Final decision

ElectraNet transmission determination
1 July 2023 to 30 June 2028

Attachment 6 – Operating expenditure

April 2023

AUSTRALIAN ENERGY REGULATOR

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6 Operating expenditure

Operating expenditure (opex) refers to the operating, maintenance and other non-capital expenses incurred in the provision of network services. Forecast opex for prescribed transmission services is one of the building blocks we use to determine a service provider's annual total revenue requirement.

This attachment outlines our assessment of ElectraNet's proposed total opex forecast for the 2023–28 regulatory control period.

6.1 Final decision

Our final decision is to not accept ElectraNet's total opex forecast of $701.1 million ($2023–24), including debt raising costs, for the 2023–28 regulatory control period.[1] Our alternative estimate of $673.7 million ($2022–23), including debt raising costs, is materially lower ($27.2 million ($2022–23), or 3.9%, lower) than ElectraNet's revised proposal total opex forecast. Therefore, we consider that ElectraNet's total opex forecast does not reasonably reflect the opex criteria.[2]

The key area of difference leading to our final decision of total opex being lower than ElectraNet's revised proposal is that we have only included $75.3 million ($2023–23) of total step changes as compared to the $100.6 million ($2022–23) proposed by ElectraNet. As set out below, this outcome reflects our assessment that in some cases we are not satisfied that step changes are prudent and efficient.

- Cyber security step change – we have included a lower estimate of efficient costs to remove double counting and correct some spreadsheet errors.
- Rule changes step change – we have included a lower estimate of efficient costs as we are not satisfied that some components of this step change (e.g., capability uplift and REZ design reports) meet our standard criteria under which we would allow a step change.

Table 6.1 sets out ElectraNet's opex revised proposal, our alternative estimate that is the basis for the final decision and the difference between our final decision and ElectraNet's revised proposal. It also includes ElectraNet's updated initial proposal and our draft decision.

1 ElectraNet, *ENET262 – ElectraNet – Revised Proposal Opex model*, 2 December 2022.

2 NER, cl.6A.6.6(c).

Table 6.1: Comparison of ElectraNet's revised proposal and our final decision on opex ($million, 2022–23)

	Updated initial proposal	Draft decision	ElectraNet's revised proposal	AER's final alternative estimate	Difference
Based on reported opex in 2020–21	**533.4**	**568.8**	**569.3**	**571.5**	**2.1**
Base year adjustments	**–5.4**	**–4.8**	**21.8**	**–4.8**	**–26.6**
2020–21 to 2022–23 increment	**2.8**	**3.0**	**3.0**	**30.5**	**27.5**
Remove category specific forecasts	**–41.4**	**–53.7**	**–53.7**	**–53.9**	**–0.2**
Trend: Price growth	5.3	10.8	11.2	8.3	–2.9
Trend: Output growth	27.9	29.3	31.0	30.8	–0.2
Trend: Productivity growth	–4.4	–7.8	–8.1	–9.8	–1.8
Total trend	**28.8**	**32.3**	**34.1**	**29.3**	**–4.8**
Cyber security	25.9	18.0	24.6	18.2	–6.4
Cloud	9.0	–	–	–	–
Rule changes	3.9	–	21.4	2.5	–18.9
Insurance	29.1	14.3	6.0	6.0	–
IFRS (intangible assets)	46.8	45.6	48.7	48.7	–
Total step changes	**114.7**	**77.9**	**100.6**	**75.3**	**–25.3**
Inertia network support			16.3	16.3	–
Total opex, excl. debt raising costs	**633.1**	**623.6**	**691.5**	**664.2**	**–27.2**
Debt raising costs	8.7	9.5	9.6	9.6	–0.0
Total opex, incl. debt raising costs	**641.8**	**633.0**	**701.1**	**673.8**	**–27.2**
Percentage difference to ElectraNet's revised proposal					**–3.9%**

Source: ElectraNet, 2024–28 Revenue proposal –ENET022 - ElectraNet - Opex Forecast 2024-28, 31 January 2022; ElectraNet, 2024–28 Revenue proposal – Operating Expenditure Model (Updated), 18 May 2022; ENET262 - ElectraNet - Revised Proposal Opex model - 2 December 2022; AER analysis.
Note: Numbers may not add up to totals due to rounding. Differences of '0.0' and '–0.0' represent small variances and '–' represents no variance.

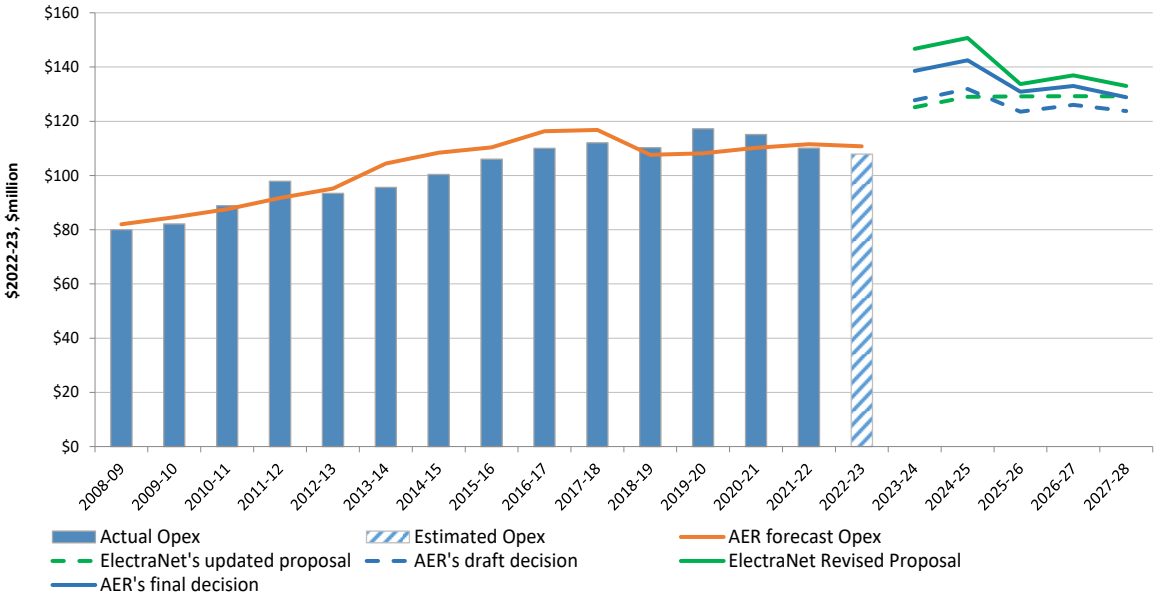
Figure 6.1 compares the total opex forecast for ElectraNet we have included in the final decision for the 2023–28 regulatory period (the blue line) to ElectraNet's revised total opex proposal (the green line), as well as ElectraNet's actual and estimated opex in the previous and current regulatory control period (the blue bars). We have also included the forecasts we

approved in past decisions (the orange line), ElectraNet's updated initial proposal for the 2023–28 period (the green dashed line) and our alternative estimate for the draft decision (the blue dashed line).

Our final decision total opex forecast is:

- $127.5 million ($2022–23), or 23.3% higher than the opex forecast we approved in our final decision for the 2018–23 regulatory control period.[3]
- $114.8 million ($2022–23), or 20.5% higher than ElectraNet's actual (and estimated) opex in the 2018–23 regulatory control period
- $59.3 million ($2022–23), or 9.2% higher than ElectraNet's updated initial proposal
- $40.7 million ($2022–23), or 6.4% higher than our draft decision.

