessed two options to deliver this program, with different spend profiles. It preferred option 1 which it submitted had greater benefits, including a comparatively lower spend profile over the 2024–29 period.[98] This option uplifts capabilities in the following three categories:

1. Dynamic service capabilities ($5.4 million) ($2023–24) – investments to upgrade billing systems and enable dynamic pricing, dynamic operating envelopes and virtual power plant platforms.
2. Connections, compliance and education ($2.7 million) ($2023–24) – investments to enable dynamic connection agreements, improved customer connections processes, compliance monitoring and customer education initiatives.
3. Modelling uplift ($2.5 million) ($2023–24) – undertaking sophisticated modelling that can integrate with more real time data, to dynamically predict network outcomes under different CER scenarios.

We assessed Ausgrid's CER integration program business case, supporting documents, models and responses to our information requests.[99] Our technical consultant EMCa also reviewed the prudency and efficiency of the proposed expenditure, with a focus on whether Ausgrid sufficiently demonstrated the need for network investment to accommodate forecast levels of CER.[100]

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95 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 Jan 2023, p. 35; Ausgrid, *Att. 5.7 - CER integration program*, 31 January 2023, p. 4.

96 The opex objectives are set out in clause 6.5.6(a) of the NER.

97 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, *31 Jan*uary *2023*, p. 36.

98 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, *31 Jan*uary *2023*, p. 36.

99 This included '*Ausgrid - Att. 5.7 - CER integration program*', '*HoustonKemp - 5.7.A.2 - Economic benefits of DSO investments - Public*' and Ausgrid's cost benefit analysis model.

100 EMCa, *Ausgrid 2024–29 Regulatory Proposal: Review of proposed expenditure on CER and for ERP expenditure*, August 2023.

Overall, we consider it prudent for Ausgrid to invest to increase its capabilities to efficiently manage the growth in CER on its network. However, we are not satisfied that Ausgrid's proposed costs reasonably reflect the prudent and efficient costs required to undertake the proposed activities.

Specifically, we consider it prudent for Ausgrid to uplift its modelling and analytics capabilities. This is supported by EMCa's advice, which supported a prudent level of investment in upgrading Ausgrid's analytical capability.[101] Consistent with our capex position as set out in Attachment 5 of this draft decision, we are satisfied that this expenditure is likely needed to support investments in network visibility and managing two-way power flows.

However, we are not satisfied that the remaining programs are prudent and efficient. We consider that Ausgrid's investment is above the prudent level required in the 2024–29 regulatory control period, and that the benefits do not sufficiently justify the costs.

We consider that connections, compliance and education activities are largely prudent and likely to deliver benefits, however Ausgrid's proposed upgrades to connections processes are likely to be excessive. EMCa observed that Ausgrid's proposed connections investment materially exceeded its projected connections requirement and suggested a staged investment at lower cost is likely to still realise the forecast benefits.[102] We consider that as total benefits are likely to be around 50% lower than Ausgrid's forecast, this supports an alternative opex estimate of $2.1 million ($2023–24). Further detail on our assessment of the expected benefits of this investment is provided in Attachment 5.

We do not consider that the proposed expenditure for dynamic service capabilities is prudent and efficient. As noted in our capex attachment, we recognise that investments which enable participation in virtual power plants will allow customers to get more value out of their CER investments. However, we consider it important that benefits are valued appropriately and suggest that market efficiency benefits should be quantified using differences in customer export curtailment values (CECVs) rather than wholesale electricity prices.

For our alternative estimate of total forecast opex for the draft decision, we have therefore included a lower amount of $4.6 million ($2023–24) for Ausgrid's 'ICT enablement for CER integration' step change. We are satisfied that this represents the prudent and efficient amount for the proposed step change.

6.4.3.4 Smart meter data

Ausgrid proposed a step change of $24.9 million ($2023–24) over the 2024–29 regulatory control period for the acquisition of power quality data to increase its network visibility.[103] Our draft decision is to include $10.7 million ($2023–24) for the smart meter step change in our alternative estimate of forecast opex for the draft decision. This is $14.2 million ($2023–24)

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101 EMCa, *Ausgrid 2024–29 Regulatory Proposal: Review of proposed expenditure on CER and for ERP expenditure*, August 2023, p. 27.

