FINAL DECISION

AusNet Services
Distribution Determination
2021 to 2026

Attachment 6
Operating expenditure

April 2021

Note

This attachment forms part of the AER's final decision on the distribution determination that will apply to AusNet Services for the 2021–26 regulatory control period. It should be read with all other parts of the final decision.

The final decision includes the following attachments:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 8 – Efficiency benefit sharing scheme

Attachment 9 – Capital expenditure sharing scheme

Attachment 10 – Service target performance incentive scheme

Attachment 12 – Customer service incentive scheme

Attachment 13 – Classification of services

Attachment 14 – Control mechanisms

Attachment 15 – Pass through events

Attachment 16 – Alternative control services

Attachment 18 – Connection policy

Attachment 19 – Tariff structure statement

Attachment A – Negotiating framework

Contents

6 Operating expenditure

Operating expenditure (opex) refers to the operating, maintenance and other non-capital expenses incurred in the provision of network and related services. Forecast opex for standard control 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 AusNet Services' proposed opex forecast for the 2021–26 regulatory control period.

6.1 Final decision

Our final decision is to accept AusNet Services' total opex forecast of $1238.7 million ($2020–21),[1] including debt raising costs, for the 2021–26 regulatory control period. Our alternative estimate of $1226.8 million ($2020–21) is not materially different ($11.9 million ($2020–21), or 1.0 per cent, lower) than AusNet Services' updated revised total opex forecast proposal. Therefore we consider that AusNet Services' total opex forecast reasonably reflects the opex criteria.[2]

AusNet Services' revised proposal included a total opex forecast of $1204.1 million ($2020–21) for the 2021–26 regulatory control period. This included a step change for insurance premium increases known as a result of the latest insurance renewals ($10.5 million ($2020–21)) and a proposed cost pass through for future increases. As set out below, under our incentive based framework to achieve efficient outcomes, we consider all forecast insurance premium costs are best included in the total opex forecast. Reflecting this, AusNet Services provided an updated revised proposal with a total opex forecast of $1238.7 million ($2020–21). Most significantly, this included a step change for future insurance premium increases of $45.1 million ($2020–21).[3]

Our final decision opex forecast (AusNet Services' updated revised proposal) is:

- $37.0 million ($2020–21), or 2.9 per cent lower than the opex forecast we approved in our final decision for the 2016–20 regulatory control period[4]

- $109.2 million ($2020–21), or 9.7 per cent higher than AusNet Services' actual (and estimated) opex in the 2016–20 regulatory control period

- $5.3 million ($2020–21), or 0.4 per cent higher than AusNet Services' initial proposal.

Figure 6.1 shows AusNet Services' actual opex, our previous approved forecast, proposed opex for the next five years and our alternative estimate.
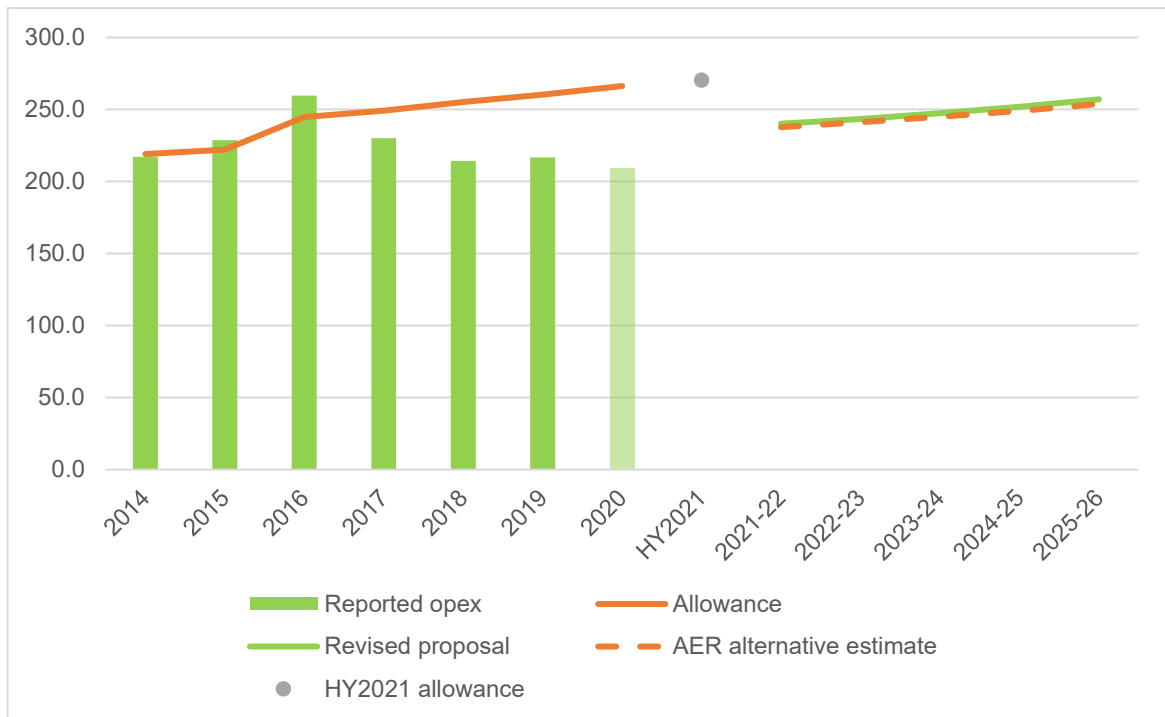
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[1]   AusNet Services, information request #089, March 2021.

[2]   NER, cl.6.5.6(c).

[3]   AusNet Services, information request #089, March 2021.

[4]   Difference is calculated based on the five year 2016–20 period (not including the half year 2021 extension) using unlagged inflation.

Figure 6.1 AusNet Services' opex over time ($ million, 2020-21)

Source: AusNet Services, *Regulatory proposal 2021–26 – Supporting document – Workbook 1 – Regulatory determination,* January 2020; AusNet Services, information request #089, March 2021; AER, *Final Decision – AusNet Services distribution determination 2021–26 – Opex model,* April 2021; AER, *Draft Decision – AusNet Services distribution determination 2021–26 – Opex model,* September 2020; AER analysis.

Note: Opex for 2020 is an estimate.

Table 6.1 sets out AusNet Services' revised proposal, its updated revised proposal (which we accept), and our alternative estimate for the final decision.

Table 6.1   Comparison of AusNet Services' revised proposal and our alternative estimate ($ million, 2020–21)

	AusNet Services' revised proposal	Updated revised proposal	AER alternative estimate	Difference
Base (reported opex in 2018)	1080.1	1080.1	1080.1	–
Base year adjustments	−20.6	−20.6	−24.8	−4.2
Final year increment	75.1	75.1	80.3	5.2
Trend: Output growth	26.4	26.4	27.0	0.7
Trend: Real price growth	14.2	14.2	14.1	−0.1
Trend: Productivity growth	−14.8	−14.8	−15.0	−0.2
Step changes	20.6	55.2	55.2	−0.0
Net category specific forecasts	11.8	11.8	−1.5	−13.4

	AusNet Services' revised proposal	Updated revised proposal	AER alternative estimate	Difference
Total opex (excluding debt raising costs)	1192.7	1227.3	1215.4	−12.0
Debt raising costs	11.3	11.3	11.4	0.1
Total opex (including debt raising costs)	1204.1	1238.7	1226.8	−11.9
Percentage difference to proposal				−1.0%

Source: AusNet Services, *Regulatory proposal 2021–26 – Supporting document 10.06 – Opex model,* December 2020; AusNet Services, information request #089, March 2021*; AER analysis.*

Note: Numbers may not add up to totals due to rounding. Differences are between the AER's alternative estimate and AusNet Services' updated revised proposal. Differences of '0.0' and '–0.0' represent small variances and '–' represents no variance. Net category specific forecasts captures the net impact of removing these costs from the base year and re-forecasting as a category specific forecast for the 2021–26 regulatory period.