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



Source: *ElectraNet, Regulatory accounts 2008–09 to 2020–21*; ElectraNet, *2024–28 Revenue proposal – Operating Expenditure Model (Updated)*, 18 May 2022; AER, *Revenue determination, PTRM (multiple periods 2008–13, 2013–18, 2018–22, 2023–28)*; ElectraNet, *2024–28 Revised revenue proposal – Operating Expenditure Model*, 2 December 2022; AER analysis.
Note: Include debt raising costs and movements in provisions.

6.2 ElectraNet's revised proposal

ElectraNet included total forecast opex of $701.1 million ($2022–23) in its revised proposal for the 2023–28 regulatory control period as set out in Table 6.2. This is 25.4% higher than ElectraNet's actual and estimated opex for the 2018–23 regulatory control period, 9.2% higher than its updated initial proposal and 6.6% higher than our draft decision.[4]

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3 Difference is calculated based on the opex allowance for the five–year 2018–23 period converted to real 2022–23 dollars using unlagged inflation.

4 Comparisons are inclusive of debt raising costs.

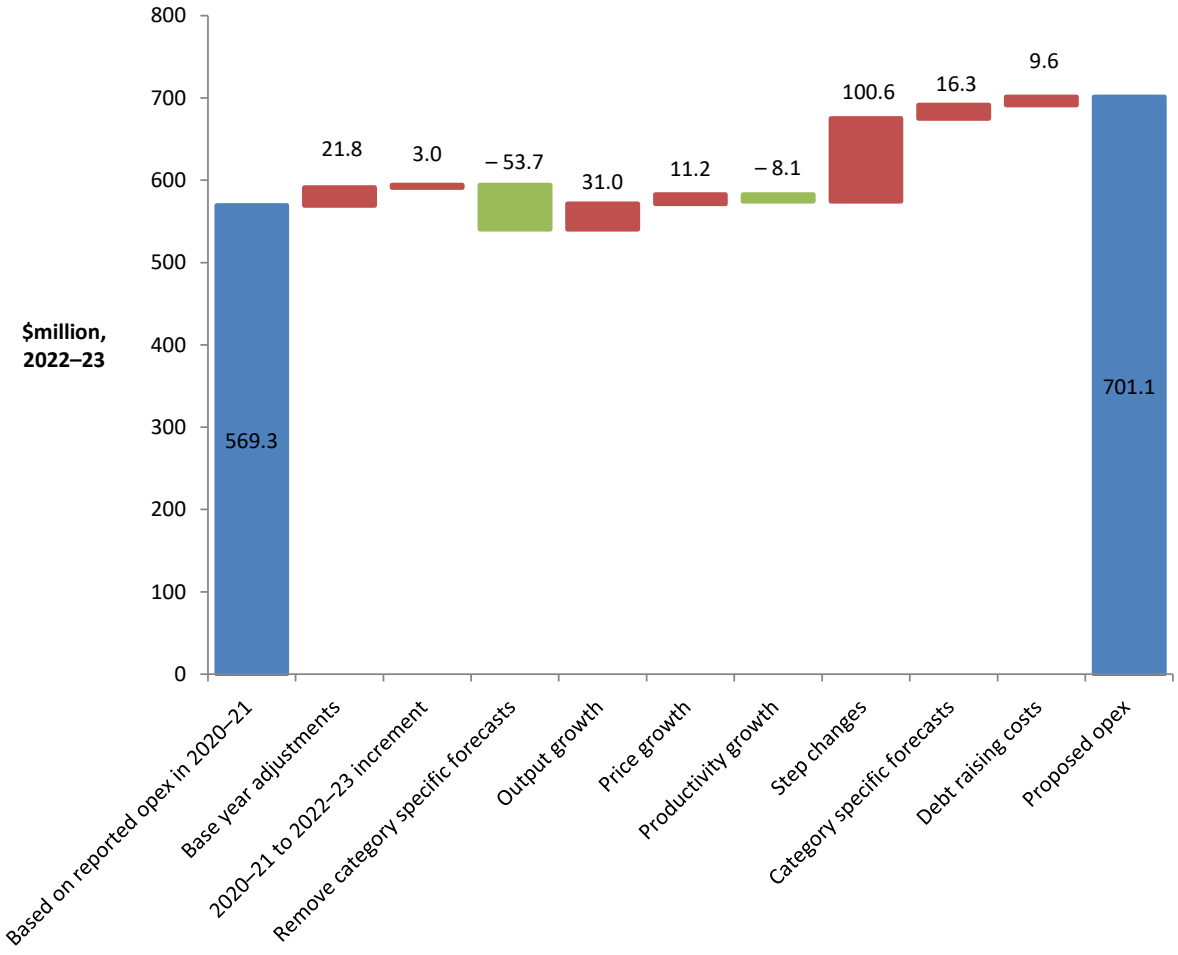
Table 6.2: ElectraNet's proposed opex ($million, 2022–23)

	2023-24	2024–25	2025–26	2026–27	2027–28	Total
Total opex excluding debt raising costs	136.6	140.6	129.1	131.4	127.4	665.0
Debt raising costs	1.9	1.9	1.9	1.9	1.9	9.5
Total opex	**146.7**	**150.7**	**133.7**	**136.9**	**133.0**	**701.1**

Source: ElectraNet, *2024–28 Revised revenue proposal – Operating Expenditure Model*, 2 December 2022
Note: Numbers may not add up due to rounding.

In Figure 6.2 we separate ElectraNet's revised forecast opex proposal into its different components.

Figure 6.2: ElectraNet's opex forecast ($ million, 2022–23)



Source: ElectraNet, *2024–28 Revised revenue proposal – Operating Expenditure Model*, 2 December 2022

ElectraNet continued to use our standard 'base-step-trend' approach to forecast opex for the 2023–28 regulatory control period in its revised proposal. To forecast opex for the 2023–28 period, ElectraNet's revised proposal:

- used its actual opex in 2020–21 of $113.9 million ($2022–23) as the starting point to forecast opex.[5] This is higher than the estimate of $106.7 million ($2022–23) it used in its updated initial proposal.[6] Base year opex accounts for $569.3 million ($2022–23) of ElectraNet's total opex forecast.[7]
- applied the final year formula in our *Expenditure forecast assessment guideline* and increased its base year opex by $0.6 million ($2022–23) to estimate its final year opex. This increased its total opex forecast by $3.0 million ($2022–23).[8]
- reduced its final year estimate by $10.7 million ($2022–23) to remove the opex for the categories it forecast separately, specifically network support costs. This decreased its total opex forecast by $53.7 million ($2022–23).[9]
- increased its final year estimate by $4.3 million ($2022–23) to reflect adjustments relating to capitalised leases of -$1.0 and insurance pass through for the year 2022–23 of $5.3 million ($2022–23). This increased its total opex forecast by $21.8 million ($2022–23).[10]
- trended forward its final year estimate to account for:[11]
  - forecast growth in real input prices, including forecast increases in the price of labour inputs and an increase in line with the consumer price index (CPI) for non-labour inputs. This increased its total opex forecast by $11.2 million ($2022–23).
  - forecast growth in outputs, including end-user numbers, circuit length, ratcheted maximum demand and energy throughput. This increased its total opex forecast by $31.0 million ($2022–23).
  - forecast productivity growth. This reduced its total opex forecast by $8.1 million ($2022–23).
- added four step changes totalling $100.6 million ($2022–23), which include:
  - cyber security ($24.6 million)
  - rule changes ($21.4 million)
  - International Financial Reporting Standards (IFRS) implementation ($48.7 million)
  - Insurance ($6.0 million).
- added opex category specific forecast of $25.9 million ($2022-23), including network support costs of $16.3 million and debt raising costs of $9.6 million.