102 EMCa, *Ausgrid 2024–29 Regulatory Proposal: Review of proposed expenditure on CER and for ERP expenditure*, August 2023, p. 30.

103 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, pp. 32–33.

lower than Ausgrid's proposal and represents the efficient amount we consider is needed to achieve a prudent level of network visibility.

Table 6.13 Smart meter step change (million, $2023–24)

	2024–25	2025-26	2026–27	2027–28	2028–29	Total
Ausgrid's proposal	3.6	4.3	5.0	5.6	6.3	24.9
AER alternative estimate	1.7	2.3	2.3	2.1	2.3	10.7
Difference	**–1.9**	**–2.0**	**–2.7**	**–3.5**	**–4.0**	**–14.2**

Source: Ausgrid, *Att. 6.1 a - Opex model - Public*, 31 January 2023; AER analysis.
Note: Numbers may not add due to rounding.

Ausgrid proposed to purchase power quality data from 700,000 smart meters by 2028–29, to increase its network visibility and knowledge of bi-directional energy flows associated with DER. It assessed three options for this step change:

- Option 1: maximum smart meter uptake
- Option 2: optimised smart meter uptake
- Option 3: constrained smart meter uptake.

Ausgrid selected Option 2 (Optimised meter uptake) as its preferred option. It submitted that this option would deliver the highest net economic benefits. It submitted that this step change will increase utilisation of these DER assets and reduce curtailment through improved decision making. These benefits included efficiency gains in growth capex, through voltage compliance and connectivity validation, and opex efficiencies through a reduction of customer callouts and safety incidents.[104] It further stated that without this increased visibility, it will not be able to efficiently maintain quality, reliability and security of supply of standard control services. While Ausgrid noted that it anticipates the current Metering Review by the AEMC to enable increased access to smart meter data, it considered this access would be limited to once per day. It submitted that more frequent data is required to enable increased dynamic services.[105]

We assessed the information that Ausgrid provided in its proposal, and in subsequent information received through information requests, to justify the proposed costs.

We consider it prudent for Ausgrid to increase its low voltage network visibility. This is also supported by EMCa's assessment, which found that Ausgrid presented a reasonable case for increasing its network visibility, and supported a prudent level of investment, including for network analytics.[106] However, EMCa considered that Ausgrid's visibility target was above the required amount, and that it had not adequately justified why this was needed.

In this context, EMCa noted that Ausgrid had not demonstrated that it has extensive constraints on its network caused by PV penetration. EMCa highlighted that Ausgrid's proposed visibility target was above the range of 20–25% observed in other distributors'

104 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, pp. 32–33.

105 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, pp. 32–33.

106 EMCa, *Ausgrid 2024–29 Regulatory Proposal: Review of proposed expenditure on CER and for ERP expenditure*, August 2023, p. 27.

proposals. This 20–25% range is consistent with ARENA's 'Solar Enablement Initiative' and 'Project Shield' outcomes.[107] EMCa further clarified that this level of coverage is only required for the feeders on which there are over-voltage constraints, not across the entire LV network.[108] Further, we also consider that Ausgrid has not demonstrated the need for, or the benefit of, obtaining smart meter data more frequently than once per day.

For our alternative estimate, we have therefore included a lower amount of $10.7 million ($2023–24) for Ausgrid's smart step change. This is consistent with Ausgrid's option 3 (Constrained meter take-up) or acquiring daily data for 420,000 smart meters by 2028–29, including support service opex. We are satisfied that this represents the prudent and efficient amount that will enable Ausgrid to increase its network visibility to a prudent level.

We note the AEMC's final report for its review of the regulatory framework for metering services was published shortly before we published our draft decision.[109] We will consider any relevant outcomes of this review in making our final decision for Ausgrid's smart meter step change.

6.4.3.5 Network innovation

Ausgrid proposed a step change of $5.0 million ($2023–24) for a network innovation program over the 2024–29 regulatory period.[110] We have not included this step change in our alternative estimate.