The following factors contributed to our lower alternative estimate of total opex of 1.0 per cent, compared to the updated revised proposal:

- Our alternative estimate for category specific forecasts is $13.4 million ($2020–21) lower than AusNet Services' proposal. The main driver of this difference is that we have included a lower forecast for guaranteed service level (GSL) payments. AusNet Services' proposed GSL forecast uses a five year average to calculate a transitional payment. We consider a ten year time series more appropriate as it smooths out the impact of abnormal events in the current period.

- For base adjustments, our alternative estimate is $4.2 million ($2020–21) lower than AusNet Services' proposal. The main driver of this difference is that we have included a lower forecast for the reclassification of metering costs, consistent with our draft decision.

- Our final year increment is $5.2 million ($2020–21) higher as we have updated for the latest actual and inflation forecasts.

As noted above, we included in our alternative estimate a step change for insurance premiums. This reflects our view on balance that while there is some uncertainty associated with the forecast insurance premium costs, businesses are best incentivised to achieve efficient cost outcomes by including these in the total opex forecast. Subsequently, AusNet Services provided an updated revised proposal which included a step change for insurance premiums of $45.1 million ($2020–21), which we consider is reasonable and we have included this amount in our alternative estimate. As a result we have not accepted the proposed insurance premium event nominated cost pass through for the 2021–26 regulatory control period.

6.2 AusNet Services' revised proposal

AusNet Services used a 'base–step–trend' approach to forecast opex for the 2021–26 regulatory control period in its revised and updated revised proposals, consistent with our standard approach.

AusNet Services proposed a revised total opex forecast of $1204.1 million ($2020–21) for the 2021–26 regulatory control period.[5] This included a step change for insurance premium increases known as a result of the latest insurance renewals ($10.5 million ($2020–21)) and a proposed cost pass through for future increases. As set out below, under our incentive based framework to achieve efficient outcomes we consider forecast insurance premium costs are best included in the total opex forecast. Reflecting this, AusNet Services provided an updated revised proposal with a total opex forecast of $1238.7 million ($2020–21).[6] This included a step change for future insurance premium increases of $45.1 million ($2020–21).

In applying our base-step-trend approach to forecast opex for the 2021–26 regulatory control period, AusNet Services:[7]

- used opex in 2018 as the base to forecast ($1080.1 million ($2020–21))

- removed costs from the base year (as a non-recurrent efficiency loss) to account for revised Australian Accounting standard AASB 16 relating to leases[8] (–$21.8 million ($2020–21))

- adjusted the base year expenditure to include forecasts for activities which are not fully reflected (metering costs) or it considered should be removed in the base year expenditure (Energy Safe Victoria (ESV) levies) ($1.1 million ($2020–21))

- added the final year increment from the base year of 2018 ($75.1 million ($2020–21))

- applied a rate of change comprising of:

    o real price escalation ($14.2 million ($2020–21))

    o output growth ($26.4 million ($2020–21))

    o productivity (–$14.8 million ($2020–21))

- added forecast step changes for the 2021–26 regulatory control period ($55.2 million ($2020–21))

- added net category specific forecasts for the 2021–26 regulatory control period ($11.8 million ($2020–21))

- added forecast debt raising costs ($11.3 million ($2020–21)).

AusNet Services' updated revised total opex proposal is set out in Table 6.2, noting opex represents 39.5 per cent of AusNet Services' total revenue proposal.[9]

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5   AusNet Services, *Revised regulatory proposal 2021–26 – Opex Model,* December 2020.
6   AusNet Services, information request *#089,* March 2021.
7   AusNet Services, information request *#089,* March 2021; AER analysis.
8   AusNet Services*, 2021–26 Revised Regulatory Proposal*, December 2020, p. 76.
9   AusNet Services, *Revised regulatory proposal 2021–26– insurance PTRM Model (2022-26)*, 30 March 2021.

Table 6.2   AusNet Services' revised opex forecast ($ million, 2020–21)

	2021–22	2022–23	2023–24	2024–25	2025–26	Total
Total opex including category specific forecasts	237.9	241.2	244.8	249.1	254.4	1227.3
Debt raising costs	2.2	2.2	2.3	2.3	2.3	11.3
Total opex	240.1	243.4	247.1	251.4	256.7	1238.7

Source: AusNet Services, information request #089, March 2021; AER analysis.

Note: Numbers may not add up to totals due to rounding.

Figure 6.2 shows the different components in AusNet Services' opex proposal as described above.

Figure 6.2   AusNet Services' revised opex forecast ($ million, 2020–21)
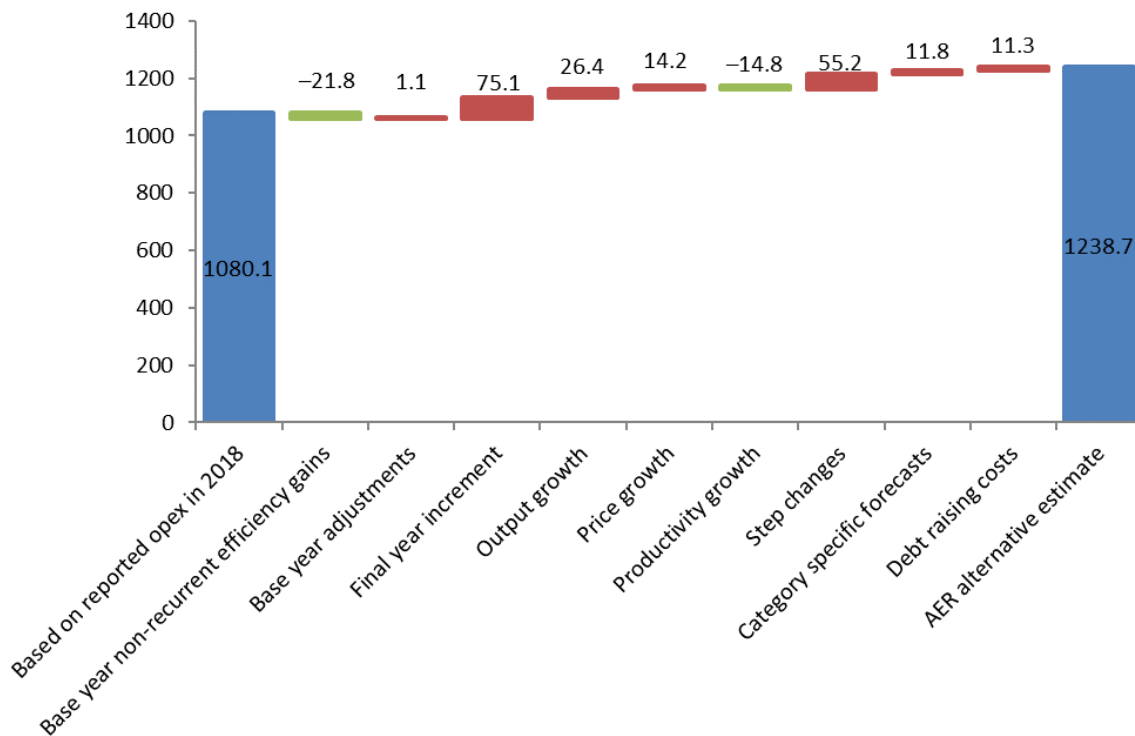
Source: AusNet Services, information request *#089,* March 2021; AER analysis.