5 ElectraNet, *ENET262 – ElectraNet – Revised Proposal Opex model*, 2 December 2022.

6 ElectraNet, *2024–28 Revenue proposal – Operating Expenditure Model (Updated)*, 18 May 2022.

7 ElectraNet, *ENET262 – ElectraNet – Revised Proposal Opex model*, 2 December 2022.

8 ElectraNet, *ENET262 – ElectraNet – Revised Proposal Opex model*, 2 December 2022.

9 ElectraNet, *ENET262 – ElectraNet – Revised Proposal Opex model*, 2 December 2022.

10 ElectraNet, *ENET262 – ElectraNet – Revised Proposal Opex model*, 2 December 2022.

11 ElectraNet, *ENET262 – ElectraNet – Revised Proposal Opex model*, 2 December 2022.

6.2.1 Submissions on ElectraNet's revised proposal

We received three submissions on ElectraNet's 2023–28 revised proposal that were broadly supportive of our draft decision on opex.

- The Consumer Advisory Panel (CAP) of ElectraNet generally supported ElectraNet's position on the step changes for insurance and cyber security, noting that it looked to both the AER and ElectraNet to determine a prudent level of expenditure, commensurate with the cyber risk preparedness of other Australian Network Service Providers.[12]
  In regard to the opex category specific forecast for network support (inertia services), the CAP recommended that ElectraNet submit an estimate of expected costs up front and adjust with smaller variations [if required] later.[13]
- The Consumer Challenge Panel sub-panel 25 (CCP25)'s submission mainly focused on the effectiveness of ElectraNet's engagement activities with their customers since submitting its initial revenue proposal in January 2022, and how this engagement is reflected in the revised revenue proposal submitted to the AER on 2 December 2022.[14]
  In general, CCP25 concluded that ElectraNet was genuine in its desire to engage in open and constructive dialogue with CAP members as it finalised its Revised Revenue Proposal.[15]
- CCP25's main concern related to the ElectraNet's proposed step change for rule changes, specifically, the capability uplift component. CCP25 noted that ElectraNet relied heavily on a report from PowerRunner, a US-based company that appears, from their website, to provide high-end IT solutions to utilities related to network modelling and operations. CCP25 considered this as a potential conflict, submitting that this issue should have been raised with the CAP to provide context to the investment justification.[16]
  The SA Department for Energy and Mining (SA government) raised a similar concern, urging the AER to ensure that consumers pay no more than necessary for safe and reliable energy.[17]
  - The SA government raised a concern about ElectraNet's bundling of unrelated forecast expenditure under its proposed rule change step change. It did not support ElectraNet's proposal, stating that the opex rate of change should adequately compensate ElectraNet for the capability uplift requirements outlined

12 Consumer Advisory Panel, Response to Revised Revenue Proposal 2023 13 January 2023, p. 4.

13 Consumer Advisory Panel, Response to Revised Revenue Proposal 2023 13 January 2023, p. 5.

14 Consumer Challenge Panel, Sub-panel 25, *ElectraNet Transmission Determination 2023 to 2028 and ElectraNet Revised Revenue Proposal 2023-2028*, 20 January 2023, p.3.

15 Consumer Challenge Panel, Sub-panel 25, *ElectraNet Transmission Determination 2023 to 2028 and ElectraNet Revised Revenue Proposal 2023-2028*, 20 January 2023, p.4.

16 Consumer Challenge Panel, Sub-panel 25, *ElectraNet Transmission Determination 2023 to 2028 and ElectraNet Revised Revenue Proposal 2023-2028*, 20 January 2023, p.6.

17 South Australia Department for Energy and Mining, *Submission – ElectraNet Regulatory Reset 2023–2028 AER Draft Decision – 24 January 2023*, 24 January 2023, p. 1.

in ElectraNet's revised proposal. It also raised a similar concern about the proposed step change for REZ design reports.[18]

- CCP25 also noted that ElectraNet's engagement with its CAP on the proposed network support costs (inertia services) was reasonably well-informed.[19] The CAP generally supported ElectraNet's proposal while encouraging the AER to determine a prudent level of expenditure commensurate with the risk faced (e.g., cyber security).[20]

6.3 Assessment approach

Our role is to form a view about whether to accept a business's forecast of total opex. Specifically, we must form a view about whether a business's forecast of total opex 'reasonably reflects the opex criteria'.[21] In doing so, we must have regard to each of the opex factors specified in the National Electricity Rules (NER).[22]

If we are satisfied the business's forecast reasonably reflects the opex criteria, we must accept the proposed forecast.[23] If we are not satisfied, we must not accept the proposed forecast and must substitute an alternative estimate that we are satisfied reasonably reflects the opex criteria.[24] 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 consider interrelationships with the other building block components of our decision.[25]

As set out in our draft decision in detail, we generally assess a business's forecast total opex using a 'base-step-trend' approach, as summarised in Figure 6.3.[26]

18 South Australia Department for Energy and Mining, *Submission – ElectraNet Regulatory Reset 2023–2028 AER Draft Decision – 24 January 2023*, 24 January 2023, p. 2.

19 Consumer Challenge Panel, Sub-panel 25, *ElectraNet Transmission Determination 2023 to 2028 and ElectraNet Revised Revenue Proposal 2023-2028*, 20 January 2023, p.6.