Table 6.14 Innovation step change (million, $2023–24)

	2024–25	2025-26	2026–27	2027–28	2028–29	Total
Ausgrid's proposal	1.0	1.0	1.0	1.0	1.0	5.0
AER alternative estimate	–	–	–	–	–	–
Difference	–1.0	–1.0	–1.0	–1.0	–1.0	—5.0

Source: *Ausgrid, Att. 6.1.a – Opex model – Public*, 31 January 2023; AER analysis.
Note: Numbers may not add due to rounding. Values of '0.0' and '–0.0' represent small non-zero amounts and '–' represents zero.

Ausgrid proposed a network innovation program step change for a range of trials and pilots covering leading edge energy technologies to support the rapidly evolving electricity sector. The program also comprises an associated $49.5 million ($2023–24) capex investment.[111]

While we acknowledge that Ausgrid's Voice of Community Panel supported this innovation expenditure as part of Ausgrid's proposal, we consider additional opex for innovation expenditure needs to be carefully considered and well justified, and be for projects that are transformative in nature, as opposed to simple improvements. Further discussion on

107 EMCa, *Ausgrid 2024–29 Regulatory Proposal: Review of proposed expenditure on CER and for ERP expenditure*, August 2023, p. 29.

108 EMCa, *Ausgrid 2024–29 Regulatory Proposal: Review of proposed expenditure on CER and for ERP expenditure*, August 2023, p. 29.

109 AEMC, *Review of the regulatory framework for metering services, Final report*, 30 August 2023.

110 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, pp. 34–35.

111 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, pp. 34–35.

Ausgrid's forecast innovation expenditure is included in Attachment 5.[112] Consistent with our position on forecast innovation capex, we have not included Ausgrid's proposed innovation step change in our alternative estimate of forecast opex for the draft decision.

We may consider this step change further at the final decision stage, should Ausgrid provide additional justification for its innovation projects, including to explain why existing innovation schemes and forecast opex are insufficient.

6.4.3.6 Community resilience

Ausgrid proposed a community resilience step change of $8.4 million ($2023–24) for the implementation of community-based resilience initiatives. Ausgrid subsequently submitted a revised 'Climate Resilience Program' business case which reduced the proposed community resilience step change costs to $5.9 million ($2023–24), $2.5 million ($2023–24) lower than its initial proposal. Our draft decision is to not include this step change in our alternative estimate. We are not satisfied that Ausgrid has justified the need for an opex step change in relation to these programs, or that the proposed costs are necessarily prudent and efficient.

Table 6.15 Community resilience step change ($million, 2023–24)

	2024–25	2025–26	2026–27	2027–28	2028–29	Total
Ausgrid's proposal	1.1	1.7	2.1	1.9	1.7	8.4
AER alternative estimate	–	–	–	–	–	–
Difference	**–1.1**	**–1.7**	**–2.1**	**–1.9**	**–1.7**	**–8.4**

Source: Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 24; AER analysis.
Note: Numbers may not add up to totals due to rounding. Values of '0.0' and '–0.0' represent small non-zero amounts and '–' represents zero.

In its proposal, Ausgrid included the community resilience step change to improve its climate resilience in response to the increasing intensity and frequency of extreme weather events. Ausgrid submitted that the community resilience step change responds to regulatory obligations, and is a capex/opex trade-off as it was fully offset by a reduction to its 2024–29 capex forecast. It further stated that these costs are not in its base year, nor captured in the rate of change forecast. As such, Ausgrid considered that these costs are a change in business-as-usual expenditure, and therefore a step change. It further clarified that this step change is for the implementation of community-based resilience initiatives, including that the proposed amounts predominantly involve costs for new staff.[113]

After Ausgrid submitted its initial proposal, it continued its consumer engagement on this proposal, and submitted a revised climate resilience business case in August 2023. In its updated proposal, Ausgrid revised its proposed step change from $8.4 million ($2023–24) to $5.9 million ($2023–24). Ausgrid submitted in its updated business case that this investment is required to meet the expectations of the community, stakeholders and the National Electricity Objective. Additionally, it referenced the following obligations in support of this investment to minimise risks associated with hazards:[114]

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112 AER, *Ausgrid 2024–29 - Draft decision - Attachment 5 - Capital expenditure*, September 2023.