6.2.1   Stakeholder views

We received five submissions on AusNet Services' 2021–26 revised proposal that raised issues about opex. At a high level, submissions were generally supportive of our draft decision. Submissions provided commentary on various components of the revised proposals, including to note concerns of productivity declines over time. We have taken these submissions, and any other concerns consumers identified into

account in developing the positions set out in this final decision. A summary of the opex issues raised in submissions is provided in Table 6.3.

Table 6.3 Submissions on AusNet Services' revised opex proposal

Stakeholder	Issue	Summary
The AER's Consumer Challenge Panel, sub-panel 17 (CCP17), Victorian Community Organisation (VCO), Energy Consumers Australia (ECA)	Base opex	The VCO suggested that a bottom-up sanity check may be useful in evaluating efficiency as all distributors except United Energy have experienced a decline in productivity over time. Further, that distribution businesses have consistently incurred lower opex costs than their allowance suggesting base opex is not efficient. An efficiency adjustment is considered appropriate for both Jemena and AusNet Services.[10] The CCP17 noted that based on the benchmarking results CitiPower, Powercor and United Energy are the more efficient distribution businesses in Australia for all measures, whereas AusNet Services and Jemena have performed poorly.[11] Ausgrid expressed concerns about the AER's benchmarking[12] and suggested an independent review is required. It highlighted inconsistencies and discrepancies between the index models and the econometric models.[13] Consultant for ECA, Spencer&Co expressed similar concerns about the benchmarking results. It considered the benchmarking results to be highly sensitive to inputs and that this presents risks when setting opex using these results. It called for a review of the impact of capitalisation policies on benchmarking.[14]
VCO	Trend	The VCO considered that to determine price growth the most recent data sources should be used (including the Victorian government's December 2020 estimates) and that the labour / materials weights should be the same across all businesses.[15] The VCO supported the AER's approach for developing output growth forecasts using updated information for the final decisions and to address the issues raised in the NERA and Frontier Economics reports. It considered a detailed review of the forecast growth in outputs is required, including for customer numbers (connections), peak demand and energy throughput. It also sought consistency in approach across all businesses.[16] VCO considered the 0.5 per cent per annum productivity growth forecast is too low.[17]
CCP17, VCO	Step Changes	The VCO supported the application of materiality as grounds for examining step changes, in particular the proposed Australian Energy Market Operator (AEMO)

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10 Headberry Partners report to VCO, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, pp. 15–18, 50–51.
11 CCP17, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, pp. 56–57, 104.
12 AER, *Annual Benchmarking Report electricity distribution network service providers*, November 2020
13 Ausgrid, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, pp. 3–6.
14 Spencer&Co report to ECA*, Submission and attachment on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 9.
15 Headberry Partners report to VCO, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, p. 52.
16 Headberry Partners report to VCO*, Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, pp. 22, 52.
17 Headberry Partners report to VCO, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 52.

Stakeholder	Issue	Summary
		fees and Energy Safe Victoria (ESV) levy. It was generally supportive of the AER's decisions on the step changes in the draft decision.[18]
		The CCP17 also supported the application of materiality as a guide for determining if proposed step changes are prudent and efficient and discussed the issues raised by CitiPower, Powercor and United Energy in its revised proposal.[19]
VCO, ECA	ESV Levy	The VCO supported the AER draft decision that the ESV levy cost should be absorbed by the distribution businesses.[20]
		ECA generally supported the distribution businesses position to include fees and charges levied by regulators in the price control mechanism. It considered these costs cannot be controlled and that it is appropriate to pass the costs on to customers via price controls.[21]
CCP17, VCO, Energy Users Association of Australia (EUAA), ECA	Insurance Premiums	The VCO supported analysis of the insurance step change and cost pass through proposals to ensure these costs are not double counted. It noted there is support for developing the most efficient bushfire insurance program, with consumers sharing in the increased costs and risks, including general insurance which has not been impacted by the increased bushfire risk.[22]
		The CCP17 acknowledged that insurance coverage is decreasing while insurance costs are rising rapidly. It viewed the insurance market changes as material and beyond reasonable budget projections (with these changes likely to be sustained over a long period due to climate change). As such, it considered the insurance step changes to be reasonable.[23]
		The EUAA viewed AusNet Services as willing to have a reasonable sharing of bushfire risk with its consumers in light of its recent insurance policy decisions and revised proposal. Discussions around the risk sharing of these events between networks, customers and potentially the wider community was encouraged.[24]
		Consultant for ECA, Spencer&Co supported the steps taken by businesses to mitigate the cost impacts of rising insurance premiums on customers. They also considered that the businesses response to insurance premium increases is reasonable in the circumstances.[25]
CCP17, VCO	IT Cloud	The CCP17 did not oppose AusNet Services' 'cloud based' approach if the AER is convinced that the project is justified (including the technical solution),

[18]   Headberry Partners report to VCO, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, p. 54.

[19]   CCP17, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, pp. 57–59.

[20]   Headberry Partners report to VCO*, Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, p. 55.

[21]   Spencer&Co report to ECA*, Submission and attachment on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 18.

[22]   Headberry Partners report to VCO, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, p. 56.

[23]   CCP17*, Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, pp. 61–63.

[24]   EUAA, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, p. 10.

[25]   Spencer&Co report to ECA, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, p. 15.

Stakeholder	Issue	Summary
		provides sound benefits for customers and is not replicating potential Customer Service Incentive Scheme rewards.[26] The VCO supported this step change for AusNet Services if a net benefit for consumers is identified.[27]
CCP17, ECA	GSL	The CCP17 contended allowing businesses to recover GSL costs does not incentivise improved services. It believed businesses should bear the costs for GSL payment categories they have control over (e.g. for late or missed appointments or delays to connections) and 30 per cent of the other payment categories. The CCP17 proposed that the AER actively review the extent to which GSL payments should be met by the business rather than passed to customers. The CCP17 also did not support the 'transitional allowance' proposed by AusNet Services.[28] ECA recommended accepting AusNet Services' $16 million[29] GSL proposal but suggested the design of the scheme should be reviewed as it does not properly penalise businesses for poor performance.[30]
VCO	Innovation Fund	The VCO supported the innovation project proposed by AusNet Services but questioned the practice of charging customers in funding these projects. Instead, it considered is preferable for these projects to be selected through a competitive process and for funds to be administered by an independent external party.[31]
ECA	Metering	The ECA was supportive of a reallocation of metering costs where there is no metering competition, as it will make little difference to consumers.[32]

6.3 Assessment approach

Our role is to form a view about whether to accept a business' forecast of total opex. Specifically, we must form a view about whether a business' forecast of total opex 'reasonably reflects the opex criteria'.[33] In doing so, we must have regard to each of the opex factors specified in the National Electricity Rules (NER).[34]

If we are satisfied the business' forecast reasonably reflects the opex criteria, we must accept the proposed forecast.[35] If we are not satisfied, we must not accept the

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26   CCP17, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, p. 88.

27   Headberry Partners report to VCO*, Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, p. 55.

28   CCP17, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, pp. 64–67.

29   The $16 million represents the incremental increase in GSL costs over the 2021–26 regulatory control period relative to the GSL payments incurred in AusNet Services' base year (2018).