20 ElectraNet Consumer Advisory Panel, *Response to revised revenue proposal*, 13 January 2023, p. 4.

21 NER, cl. 6A.6.6(c),

22 NER, cl. 6A.6.6(e).

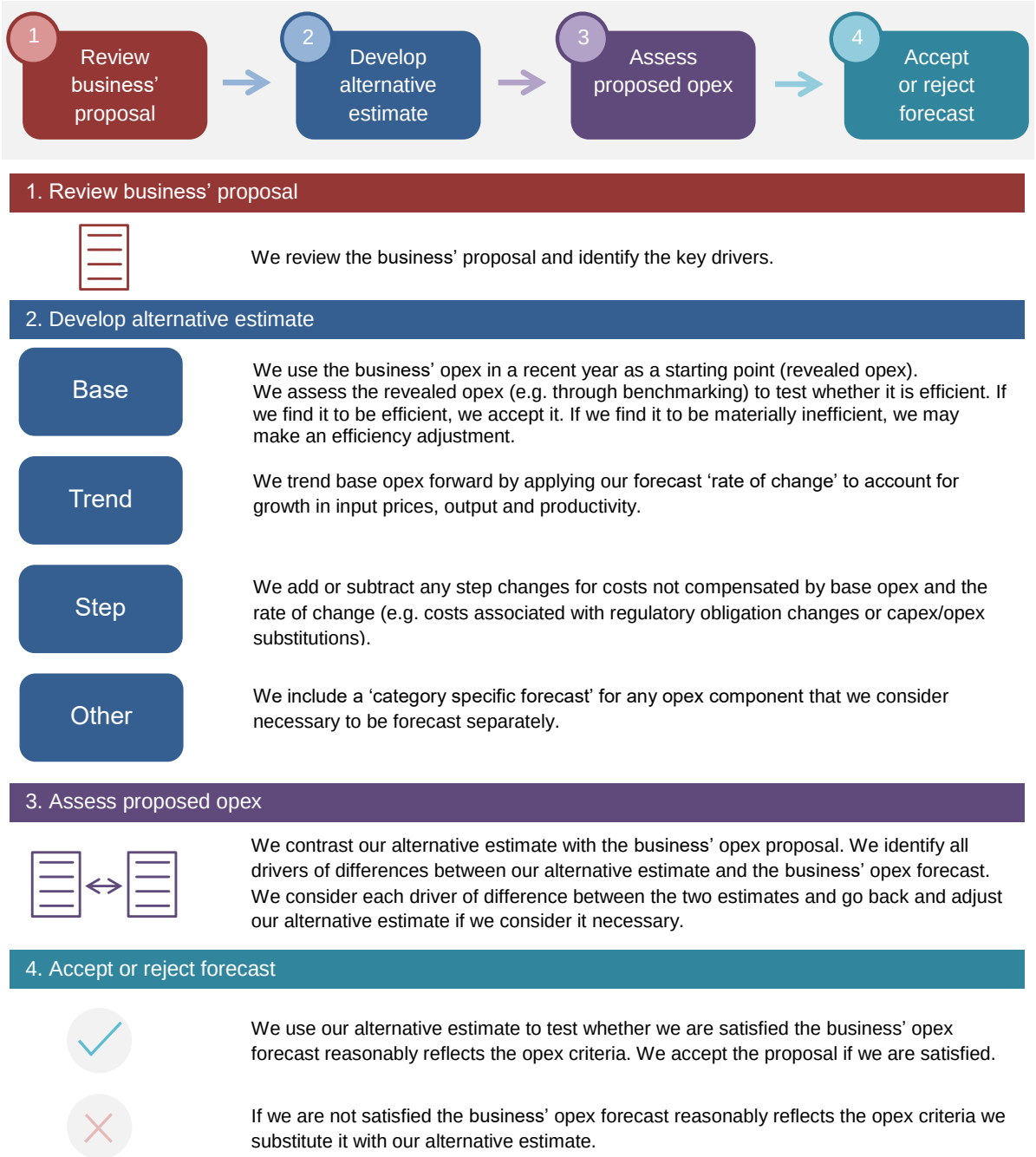
23 NER, cl. 6A.6.6(c).

24 NER, cll. 6A.6.6(d) and 6A.14.1(3)(ii).

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

26 Our base-step-trend approach is set out in our expenditure guideline. See AER, *Expenditure forecast assessment guideline for electricity transmission*, November 2013.

Figure 6.3: Our opex assessment approach



6.3.1 Interrelationships

In assessing ElectraNet's total forecast opex we took into account other components of its proposal and our determination, including:

- the efficiency benefit sharing scheme (EBSS) carryover—the estimate of opex for 2022–23 (the final year of the current regulatory control period (2018–23)) that we used to forecast opex, was the same as the level of opex we 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 2018–23 regulatory control period, which provided ElectraNet 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
- concerns of electricity consumers identified during ElectraNet's engagement with consumers.

6.4 Reasons for final decision

Our final decision is to not accept ElectraNet's total opex forecast of $701.1 million ($2023–24), including debt raising costs, for the 2023–28 regulatory control period.[27] This is because our alternative estimate of $674.4 million ($2022–23), including debt raising costs, is materially lower ($27.3 million ($2022–23), or 3.9%, lower) than ElectraNet's revised proposal of total opex forecast. We consider that ElectraNet's total opex forecast does not reasonably reflects the opex criteria.[28]

The following sections outline the key inputs and assumptions we made in developing our alternative estimate of efficient costs for ElectraNet, using our base–step–trend approach. The opex model we used to calculate our alternative estimate is published on our website.

6.4.1 Base opex

This section provides our view on the prudent and efficient level of base opex that we consider ElectraNet would need for the safe and reliable provision of services over the 2023–28 regulatory control period.

6.4.1.1 Base year and efficiency of base year opex

Consistent with our draft decision and ElectraNet's revised proposal, we have used 2020–21 opex as the base year for forecasting our alternative estimate of opex.

We have used 2020–21 opex of $114.3 million ($2022–23), net of movements in provisions, as the starting point for our alternative estimate of total forecast opex. This is $571.5 million over five years. It is slightly higher than ElectraNet's proposal of $569.3 million due to our use of the latest CPI estimates available from the RBA.

Our draft decision view regarding the efficiency of 2020-21 opex has not changed. In our draft decision we determined to use opex in 2020-21 as the starting point for our alternative estimate of total forecast opex over the 2023-28 period after considering ElectraNet's performance in terms of opex multilateral partial factor productivity (MPFP), multilateral total factor productivity (MTFP) over 2006-2020, and the fact that ElectraNet's opex was subject

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27 ElectraNet, *ENET273 – ElectraNet Revised Revenue Proposal*, 2 December 2022, p. 30.

28 NER, cl.6A.6.6(c).

to the incentives of the EBSS in the 2018–23 period, which gave it a continuous incentive to reduce its opex, including in its proposed base year.[29]

6.4.1.2 Adjustments to base year opex

We have maintained our draft decision adjustments,[30] updating the numbers as relevant to reflect the most up-to-date information:

- removal of capitalised leases of $4.8 million (or $1.0 million per year)
- removal of estimated final year of category specific opex (network support), $53.9 million (or $10.8 per year)
- inclusion of increase in opex between 2020–21 and 2022–23 (final year increment), $30.5 million.

Our adjustments are consistent with ElectraNet's revised proposal, but the amounts are slightly different due to our use of the latest CPI estimates available from the RBA to bring them to $2022–23 terms as per the requirements of the opex model (see Table 6.1). We have also accounted for the approved 2022–23 insurance cost pass through similar to ElectraNet's revised proposal.[31] While ElectraNet reflected the pass-through amount by adjusting base year opex, we have captured it by adding the approved pass-through amount to total opex allowance for 2022–23. These two approaches yield the same outcome, but the latter is consistent with our *Expenditure Forecast Assessment Guideline*.

6.4.2 Rate of change

We have included a rate of change that increases opex, on average, by 1.2% each year in our alternative estimate. This contributes $29.3 million ($2022–23) to our alternative estimate of forecast opex. This compares to ElectraNet's average annual rate of change of 1.4%.[32]

In its revised proposal, ElectraNet accepted our draft decision on price, output and productivity growth. It updated its price growth forecasts to reflect updated wage price index (WPI) forecasts from BIS Oxford Economics.[33] Our draft decision position on the approach to forecast the rate of change and its various components remains unchanged.[34] However, we have updated some inputs as set out below.

- We have updated WPI forecasts from KPMG to reflect the most recent forecasts. ElectraNet's revised proposal relied on the forecasts reported in our draft decision.[35]

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29 AER, *Draft decision, ElectraNet transmission Determination 2023 to 2028 (1July 2023 to 30 June 2028), Attachment 6 – Operating expenditure*, September 2022, pp. 9-11.

30 AER, *Draft decision, ElectraNet transmission Determination 2023 to 2028 (1July 2023 to 30 June 2028), Attachment 6 – Operating expenditure*, September 2022, pp. 11-12.