113 Ausgrid, *2024–29 Regulatory Proposal*, 31 January 2023, p. 135.

114 Ausgrid, *Climate Resilience Business Case*, August 2023, p. 5.

- the Security of Critical Infrastructure Act 2018 – requirement to minimise material risk
- the NSW Infrastructure Strategy 2022 – requirement to 'develop place-based resilience and infrastructure adaptation strategies that assess local risk and incorporate infrastructure and non-infrastructure solutions for vulnerable locations.'

In developing its resilience strategy, Ausgrid considered three options, and selected option 2 (Co-designed approach) as its preferred option. This option broadly categorises Ausgrid's initiatives into 'Whole-of network' and 'Non-network' solutions. The non-network solutions were further allocated to three regions: Central Coast, Lake Macquarie and Port Stephens.

We assessed the information provided by Ausgrid, including its initial proposal, information received in subsequent information requests, and its revised business case, to justify the $5.9 million ($2023–24) costs. We acknowledge the need for businesses to invest to prudently manage the risks, and mitigate the impacts, arising from climate change associated events. Ausgrid's proposal shows it is cognisant of this need, and we further commend Ausgrid on its extensive stakeholder engagement in formulating a stakeholder-supported proposal. However, we are not satisfied the proposed step change costs are prudent and efficient, or should be included in our alternative estimate of forecast opex.

Step change criteria

We are not satisfied that the community resilience costs proposed by Ausgrid meet our standard step change criteria. We do not consider these community initiatives are driven by any specific new regulatory obligations, or are driven by an efficient capex-opex trade off.

We recognise that Ausgrid also considers these costs are driven by a major external factor (climate change) and are not specific costs already reflected in its base opex. However, as stated in our Better Resets Handbook, for a step change driven by a major external factor outside the control of the business, we expect the business to demonstrate that the impact on the costs of providing network services is not capable of being otherwise managed under forecast opex, including through inbuilt provisions for output, price and productivity growth.

In our view, this step change relates to minor increases in business-as-usual expenditure such as vegetation management, community liaison, communications and outage management, and is relatively immaterial in the context of Ausgrid's total forecast opex. We therefore consider Ausgrid is likely to be able to accommodate these costs within total forecast opex if it chooses to prioritise these programs in the context of its existing activities.

We have also considered, and recognise, Ausgrid's consumer support in its resilience program.[115] As we stated in the Handbook, proposals that reflect consumer preferences are more likely to be accepted.[116] However, we expect that consumer support needs to be in balance with a prudent and efficient proposal.

Prudent and efficient costs

In relation to the specific costs proposed for community resilience, we do not consider Ausgrid has provided information through either its initial proposal or revised business case

115 AER, *Note on the key issues of network resilience*, April 2022, p. 11.

116 AER, *Better Resets Handbook*, December 2021, p. 3.

that demonstrates the forecast reflects prudent and efficient costs. Regarding prudency, for instance, as noted above a significant proportion of the proposed expenditure is for projects we consider to be an extension of business-as-usual activities (for example, community liaison, safety and outage messaging, and community education). Ausgrid has not explained why additional costs are needed above existing activities and resources. In terms of cost efficiency, Ausgrid has not provided information to demonstrate its estimates reflect efficient costs, such as providing detail on the build-up or basis of estimation for these costs.

We also note that, based on our assessment of the scope of Ausgrid's proposed costs, it is not clear that Ausgrid, as a distributor, is necessarily the appropriate entity to drive effective community-based climate change focused resilience initiatives. Some of the proposed programs involve contributions by Ausgrid of a general nature, which could be provided by a well-resourced party who does not own or operate a distribution system.