30   Spencer&Co report to ECA*, Submission and attachment on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, p. 19.

31   Victorian Community Organisations, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, p. 17.

32   Spencer&Co report to ECA, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26,* January 2021, p. 18.

33   NER, cl. 6.5.6(c).

34   NER, cl. 6.5.6(e)

35   NER, cl. 6.5.6(c).

proposed forecast and must substitute an alternative estimate that we are satisfied reasonably reflects the opex criteria.[36] In making this decision, we take into account the reasons for the difference between our alternative estimate and the business' proposal, and the materiality of the difference. Further, we are required to consider interrelationships with the other building block components of our decision.[37]

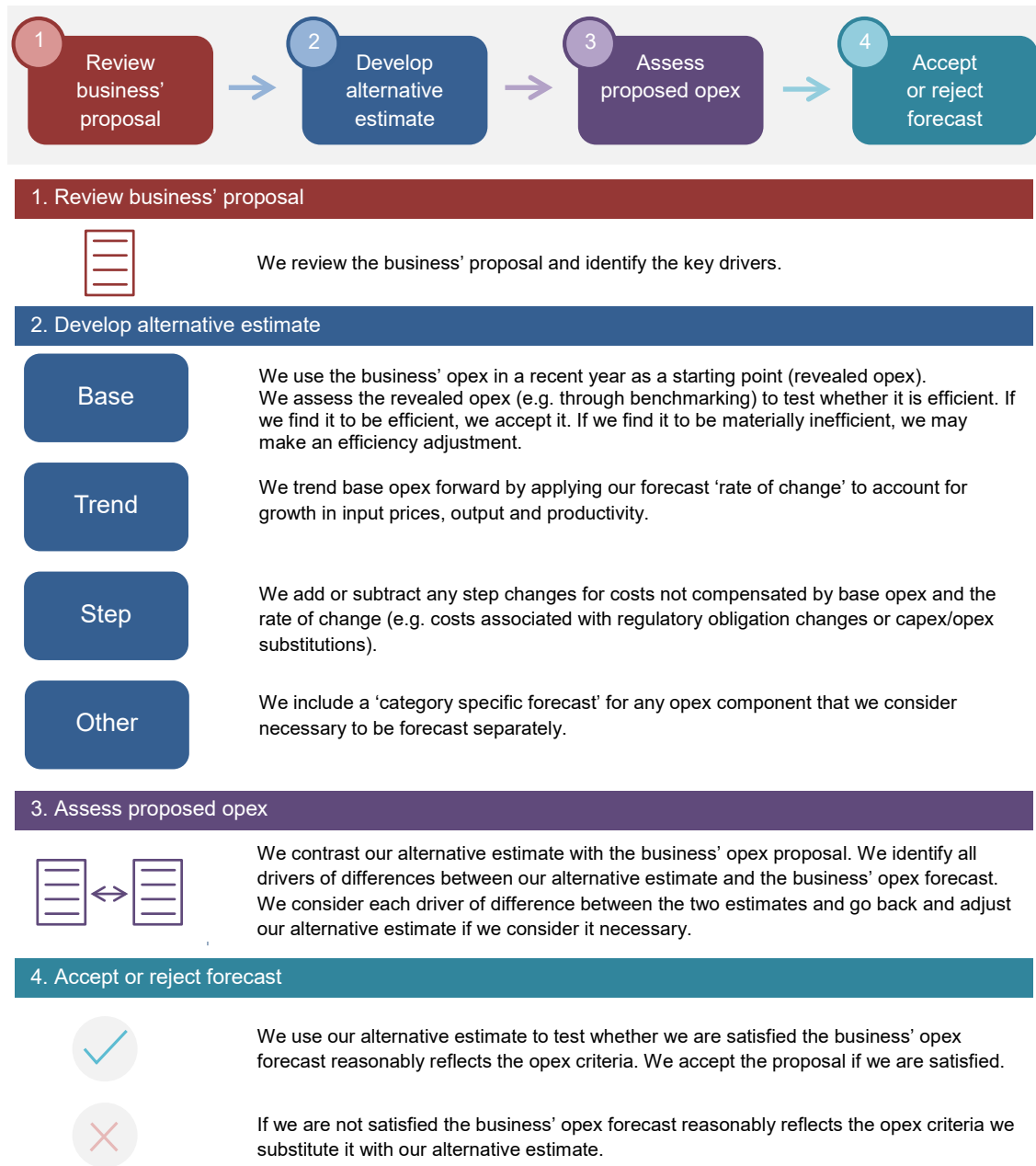As set out in our draft decision in detail, we generally assess a business' forecast total opex using a 'base-step-trend' approach, as summarised in Figure 6.3.[38]

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[36]   NER, cll. 6.5.6(d) and 6.12.1(4)(ii).

[37]   NEL, s. 16(1)(c).

[38]   Our base-step-trend approach is also set out in our expenditure guideline. See AER, *Expenditure forecast assessment guideline for electricity distribution*, November 2013, pp. 22–24.

Figure 6.3 Our opex assessment approach

| 1 Review business' proposal | → | 2 Develop alternative estimate | → | 3 Assess proposed opex | → | 4 Accept or reject forecast |

1. Review business' proposal

We review the business' proposal and identify the key drivers.

2. Develop alternative estimate

Base

We use the business' opex in a recent year as a starting point (revealed opex). We assess the revealed opex (e.g. through benchmarking) to test whether it is efficient. If we find it to be efficient, we accept it. If we find it to be materially inefficient, we may make an efficiency adjustment.

Trend

We trend base opex forward by applying our forecast 'rate of change' to account for growth in input prices, output and productivity.

Step

We add or subtract any step changes for costs not compensated by base opex and the rate of change (e.g. costs associated with regulatory obligation changes or capex/opex substitutions).

Other

We include a 'category specific forecast' for any opex component that we consider necessary to be forecast separately.

3. Assess proposed opex

We contrast our alternative estimate with the business' opex proposal. We identify all drivers of differences between our alternative estimate and the business' opex forecast. We consider each driver of difference between the two estimates and go back and adjust our alternative estimate if we consider it necessary.

4. Accept or reject forecast

We use our alternative estimate to test whether we are satisfied the business' opex forecast reasonably reflects the opex criteria. We accept the proposal if we are satisfied.

If we are not satisfied the business' opex forecast reasonably reflects the opex criteria we substitute it with our alternative estimate.

6.3.1   Interrelationships

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

- the efficiency benefit sharing scheme (EBSS) carryover—the level of opex used as the starting point to forecast opex (the final year of the current regulatory control period (2016–20)) should be the same as the level of opex used to forecast the EBSS carryover. 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 2016–20 regulatory control period, which provided AusNet Services 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 in the course of AusNet Services' engagement with consumers.

6.4 Reasons for final decision

Our final decision is to accept AusNet Services' total forecast opex of $1238.7 million ($2020–21), including debt raising costs, in AusNet Services' revenue for the 2021–26 regulatory control period. We have tested AusNet Services' updated revised proposal by comparing it to our alternative estimate of total opex forecast of $1226.8 ($2020–21),[39] which is not materially different (1.0 per cent lower) than AusNet Services' updated revised proposal. Therefore, we are satisfied that AusNet Services' proposed forecast reasonably reflects the opex criteria. On this basis we accept AusNet Services' updated revised total opex proposal.