31 On 30 March 2023, we determined to approve ElectraNet's application for the 2022–23 insurance cost pass through: https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/cost-pass-throughs/electranet-cost-pass-through-2022%E2%80%9323-insurance-costs.

32 ElectraNet, *ENET262 – ElectraNet – Revised Proposal Opex model*, 2 December 2022.

33 ElectraNet, *ENET273 – ElectraNet Revised Revenue Proposal*, 2 December 2022, p. 26.

34 AER, *Draft decision, ElectraNet transmission Determination 2023 to 2028 (1July 2023 to 30 June 2028), Attachment 6 – Operating expenditure*, September 2022, pp. 12–16.

35 ElectraNet, *ENET262 – ElectraNet – Revised Proposal Opex model,* 2 December 2022.

- We have updated forecast productivity growth (0.6% per year) to reflect our 2022 Annual Benchmarking results, which were published after our draft decision.[36] ElectraNet's revised proposal included the number from our draft decision (0.5% per year), which reflect forecast productivity growth reported in our 2021 Annual Benchmarking results.[37]

Table 6.3 shows both ElectraNet's revised proposal, and our alternative estimate for each component of the rate of change.

Table 6.3: Forecast rate of change, %

	2023–24	2024–25	2025–26	2026–27	2027–28
ElectraNet's revised proposal					
Price growth	0.6	1.0	0.9	0.3	0.2
Output growth	2.6	3.7	0.0	0.0	0.1
Productivity growth	0.5	0.5	0.5	0.5	0.5
Overall rate of change	**2.7**	**4.2**	**0.4**	**–0.1**	**–0.2**
AER alternative estimate					
Price growth	0.2	0.9	0.8	0.3	0.2
Output growth	2.6	3.7	0.0	0.0	0.1
Productivity growth	0.6	0.6	0.6	0.6	0.6
Overall rate of change	**2.2**	**4.0**	**0.2**	**–0.3**	**–0.3**
Overall difference	**–0.5**	**–0.2**	**–0.2**	**–0.2**	**−0.1**

Source: ElectraNet, *ENET262 - ElectraNet - Revised Proposal Opex model - public*, 2 December 2022; AER analysis.
Note: Numbers may not add up to totals due to rounding. Differences of '0.0' and '–0.0' represent small variances and '–' represents no variance.

6.4.3 Step changes

We have included $75.3 million ($2022–23) for step changes in our alternative estimate of total forecast opex. This is $25.3 million (or 25.1%) lower than ElectraNet's revised proposal and $2.6 million (or 3.3%) lower than our draft decision. Our lower alternative estimate largely reflects our assessment that in some cases, as set out below, we are not satisfied that step changes are prudent and efficient.

In its revised proposal, ElectraNet:[38]

- accepted our draft decision on the IT cloud step change.

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36 Quantonomics, *Quantonomics - Benchmarking results for the AER – Transmission,* November 2022, p. 65 (Appendix C: Regression–based trend growth rates).

37 Economic Insights, *Economic Benchmarking Results for the Australian Energy Regulator's 2021 TNSP Annual Benchmarking Report,* November 2021, p. 60 (Appendix C: Regression–based trend growth rates).

38 ElectraNet, *ENET273 - ElectraNet Revised Revenue Proposal*, 2 December 2022, p. 29.

- accepted our draft decision on the step change for International Financial Reporting Standards (IFRS) but updated the amount to reflect the most recent CPI numbers.
- accepted our draft decision on the insurance step change but updated the numbers to reflect our determination on its 2022–23 insurance cost pass through application.[39]

We have included the above step changes in calculating our alternative estimate of total opex, updating for inflation where relevant.

ElectraNet's revised proposal did not accept our draft decision on the step change for rule changes, and cyber security.[40] We discuss each of these step changes below.

Table 6.4 shows ElectraNet's revised proposal along with our alternative estimate for the final decision, which is to include step changes totalling $75.3 million ($2022–23).

Table 6.4: Step changes ($million, 2022–23)

Step change	ElectraNet's updated proposal	AER's draft decision	ElectraNet's revised proposal	AER's alternative estimate	Difference
IFRS	46.8	45.6	48.7	48.7	–
Insurance	29.1	14.3	6.0	6.0	–
Cyber security	25.9	18.0	24.6	18.2	−6.4
IT cloud migration	9.0	–	–	–	–
Rule changes	3.9	–	21.4	2.5	−18.9
Total step changes	**114.7**	**77.9**	**100.6**	**75.3**	**−25.3**

Source: ElectraNet, *ENET262 - ElectraNet - Revised Proposal Opex model - public*, 2 December 2022; AER analysis.
Note: Numbers may not add up to totals due to rounding. Differences of '0.0' and '–0.0' represent small variances and '–' represents no variance.

6.4.3.1 Rule changes

ElectraNet's revised proposal included an updated 'rule changes' step change of $21.4 million ($2022–23), largely for costs associated with ElectraNet's responsibilities in planning and managing an increasingly complex electricity network.[41] We have included a step change for rule changes of $2.5 million ($2022–23) reflecting only the component relating to the increase in ElectraNet's electricity transmission licence fee. Our lower amount reflects that we are not satisfied two of the components that ElectraNet included in the proposed rule changes step change in its revised proposal are prudent and meet our

39 On 30 March 2023, we published our determination to approve ElectraNet's application for the 2022–23 insurance cost pass through: https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/cost-pass-throughs/electranet-cost-pass-through-2022%E2%80%9323-insurance-costs.

40 ElectraNet, *ENET273 – ElectraNet Revised Revenue Proposal*, 2 December 2022, p. 29.

41 ElectraNet, *ENET273 – ElectraNet Revised Revenue Proposal*, 2 December 2022, pp. 34–35.

standard criteria under which we would allow an opex step change. These components are the capability uplift and the REZ design reports.

Our draft decision did not accept ElectraNet's initial proposed rule changes step change of $3.9 million. We considered that ElectraNet did not demonstrate the prudency or efficiency of the proposed step change.[42] Further, we were not satisfied the proposed rule changes costs met the requirements of a step change (e.g., represent a material change in costs driven by a new regulatory obligation, a capex/opex substitution, or major external factor that cannot be otherwise managed by our standard output, price or productivity growth provisions).[43]

The reproposed 'rule changes' step change of $21.4 million is broader in scope than the one in ElectraNet's initial proposal. It combines three components:

- Capability uplift of $17.6 million or 82% of the proposed rule change step change
- Transmission licence fee of $2.3 million or 11% of the proposed rule change step change
- REZ design reports of $1.5 million or 7% of the proposed rule change step change.

We discuss each of these components further below.

6.4.3.1.1 Capability uplift

We have not included the capability uplift component in our alternative estimate of total forecast opex for the reasons set out below.

ElectraNet's reproposed rule changes step change included an amount for 'capability uplift' of $17.6 million.[44] ElectraNet stated that this component is required to continue to manage the increasing complexity of its operating environment into the future with 100% renewables penetration. The proposed capability uplift is based on progressively adding 20 FTE resources to ElectraNet's planning and operations workforce over the next five years.[45] ElectraNet relied on AEMO's NEM engineering roadmap to 100% renewables (Engineering Roadmap) of December 2022, and a report from its consultant, PowerRunner, as justification of the need for and quantum of step change.[46]

We have reviewed the material submitted by ElectraNet, including its consultant's (PowerRunner) technical report and response to our request for additional information. We have several concerns with the proposed capability uplift expenditure included in ElectraNet's revised proposal, as examined further below:

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42 AER, *Draft decision, ElectraNet transmission Determination 2023 to 2028 (1July 2023 to 30 June 2028), Attachment 6 – Operating expenditure*, September 2022, pp. 23–24.