A significant proportion of Ausgrid's step change proposal relates to liaison and communication costs. Ausgrid's activities aim to achieve an increased level of co-ordination with other organisations, or leverage their expertise, including to enhance its disaster communication and plans. Our resilience guidance note also clarified that we consider that the role of network businesses is a collaborative one with other responsible entities.[117] However, Ausgrid did not clearly explain how its existing communication and liaison activities and resources are inadequate, or how uplifting its capabilities provides tangible benefits for community resilience and infrastructure climate-related hazard risk mitigation. Given recent natural disaster events in NSW, Ausgrid would likely have already incurred some uplift in its liaison and communication expenditure, which would be carried forward through our base opex forecasting approach.

In summary, as set out above, we have not included Ausgrid's proposed community resilience step change in our alternative estimate of total forecast opex. We discuss our overall assessment of Ausgrid's proposed resilience expenditure further in Attachment 5.

6.4.3.7 Property

Ausgrid proposed a negative $14.5 million ($2023–24) property step change, resulting from property sales in the 2019–24 period that reduce land tax and other costs associated with the properties sold.[118]

Table 6.16 Property step change ($million, 2023–24)

	2024–25	2025–26	2026–27	2027–28	2028–29	Total
Ausgrid's proposal	–2.9	–2.9	–2.9	–2.9	–2.9	–14.5
AER alternative estimate	–2.9	–2.9	–2.9	–2.9	–2.9	–14.5
Difference	**–**	**–**	**–**	**–**	**–**	**–**

Source: Ausgrid, *Att. 6.1 - Proposed operating expenditure*, January 2023, p. 24; AER analysis.
Note: Numbers may not add up to totals due to rounding. Values of '0.0' and '–0.0' represent small non-zero amounts and '–' represents zero.

117 AER, *Note on the key issues of network resilience*, April 2022, pp. 14–15.

118 Ausgrid, *Att. 6.1 - Proposed operating expenditure*, 31 January 2023, p. 37.

Ausgrid consulted on this step change with its Reset Consumer Panel, which supported the proposal as it results in a reduction to forecast opex. Due to the proposed step change being negative and having strong consumer support, we have not assessed this step change in detail but have included this step change in our alternative estimate of total forecast opex for the 2024–29 regulatory control period.

6.4.4 Category specific forecasts

Ausgrid's proposal included one category specific forecast, which was not forecast using the base-step-trend approach. This was for debt raising costs. We have included this category specific forecast for debt raising costs in our alternative estimate of total opex.

6.4.4.1 Debt raising costs

We have included debt raising costs of $45.5 million ($2023–24) in our alternative estimate. This is $0.1 million higher than the estimate provided by Ausgrid.

Table 6.17 Debt raising costs ($million, 2023–24)

	2024–25	2025–26	2026–27	2027–28	2028–29	Total
Ausgrid's proposal	9.0	9.1	9.1	9.1	9.1	45.4
AER alternative estimate	9.1	9.1	9.1	9.1	9.1	45.5
Difference	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**

Source: Ausgrid, *Att. 6.1.a - Opex model - Public*, 31 January 2023; AER analysis.
Note: Numbers may not add up to totals due to rounding. Values of '0.0' and '–0.0' represent small non-zero amounts and '–' represents zero.

Debt raising costs are transaction costs incurred each time a business raises or refinances debt. Our preferred approach is to forecast debt raising costs using a benchmarking approach rather than a service provider's actual costs in a single year. This provides consistency with the forecast of the cost of debt in the rate of return building block.

We used our standard approach to forecast debt raising costs, which we discuss further in Attachment 3.

Glossary

Term	Definition
ABS	Australian Bureau of Statistics
AER	Australian Energy Regulator
AESCSF	Australian Energy Sector Cyber Security Framework
CAM	Cost allocation methodology
Capex	Capital expenditure
CCP26	Consumer Challenge Panel 26
CPI	Consumer price index
EBSS	Efficiency benefit sharing scheme
Handbook	Better Resets Handbook
NER	National Energy Rules
Opex	Operating expenditure
RBA	Reserve Bank of Australia
RMP	Risk management program
SP–3	Security Profile 3
WPI	Wage price index