We discuss the components of our alternative estimate 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 AusNet Services would need for the safe and reliable provision of electricity services over the 2021–26 regulatory control period.

AusNet Services proposed base opex to reflect its actual opex in 2018 of $216.0 million ($2020–21).[40] Consistent with our draft decision, we have concluded that AusNet Services' base year opex is relatively efficient, and have relied on AusNet Services' revealed costs in the base year in developing our alternative estimate. 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 in section 6.4.1.2. We discuss the final year increment to base year opex in section 6.4.1.3 and adjustments to base opex in section 6.4.1.4.

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[39] Including debt raising costs.

[40] This excludes movements in provisions and DMIA payments. AusNet Services, *Revised regulatory proposal 2021–26*, December 2020, p. 76.

6.4.1.1 Proposed base year

In its revised proposal, AusNet Services noted our draft decision considered 2018 is an appropriate base year. AusNet Services did not propose a different base year in its revised proposal.

Our position has not changed since the draft decision,[41] and we consider 2018 is an appropriate base year. This is because we consider it is representative of the base opex required for the next regulatory control period. While there is a more recent year of actual opex available, 2019, due to the interaction with the EBSS, we are generally indifferent to the choice of base year of a distributor, provided we find AusNet Services opex in the base year is efficient.

6.4.1.2 Efficiency of base year opex

AusNet Services proposed base opex to reflect its actual or 'revealed' opex in the base year 2018 of $216.0 million ($2020–21). As outlined in section 6.3, and in our *Expenditure Forecast Assessment Guideline*, our standard 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' revealed opex is efficient. We 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.

In this section, we first outline AusNet Services' revealed cost performance, before presenting our benchmarking analysis.

Analysis of AusNet Services' revealed costs

Figure 6.1 shows AusNet Services' opex forecast for the next regulatory control period, its actual opex in the current and previous regulatory control periods, our previous regulatory decisions and our alternative estimate that has informed our final decision.

Our revealed costs analysis for AusNet Services is unchanged from our draft decision.[42]

We have seen a slightly decreasing trend in AusNet Services' opex since 2016. AusNet Services' actual and estimated opex in the current regulatory control period is 11.5 per cent below our opex forecast and its actual opex in the base year of 2018 is 16.1 per cent below our opex forecast. AusNet Services' actual opex in the previous

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41   AER, *Draft decision, AusNet Services determination 2021–26, Attachment 6 Operating expenditure,* September 2020, pp. 22–23.

42   AER, *Draft decision, AusNet Services determination 2021–26, Attachment 6 Operating expenditure,* September 2020, p. 24.

regulatory control period was on average 1.6 per cent lower per annum than our opex forecast. Since 2011 in aggregate, AusNet Services has spent 5.0 per cent below our opex forecast. Over the current regulatory control period AusNet Services' expected average annual expenditure is $225.9 million ($2020–21), which is $19.9 million higher than over the 2011–15 regulatory control period.

In the current regulatory control period, AusNet Services refreshed its corporate strategy with one key objective being to operate all three of its networks in the top quartile of efficiency benchmarks.[43] In its initial proposal AusNet Services outlined key aspects of its transformation journey to deliver the cost reductions that are in its base year opex. These include being able to better access organisational data and improve asset management, works planning and scheduling. Further, undertaking a variety of outsourcing initiatives, enabling headcount reductions and improving procurement systems and approaches to deliver further savings.[44]

These initiatives and the revealed costs data suggest that AusNet Services has responded to the incentives included in our regulatory regime. It has been able to achieve opex efficiency improvements in several years of the current regulatory control period, and is forecasting to maintain this in the last year of the current period. In line with our approach, we have used our benchmarking tools and other cost analysis to assess whether AusNet Services is operating efficiently, both over time and in base year. We conclude that AusNet Services is relatively efficient.

Benchmarking the efficiency of AusNet Services' opex over time

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 *2020 Annual Benchmarking Report* includes 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 National Electricity Market (NEM).[45]

While opex at the total level is generally recurrent, year-to-year fluctuations can be expected. To shed light on AusNet Services' general level of operating efficiency, we first look at the efficiency of AusNet Services' opex over a period of time, using our top-down benchmarking tools, as well as other supporting techniques. This is followed by looking at the efficiency of the base year (2018) in particular and if necessary deriving an alternative estimate of efficient opex in the base year.

Since our draft decision we have published the *2020 Annual Benchmarking Report* which incorporates the 2019 data for distribution businesses. AusNet Services' results are similar, but marginally worse in the *2020 Annual Benchmarking Report* compared to the *2019 Annual Benchmarking Report*. This is due to a slight worsening in opex

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[43] AusNet Services, Revised r*egulatory proposal 2022–26, Part III,* January 2020, pp. 136–137.

[44] AusNet Services*, Revised regulatory proposal 2022–26, Part III,,*January 2020, p. 137.

[45] AER, *Annual Benchmarking Report, Electricity distribution network service providers*, November 2020.

productivity and reliability.[46] As discussed further below, for AusNet Services there is also one fewer econometric opex cost function model in the *2020 Annual Benchmarking Report* that we can use (the Translog stochastic frontier analysis (SFA TLG) model over the 2012–19 period). This model produced a relatively lower efficiency score for AusNet Services compared to other models in the *2019 Annual Benchmarking Report*.

Top-down benchmarking

Period-average efficiency scores

In terms of historical performance, our benchmarking results from the *2020 Annual Benchmarking Report* indicate that AusNet Services has been fairly efficient over the 2006–19 period when compared to other distribution businesses in the NEM.[47]

Figure 6.4 shows that over this period AusNet Services ranks sixth out of 13 distribution businesses based on the average efficiency scores from five economic benchmarking models.[48] The scores range from 0.65 (opex multilateral partial factor productivity (MPFP)) to 0.74 (Cobb-Douglas least squares econometrics (LSE CD) model). AusNet Services' average efficiency score across the five models is 0.70.[49] In the draft decision AusNet Services' average efficiency score was 0.71.[50]

The best possible efficiency score is 1.0. We use a 0.75 comparator point to assess the relative efficiency of distribution businesses,[51] noting that we adjust this for operating environment factors (OEFs) not already captured in the modelling below (which we apply to AusNet Services in the next section). Allowing for OEFs enables us to account for some factors beyond a distributor's control that can affect its benchmarking performance.

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[46] Economic Insights, *Benchmarking results for the AER - Distribution*, October 2020, pp. 80–81.

[47] AER, *Annual Benchmarking Report, Electricity distribution network service providers*, November 2020; AER analysis.

[48] AER, *Annual Benchmarking Report, Electricity distribution network service providers*, November 2020, p. 32; AER analysis. The five models are the four econometric models – Cobb-Douglas stochastic frontier analysis (SFA CD), Cobb-Douglas least squares econometrics (LSE CD), Translog stochastic frontier analysis (SFA TLG), Translog least squares econometrics (LSE TLG) and the opex multilateral partial factor productivity (MPFP) model.

[49] Economic Insights, *Files for 2020 DNSP Economic Benchmarking Report*, 8 October 2020; AER analysis.

[50] AER, *Draft decision, AusNet Services determination 2021–26, Attachment 6 Operating expenditure*, September 2020, p. 25.

[51] As set out further below, we use the efficiency scores from the four econometric models to derive our estimate of efficient base opex and not the opex MPFP efficiency score.