43 AER, *Draft decision, ElectraNet transmission Determination 2023 to 2028 (1July 2023 to 30 June 2028), Attachment 6 – Operating expenditure*, September 2022, pp. 23–24.

44 ElectraNet, ENET273 – ElectraNet Revised Revenue Proposal, 2 December 2022, p. 35.

45 ElectraNet, *ENET273 – ElectraNet Revised Revenue Proposal*, 2 December 2022, pp. 34–35.

46 ElectraNet, *ENET273 – ElectraNet Revised Revenue Proposal*, 2 December 2022, p. 14 and p. 34; PowerRunner, *South Australia – Operating at 100% Renewable Energy ElectraNet System Operability Uplift Assessment*, December 2022; AEMO, *Engineering roadmap to 100% Renewables*, December 2022.

- The proposed expenditure is not in response to the draft decision, nor is it externally driven by factors beyond ElectraNet's control (such as a new regulatory obligation)
- Stakeholder feedback does not confidently support the proposed step change
- We are not satisfied ElectraNet has sufficiently justified the prudency or efficiency of the proposed costs.

The new proposed expenditure is not driven by new external factors beyond ElectraNet's control (such as a new regulatory obligation)

ElectraNet submitted that, since its initial revenue proposal, "greater industry-wide clarity has been developed on what is needed to manage the rapidly changing power system securely and efficiently." This includes the December 2022 release of AEMO's Engineering Roadmap, which ElectraNet described as "providing further details on the systems and capability uplift network service providers must implement to enable reliable and secure operation."[47]

We do not consider that ElectraNet's proposed capability uplift step change is driven by a regulatory obligation or new major external factor beyond the control of ElectraNet. AEMO's Engineering Roadmap does not set out regulatory obligations which service providers must meet in order for the NEM to operate with 100% instantaneous variable renewable energy (VRE) by 2025. Rather, this is part of a broader industry consultation process on the NEM operating at 100% renewables. In the 2022 Engineering Roadmap, AEMO recognised the need for a broader industry consultation before identifying specific actions and assigning responsibility for investments (emphasis added):[48]

> "This publication provides stakeholders with an overview of engineering challenges and associated actions that will need to be undertaken to operate the National Electricity Market (NEM) for the first period of 100% instantaneous penetration of renewables, and an indication of actions required to satisfy more regular operation at 100% renewable penetration.
>
> Responsibility for undertaking these actions and meeting the technical requirements identified in this report will ultimately be shared across many parties, including AEMO, network service providers, market bodies, market participants, and governments. *This report does not seek to allocate new responsibilities. Instead, it seeks to provide AEMO's perspective of the actions needed and promote discussion on the priority and relevance of these actions, to facilitate their efficient implementation over an appropriate timeframe in the long-term interests of consumers*."

We also note that, as set out in the PowerRunner report, ElectraNet and South Australia is already a leader in moving to 100% renewable energy. The South Australian power system was first operated at 100% instantaneous variable renewable energy in October 2021.[49] This has occurred with increasing frequency since that time. The increasing complexity of

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47 ElectraNet, *ENET273 – ElectraNet Revised Revenue Proposal*, 2 December 2022, p. 14.

48 AEMO, *Engineering roadmap to 100% Renewables*, December 2022, p. 2.

49 PowerRunner, *South Australia – Operating at 100% Renewable Energy ElectraNet System Operability Uplift Assessment*, December 2022, p. 3.

ElectraNet's operating environment is therefore not a new factor or obligation that has arisen since ElectraNet submitted its initial regulatory proposal.

We are not satisfied ElectraNet has sufficiently justified the prudency and efficiency of proposed costs

ElectraNet's revised proposal provided the PowerRunner report as the sole evidence to justify the need for the proposed capability uplift costs, and the amount of additional expenditure required.

In response to our request for further information, ElectraNet subsequently provided a spreadsheet detailing the build-up of the proposed costs and further information in relation to:[50]

- PowerRunner's process of engagement with subject matter experts within ElectraNet to inform its advice
- descriptions of the proposed new roles and tasks
- how the proposed expenditure would relate to achievement of the operating expenditure objectives.

While the additional material submitted by ElectraNet added some detail to the basis of the cost estimate and proposed additional FTE resources, in large part the material submitted did not explain the assumptions relied upon and largely reiterated the content of the PowerRunner report.[51]

In our view, the PowerRunner report does not present substantive evidence which demonstrates the connection between the forecast increase in operational complexity and an increased risk of power system disturbances on the SA transmission system during the 2023–28 regulatory period, or the quantification of that risk. The PowerRunner report and additional information also did not present a clear assessment of ElectraNet's current level of capability, and therefore the extent of the gap (if any) required to be filled. This goes to the prudency of the proposed step change in costs.

Stakeholder and consumer feedback does not support the proposed expenditure

In regard to the extent to which ElectraNet's revised proposal addresses the concerns of consumers, we note that ElectraNet's Consumer Advisory Panel did not express a view on the proposed capability uplift step change expenditure. However, we did receive two submissions related to this matter:

50 ElectraNet, *Response to information request #025*, 25 January 2023.

51 ElectraNet, *Response to information request #025*, 25 January 2023.

- CCP25 noted that ElectraNet's Consumer Advisory Panel was not meaningfully engaged on the matter of the proposed step change.[52] CCP25 also raised concerns with ElectraNet's reliance on the PowerRunner report.[53]
- The South Australian Government (Department of Mining and Energy) raised a concern about ElectraNet's bundling of unrelated forecast expenditure under its proposed rule change step change.[54] It did not support ElectraNet's revised proposal, stating that the opex rate of change should adequately compensate ElectraNet for the capability uplift requirements outlined in ElectraNet's revised proposal. [55]

Based on the information available, we do not consider that ElectraNet's revised proposal capability uplift step change is strongly supported by consumers or other stakeholders.

In regard to the SA Government Department of Mining and Energy's suggestion that the opex rate of change should adequately compensate ElectraNet for the capability uplift requirements identified, we note that in response to our request for additional information on this point, ElectraNet submitted that:

> The AER's output measures are customer numbers, network length, (ratcheted) maximum demand and energy throughput, which are combined to produce a weighted average 'output growth'. PowerRunner's report explains that the complexity and risk of our operating environment will increase because of the South Australian power system's reliance on VRE, which is amongst the highest in the world. The impact of VRE is unrelated to customer numbers, network length, maximum demand and energy throughput – and therefore cannot be captured by a formula that is based on these output measures. It follows that this required increase in FTEs cannot be remunerated through 'output growth'.

We do not agree that the impact of increasing VRE penetration is necessarily unrelated to output growth measures. As stated in our draft decision, the increase in forecast opex for output growth in the 2023–28 regulatory period ($30.8 million) is largely driven by network augmentation associated with the Eyre Peninsula Link and Project EnergyConnect projects. Both of these projects will enhance network security and increase the capacity of the transmission network to connect new renewable energy projects. There is a direct relationship between the capacity of new VRE generation projects to connect to the network, and the extent of the South Australian power system's future reliance on VRE generation.

We note that ElectraNet's proposed capability uplift step change is similar to the System Security Roadmap step change that Transgrid included in its revised proposal. Transgrid proposed capex of $88.2 million and $47.6 million for a capability uplift opex step change for its System Security Roadmap project. Consistent with this decision for ElectraNet, and for

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52 Consumer Challenge Panel, Sub-panel 25, *ElectraNet Transmission Determination 2023 to 2028 and ElectraNet Revised Revenue Proposal 2023–2028*, 20 January 2023, p. 6.

53 Consumer Challenge Panel, Sub-panel 25, *ElectraNet Transmission Determination 2023 to 2028 and ElectraNet Revised Revenue Proposal 2023–2028*, 20 January 2023, p. 6.

54 South Australia Department for Energy and Mining, *Submission – ElectraNet Regulatory Reset 2023–2028 AER Draft Decision – 24 January 2023*, 24 January 2023, p. 2.

55 South Australia Department for Energy and Mining, *Submission – ElectraNet Regulatory Reset 2023–2028 AER Draft Decision – 24 January 2023,* 24 January 2023, p. 2.

similar reasons, we have not accepted Transgrid's proposed capability uplift step change. Transgrid also identified a potential need for significant ICT capex associated with this step change. While we have not accepted Transgrid's proposed System Security Roadmap capex, we have instead included a contingent project for "System Security Roadmap operational technology" related to this potential need.[56] ElectraNet has not identified a similar potential need for material capex related to this issue in the 2023–28 regulatory period.

6.4.3.1.2 Transmission licence fee

We have included the proposed transmission licence fee component of the rule changes step change in our alternative estimate of total forecast opex, $2.5 million ($2022–23).

ElectraNet submitted a letter from the SA Department of Energy and Mining advising that it had recommended the Minister increase ElectraNet's transmission licence fee by $0.5 million per year for the period 2023–24 to 2027–28. We consider that ElectraNet has provided sufficient information to conclude the proposed step change amount is prudent and reflects its efficient costs associated with this regulatory obligation.[57]

We did not receive any submission on this component of the revised rule change step change.

6.4.3.1.3 REZ design reports

We have not included the proposed costs for REZ design reports in our alternative estimate of total forecast opex for the reasons set out below.

ElectraNet's revised proposal included a new $1.5 million component for costs associated with the provision of REZ design reports as part of the rule changes step change. In its initial proposal, ElectraNet had proposed to recover costs related to REZ design reports under the cost past through event framework, but without a materiality threshold

Our draft decision did not accept ElectraNet's initial proposal. We considered that, under the NER, the AER may only determine pass through amounts in respect of an event which is a 'positive change event' or a 'negative change event', both of which incorporate a pre-defined materiality threshold (i.e., costs must exceed 1% of MAR).

We have reviewed the revised proposal and considered the additional supporting information requested from ElectraNet. We are not satisfied ElectraNet's revised proposal meets the criteria under which we would generally allow a step change. In particular:

- the REZ design report costs may or may not be incurred, depending on whether the requirement to provide REZ design reports is triggered within the 2023–28 period

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56 Transgrid, *System Security Roadmap: early works proposal to develop operational technology tools,* 22 March 2023, p. 4; Aurecon, *System Security Roadmap, Transgrid Strategic Plan Review*, 13 February 2023; AEMO, *Letter to the AER re: Support for Transgrid's investment in early works to develop advanced operational technology tools and capabilities*, 22 March 2023.

57 We approved a negative step change for decrease in ElectraNet's transmission licence in the 2013–18 determination.

- we are not satisfied that the proposed step change costs are recurrent, or have been demonstrated to be efficient, or could not be otherwise accommodated within the total opex forecast.

We have received one submission on this matter. The SA Government raised concerns about ElectraNet's proposed REZ design report step change, submitting that the proposed costs should be more reasonably treated as BAU transmission planning expenditure.[58]

6.4.3.2 Cyber security

We have included a step change of $18.2 million ($2022–23) for cyber security in our alternative estimate of total forecast opex, which is $0.2 million higher than our draft decision. This compares with ElectraNet's revised proposal of $24.6 million.

ElectraNet's initial proposal included a cyber security step change of $25.9 million ($2022–23) to uplift its cyber security maturity to Security Profile 3 (SP–3) of the Australian Energy Sector Cyber Security Framework (AESCSF). ElectraNet suggested this was required to comply with the *Security of Critical Infrastructure Act 2018* (Cth), including following two amendments:

1. *Security Legislation Amendment Critical Infrastructure Act 2021*
2. *Security Legislation Amendment (Critical Infrastructure Protection) Act 2022*

In our draft decision, we considered it prudent for ElectraNet to attain Security Profile 3 maturity, but included a reduced step change amount of $18.0 million consisting of two reductions:[59]

- $7.1 ($2020–21) for reduced resource requirements
- $1.3 million ($2020–21) for projects ElectraNet identified would instead be completed in the current 2018–23 period.

For its revised proposal, ElectraNet engaged Deloitte to review its analysis of the cost of achieving SP–3 during the coming regulatory period, and proposed a revised step change of $24.6 million ($2022–23).[60]

For the final decision we consider, in-line with the draft decision, that it is prudent for ElectraNet, as a transmission network service provider, to achieve AESCSF SP–3 maturity. Our lower step change amount of $18.2 million ($2022–23) reflects the following:

- we have corrected, in consultation with ElectraNet, a transcription error between its opex model (lower amount) and its business case
- we maintain our draft decision that ElectraNet has chosen a more rigorous resource intensive approach than is efficient
- we have aligned ElectraNet's cost assumptions to be consistent with its business case.

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58 South Australia Department for Energy and Mining, *Submission – ElectraNet Regulatory Reset 2023–2028 AER Draft Decision – 24 January 2023*, 24 January 2023, p. 2.

59 AER, *Draft decision, ElectraNet transmission Determination 2023 to 2028 (1July 2023 to 30 June 2028), Attachment 6 – Operating expenditure*, September 2022, pp. 20–22.

60 ElectraNet, *ENET273 – ElectraNet Revised Revenue Proposal*, 2 December 2022, p. 33.

A more detailed discussion of the above changes is contained in **Confidential Appendix A**.

6.4.4 Category specific forecasts

While our preferred forecasting approach is to apply the base–step–trend approach described in Section 6.3, there are a few categories of opex we do not include in our base–step–trend forecast. We have included these as category specific forecasts instead for reasons outlined below.

Our alternative estimate for the final decision includes category specific forecasts for network support and debt raising costs. We show these in Table 6.1, alongside ElectraNet's revised proposal.

6.4.4.1 Network support

We have included ElectraNet's revised proposal of $16.3 million for a new category specific forecast for providing inertia network services in 2023–24 and 2024–25 in our alternative estimate of total forecast opex.

ElectraNet's revised proposal included a forecast of network support costs required to provide inertia network services to address an inertia shortfall declared by AEMO in South Australia in accordance with the NER. In December 2021, AEMO declared a shortfall equivalent to 360 MW of Fast Frequency Response services from 1 July 2023 until Project EnergyConnect is available.[61]

We are satisfied that ElectraNet has a regulatory obligation to provide inertia network services to address the inertia shortfall declared by AEMO and will incur costs in relation to these services in 2023–24 and 2024–25. ElectraNet has conducted a competitive tendering process to secure the lowest cost option or combination of available options to provide the required services. ElectraNet's forecast costs are based on the outcomes of this procurement and contracting process, and therefore likely to reflect efficient costs.