Figure 6.4   Average opex efficiency scores of distribution businesses, 2006-19
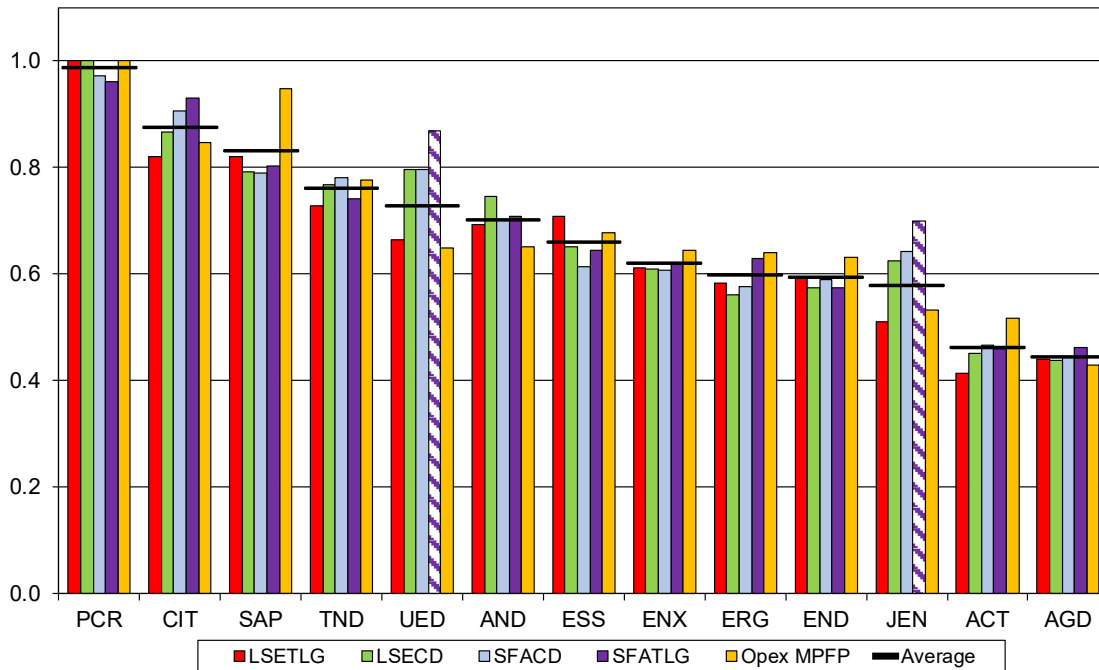
Source: Economic Insights, *Benchmarking results for the AER – Distribution*, October 2020; AER analysis.

Note: Columns with a hatched pattern represent results that do not satisfy the key property (monotonicity – that an increase in output is achieved with an increase in opex) and are not included in the average efficiency score for each distributor (which is represented by the black horizontal line). AND in the figure represents AusNet Services. Other acronyms are: PCR = Powercor, CIT = CitiPower, SAP = SA Power Networks, TND = TasNetworks, UED = United Energy, ESS = Essential Energy, ENX = Energex, ERG = Ergon Energy, END = Endeavour Energy, JEN = Jemena, ACT = Evoenergy, AGD = Ausgrid.

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. Considering this, we have also examined AusNet Services' average performance over the shorter and more recent 2012–19 time period. AusNet Services' average score across these five models over the 2012–19 period is 0.65, and its ranking is eighth of the 13 distributors. Its ranking was seventh in the *2019 Annual Benchmarking Report* (although its average score was also 0.65 in this report).[52] This indicates that AusNet Services' relative efficiency has declined in recent years, compared with its efficiency over the 2006–19 period. In part this is explained by other distribution businesses improving their performance since 2012, meaning AusNet Services' ranking has fallen slightly relative to its peers.

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[52]   Economic Insights, *Revised files for 2019 DNSP Economic Benchmarking Report*, 24 August 2020; AER, *Draft decision, AusNet Services determination 2021–26, Attachment 6 Operating expenditure*, September 2020, p. 26.

A key property required of the econometric opex models is that an increase in output can only be achieved with an increase in inputs (e.g. opex). This is the monotonicity requirement. Cobb-Douglas models automatically impose monotonicity, but the more flexible Translog models (that allow for output elasticities i.e. the responsiveness of opex to an increase in a particular output, to vary for each data point) do not, and so this property may not always hold. Therefore, when estimating the Translog models, satisfaction of the requirement has to be checked for each observation. On the advice of our consultant Economic Insights, we require this property (an increase in outputs requires an increase in inputs) to hold for at least half the data points of a business in order to include the efficiency score from that model in our efficiency assessment.

In AusNet Services' draft decision we did not exclude any Translog results as AusNet Services' results for all models passed this test. As highlighted in the *2020 Annual Benchmarking Report* the number of instances where this requirement is not met has become more prevalent. AusNet Services is one of the affected distribution businesses as its SFA TLG results for the 2012–19 period do not satisfy the key property under our test. This is a change from the *2019 Annual Benchmarking Report* and AusNet Services' draft decision. As noted above, this model produced a relatively lower efficiency score (0.63) compared to some other models for AusNet Services in the *2019 Annual Benchmarking Report*.[53]

Opex MFPF over time

We use the productivity index techniques to enable comparisons of productivity levels over time and between businesses. The multilateral total factor productivity (MTFP) index measures the productivity over all inputs of each business, whereas the opex and capital MPFP indexes measure the productivity of opex or capital inputs respectively.

The results from our opex MPFP analysis from the *2020 Annual Benchmarking Report* can be seen in Figure 6.5 (where a higher index score means more efficient). These show AusNet Services' relative efficiency has slowly trended down from 2006 to 2016, after which it improved to achieve a small level of catch-up to the average performing distribution businesses. While its relative performance trended down from 2006 to 2012, AusNet Services typically ranked in the top half of distribution businesses. From 2012 to 2016 AusNet Services' relative performance slipped to the middle to lower range of businesses. Since 2016, AusNet Services' opex productivity has improved substantially, but it has operated at the bottom of the middle group of distribution businesses. This is reflected in its sixth ranking over the 2006–19 period for opex MPFP but its tenth ranking over the 2012–19 period.[54] Its slight worsening in performance over the 2012–19 period occurred at the same time as many other

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53   Economic Insights, *Revised files for 2019 DNSP Economic Benchmarking Report*, 24 August 2020.

54   In the draft decision AusNet Services ranked sixth and tenth in opex MPFP over the 2006–18 and 2012–18 periods respectively. AER, *Draft decision, AusNet Services determination 2021–26, Attachment 6 Operating expenditure*, September 2020, p. 27.

distribution businesses improved their performance, meaning its ranking fell relative to its peers. These results have not been adjusted to account for OEFs.

Figure 6.5 Opex MPFP by individual distribution businesses, 2006–19
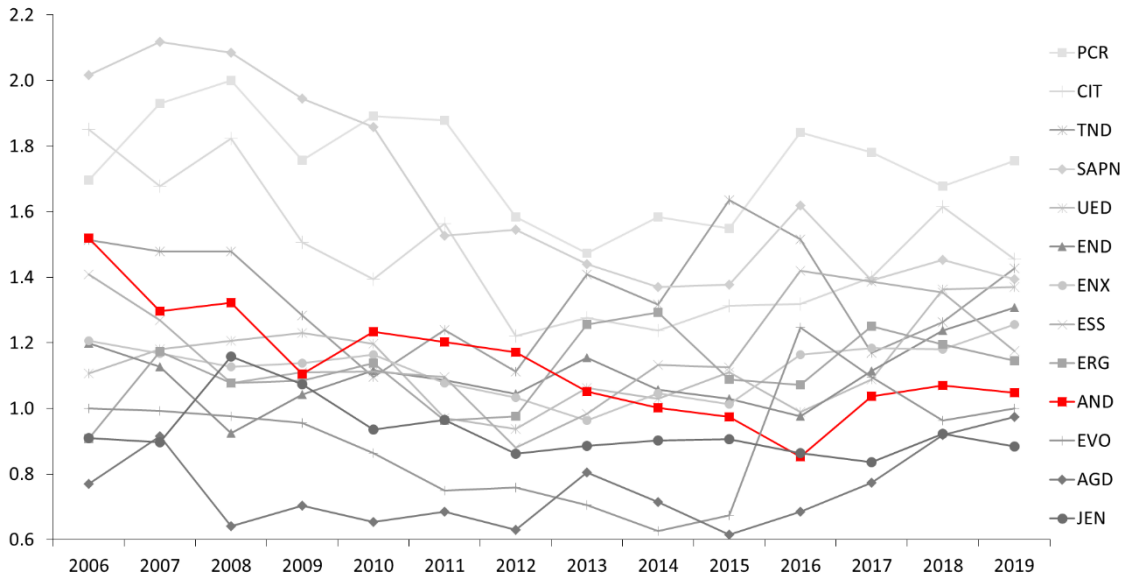
Source: Economic Insights, *Benchmarking results for the AER – Distribution*, October 2020; AER analysis.

Note: AND in the figure represents AusNet Services.

Partial Performance Indicators

We have also examined the relative opex performance of AusNet Services using partial performance indicators (PPIs). The PPI's support other benchmarking techniques because they provide a general indication of comparative performance of distribution businesses in delivering a specific output. However, they are more simplistic measures and rankings for PPIs may be affected by factors outside the control of the distribution businesses and must be analysed with caution, with comparisons generally limited to businesses with similar characteristics, e.g. customer density.

The PPIs in the *2020 Annual Benchmarking Report* are broadly consistent with those from the *2019 Annual Benchmarking Report* used in the draft decision.[55] As such our analysis and conclusions regarding the PPIs in the draft decision are unchanged for this final decision.

AusNet Services tends to perform similar in per customer PPIs, compared with peers that have a similar customer density and performs similar or slightly worse compared to its peers for per circuit PPIs. These observations are generally consistent on a total cost and total opex basis (see Figure 6.6 and Figure 6.7) and for the main opex cost

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[55]   The *2020 Annual Benchmarking Report* results are for the period 2015-19 and are an update from the 2014-18 results in the *2019 Annual Benchmarking Report*.

categories (maintenance, vegetation management, emergency response and total overheads). These results suggest AusNet Services is generally similar in its efficiency compared to its peers. As noted above, however, these results need to be treated with caution.

Figure 6.6   Total opex per customer, 2015–19, ($2020–21)
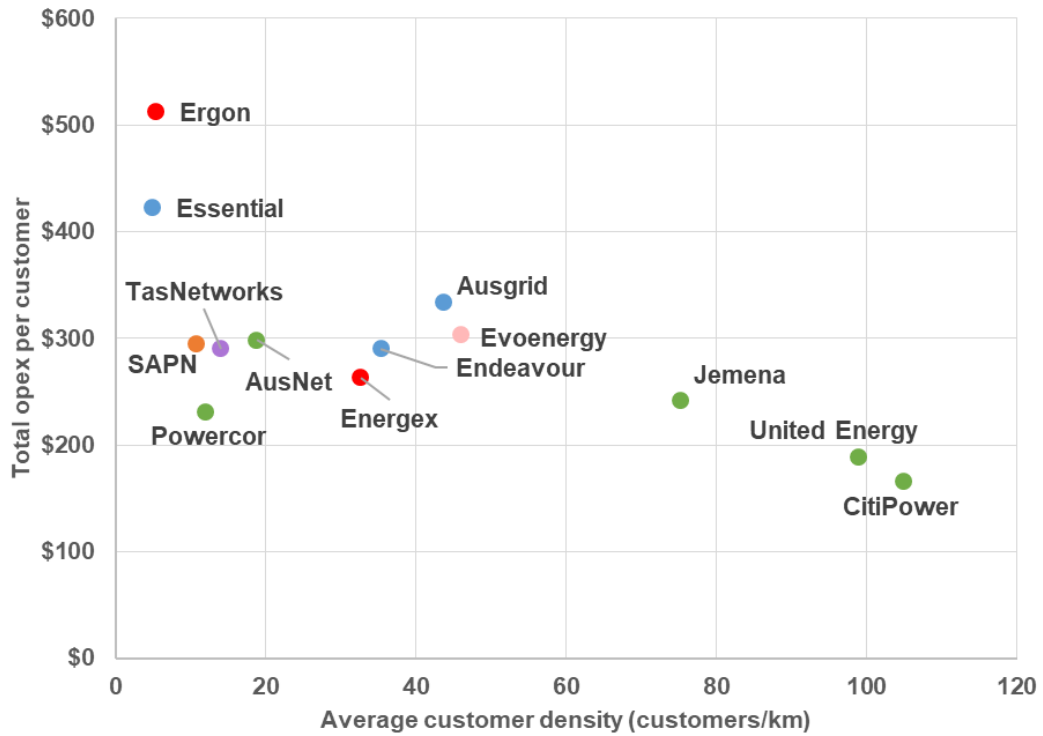
Source: AER analysis.

Figure 6.7   Total opex per circuit line length, 2015–19, ($2020–21)
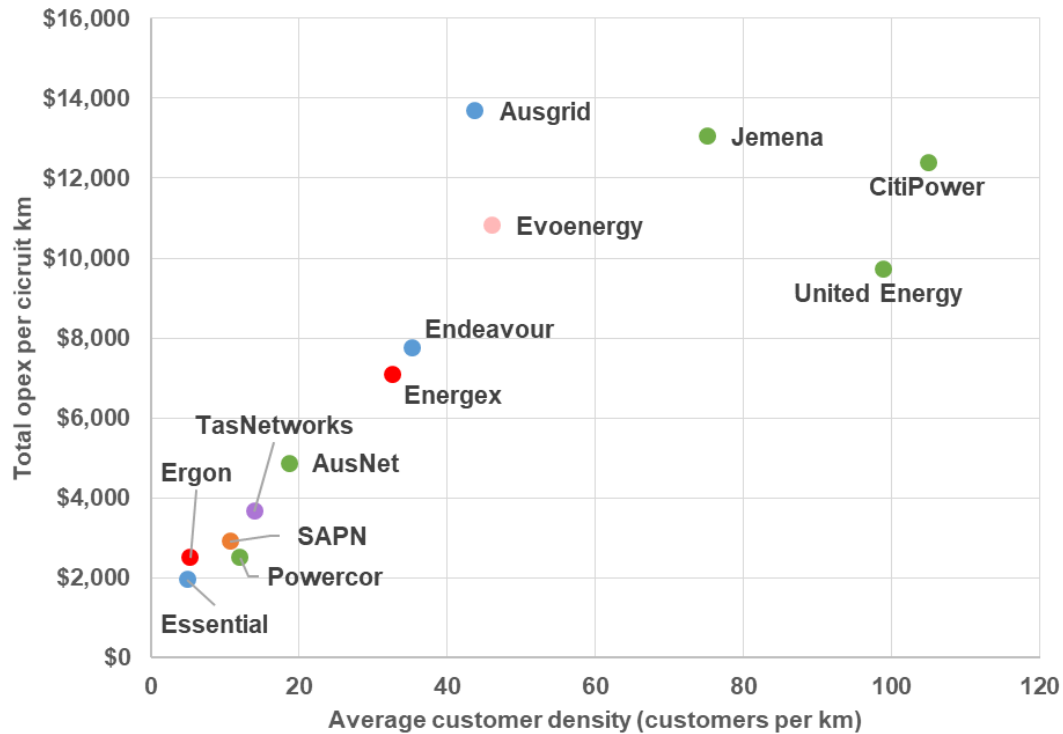
Source: AER analysis.