We note that ElectraNet's forecast of costs in its revised proposal is the maximum amount it may incur to provide the services to meet AEMO's requirement (that is, the forecast assumes extended islanding of the South Australian network occurs in both years). We note that the annual separation event duration can be highly variable from year to year, however we also note that the annual network support true-up mechanism would apply to these network support payments to ensure that only the actual cost incurred for inertia services is recovered from consumers. ElectraNet's CAP expressed support for ElectraNet's proposed approach, noting that consumers value cost transparency and price stability, and preferred including a best estimate of the annua costs upfront with relatively small 'true-up' adjustments to follow.

On this basis, we have included ElectraNet's estimate of inertia network service costs in our alternative estimate of total forecast opex.

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61 AEMO, *2021 System Security Reports*, Section 5.3, 17 December 2021.

6.4.4.2 Debt raising costs

We have included debt raising costs of $9.6 million ($2022–23) in our alternative estimate. This is consistent with ElectraNet's revised proposal.[62]

Debt raising costs are transaction costs incurred each time a business raises or refinances debt. The appropriate 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 is discussed further in Attachment 3 to the final decision.

6.5 Assessment of opex factors

In deciding whether we are satisfied the service provider's forecast reasonably reflects the opex criteria we have regard to the opex factors.[63] Table 6.5 summarises how we have taken the opex factors into account in making our final decision.

Table 6.5: AER consideration of opex factors

AER consideration of opex factors	AER consideration
The most recent annual benchmarking report that has been published under rule 6A.31 and the benchmark operating expenditure that would be incurred by an efficient network service provider over the relevant regulatory control period.	There are two elements to this factor. First, we must have regard to the most recent annual benchmarking report. Second, we must have regard to the benchmark operating expenditure that would be incurred by an efficient transmission network service provider over the period. The annual benchmarking report is intended to provide an annual snapshot of the relative efficiency of each service provider. The second element, that is, the benchmark operating expenditure that would be incurred by an efficient provider during the forecast period, necessarily provides a different focus. This is because this second element requires us to construct the benchmark opex that would be incurred by a hypothetically efficient provider for that particular network over the relevant period. The benchmarking analysis is limited by the small sample size of transmission businesses in the National Electricity Market (NEM), and the limited international data available, among other things. It also does not take into account all the operating environment factor differences between the networks. Noting these limitations, we have taken the benchmarking results into account but not solely relied on it when assessing the efficiency of ElectraNet's proposed total forecast opex
The actual and expected operating expenditure of the transmission network service provider during any proceeding regulatory control periods	Our forecasting approach uses the service provider's actual opex as the starting point. We have compared several years of ElectraNet's actual past opex with that of other service providers as a part of forming a view about whether its revealed

62 ElectraNet, *ENET262 – ElectraNet – Revised Revenue Proposal Opex model*, 2 December 2022.

63 NER, cl. 6A.6.6(e).

AER consideration of opex factors	AER consideration
	expenditure is sufficiently efficient to rely on.
The extent to which the operating expenditure forecast includes expenditure to address the concerns of electricity consumers as identified by the Network Service Provider in the course of its engagement with electricity consumers	We understand the intention of this particular factor is to require us to have regard to the extent to which service providers have engaged with consumers in preparing their revenue proposals, such that they factor in the needs of consumers.[64] CCP25 welcomed ElectraNet's transparency and accountability in engaging with its Consumer Advisory Panel (CAP). In general, CCP25 concluded that ElectraNet was genuine in its desire to engage in open and constructive dialogue with CAP members as it finalised its Revised Revenue Proposal.[65] The CAP generally supported ElectraNet's revised proposal while encouraging the AER to determine a prudent level of expenditure commensurate with the risk faced (e.g., cyber security). The CAP submission did not address the newly proposed capability uplift step change.
The relative prices of capital and operating inputs	We have had regard to multilateral total factor productivity benchmarking when deciding whether forecast opex reflects the opex criteria. Our multilateral total factor productivity analysis considers the overall efficiency of networks in the use of both capital and operating inputs with respect to the prices of capital and operating inputs.
The substitution possibilities between operating and capital expenditure	Some of our assessment techniques examine opex in isolation—either at the total level or by category. Other techniques consider service providers' overall efficiency, including their capital efficiency. We have had regard to several metrics when assessing efficiency to ensure we appropriately capture capex and opex substitutability. In developing our benchmarking models, we have had regard to the relationship between capital, opex and outputs.
Whether the operating expenditure forecast is consistent with any incentive scheme or schemes that apply to the network service provider under clauses 6A.6.5, 6A.7.4 or 6A.7.5	The incentive scheme that applied to ElectraNet's opex in the 2018–23 regulatory control period, the EBSS, was intended to work in conjunction with a revealed cost forecasting approach. We have applied our estimate of base opex consistently in applying the EBSS and forecasting ElectraNet's opex for the 2023–28 regulatory control period.
The extent the operating expenditure forecast is preferable to arrangements with a person other than the network service provider that, in the opinion of the AER, do not reflect arm's length terms	Some of our techniques assess the total expenditure efficiency of service providers and some assess the total opex efficiency. Given this, we are not necessarily concerned whether arrangements do or do not reflect arm's length terms. A service provider which uses related party providers could be efficient or it could be inefficient. Likewise, for a service provider that does not

64 AEMC, *Rule Determination National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012*, 29 November 2012, pp. 101, 115.

65 Consumer Challenge Panel, Sub-panel 25, *ElectraNet Transmission Determination 2023 to 2028 and ElectraNet Revised Revenue Proposal 2023-2028*, 20 January 2023, p.4.

AER consideration of opex factors	AER consideration
	use related party providers. If a service provider is inefficient, we adjust their total forecast opex proposal, regardless of their arrangements with related providers.
Whether the operating expenditure forecast includes an amount relating to a project that should more appropriately be included as a contingent project under clause 6A.8.1(b).	This factor is only relevant in the context of assessing proposed step changes (which may be explicit projects or programs). We did not identify any contingent projects in reaching our final decision.
The most recent Integrated System Plan and any submissions made by AEMO, in accordance with the NER, on the forecast of the Transmission Network Service Provider's required operating expenditure.	We have had regard to AEMO's most recent Electricity Statement of Opportunities and consider this to be consistent with ElectraNet's forecast opex (see section 6.4.2.2.1 of our draft decision – we have maintained our draft decision on the output growth forecasts component of the rate of change as set out in section 6.4.2 above).
The extent the network service provider has considered, and made provision for, efficient and prudent non-network alternatives.	We have not found this factor to be significant in reaching our final decision.
Any relevant project assessment conclusions report required under 5.16.4 or 5.16A.4.	We have not identified any RIT–T project that has been submitted by ElectraNet and would impact the total forecast opex.
Any other factor the AER considers relevant and which the AER has notified the service provider in writing, prior to the submission of its revised Revenue Proposal under 6A.12.3, is an operating expenditure factor.	We did not identify and notify ElectraNet of any other opex factor.

Source: AER analysis.

Glossary

Term	Definition
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Capex	Capital expenditure
CCP25	Consumer Challenge Panel (sub-panel 25)
CPI	Consumer Price Index
EBSS	Efficiency benefits sharing scheme
IFRS	International Financial Reporting Standards
NEL	National Electricity Law
NER	National Electricity Rules
Opex	Operating expenditure
REZ	Renewable Energy Zones