Benchmarking the efficiency of AusNet Services' base year opex

Given AusNet Services' model-average opex efficiency score across the two time periods, including its worse top-down efficiency performance over the more recent 2012–19 period, we have undertaken additional analysis. This includes application of our economic benchmarking roll-forward-model, which includes adjusting for OEFs, to more directly test the efficiency of AusNet Services' actual opex in the base year.

The results from our productivity index techniques and econometric opex cost function modelling indicate AusNet Services' 2018 base year opex is not materially inefficient.

Our productivity index techniques allow us to look at the productivity of each businesses total outputs in any particular year. In the base year 2018, AusNet Services is placed tenth on opex MPFP. While its productivity improved in 2018, so did the performance of its peers. This is an indicator that AusNet Services' base year opex may contain some relative inefficiency, however, these results have not been adjusted to account for OEFs and further analysis is required.

Consistent with our standard approach, we have tested this further using the econometric benchmarking incorporating OEF analysis to establish AusNet Services' efficient opex in the base year and if an efficiency adjustment is required.
MTFP / MPFP benchmarking is not used as a part of this further testing. We used the same approach in the draft decision.

Econometric benchmarking roll forward modelling

Our econometric models produce average opex efficiency scores for distribution businesses across the 2006–19 and 2012–19 periods respectively. Using our roll-forward-model, we convert these period-average results to estimate the level of network services opex[56] required by a service provider operating in AusNet Services' circumstances in 2018, and compare this to the AusNet Services' actual base network services year opex.

This uses a benchmark comparison point of 0.75. This also adjusts for differences in OEFs between AusNet Services and the benchmark comparators that are not already captured in the modelling (discussed further below). We outline our approach in Box 1.

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[56]   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.

Box 1 Our approach to estimating efficient base year opex

To derive our efficient estimate of base year opex for businesses, we find the average of the estimated efficient rolled-forward levels of network services opex as determined by each of our econometric models (LSE CD, SFA CD, LSE TLG, SFA TLG). This is done using data over the 2006–19 and 2012–19 periods separately, which means two averages are produced. We then compare this to actual network services opex in the base year.

The first step is to average a business' actual network services opex over the relevant benchmarking period to find the business' period-average network services opex (where relevant, we use the same backcast opex series under the Cost Allocation Method (CAM) applying in 2013–14 as those used for our economic benchmarking).

We then separately compare the business' efficiency scores of each econometric model over that period, against a benchmark comparison point of 0.75. This reflects that we consider the upper quartile of possible efficiency scores are efficient, and reflects our conservative approach to setting a benchmark comparison point.

We adjust the benchmark comparison point for material differences in OEFs between the business and the benchmark comparators that are not already captured in the modelling (discussed further below). The benchmark comparator businesses are those businesses that have an average efficiency score above the 0.75 benchmark comparison score. (For both the 2006–19 and 2012–19 benchmarking periods, there are five businesses with average efficiency scores at or above 0.75, namely Powercor, CitiPower, United Energy, SA Power Networks and TasNetworks).

Where the business' efficiency score derived from an applicable model is below the adjusted benchmark comparison point, we adjust its period-average network services opex (established in the first step) down by the difference between the adjusted comparison point and the efficiency score. This results in an estimate of period-average network services opex that we consider is not materially inefficient.

This period-average network services opex estimate is then trended forward from the midpoint of the period to the base year to account for the rate of change. This results in a conservative estimate of efficient network services opex in the base year, which is compared against actual base year network services opex. This process is repeated for each econometric model, resulting in a different estimate for each.

The results of this analysis for AusNet Services are set out in Figure 6.8 for the 2006–19 period and in Figure 6.9 for the 2012–19 period using results from the *2020 Annual Benchmarking Report*. In Figure 6.8, our estimates of efficient network services opex (which includes adjustment for OEFs) in the base year using our econometric models over the 2006–19 period (as described above) are shown in green (with an average of $206.2 million ($2020–21)), while AusNet Services' actual network services opex in the base year of 2018 is shown in red ($201.7 million, ($2020–21)). The average of our

efficient estimates (the blue dashed line) is materially ($4.6 million ($2020–21)) above
AusNet Services' actual network services opex.

**Figure 6.8 Estimates of efficient network services opex using data over
the 2006–19 period ($ million, 2020–21)**
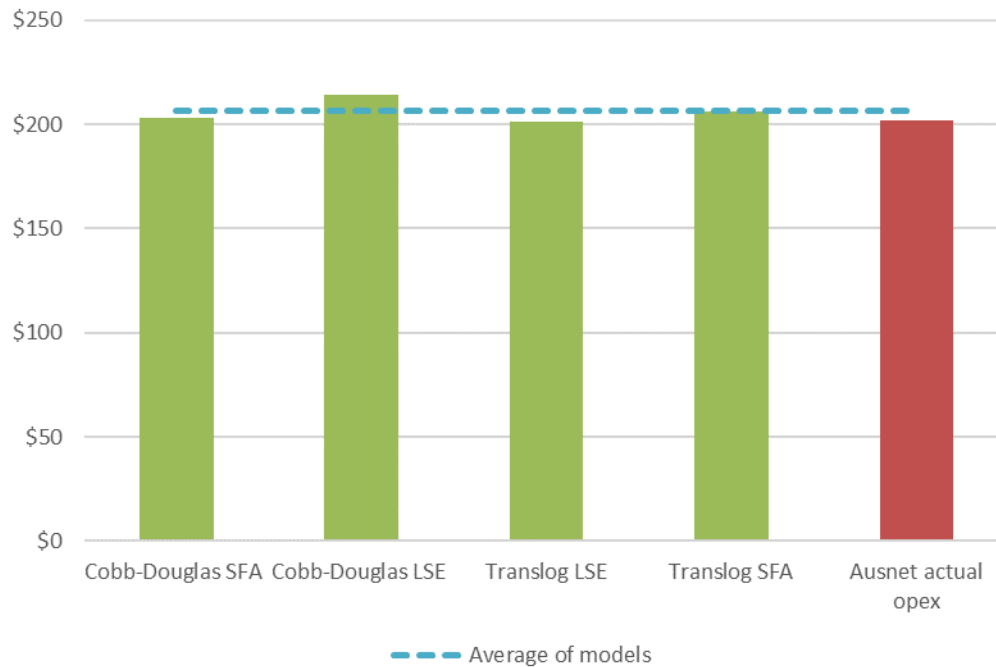
Similarly, in Figure 6.9 our estimates of efficient network services opex (which includes
adjustment for OEFs) in the base year using our econometric models over the 2012–
19 period are shown in green (with an average of $200.4 million ($2020–21)), while
AusNet Services' actual network services opex in the base year of 2018 is again
shown in red ($201.7 million ($2020–21)). Our average estimate (the blue dashed line)
is $1.2 million ($2020–21), or 0.6 per cent below AusNet Services' actual opex.
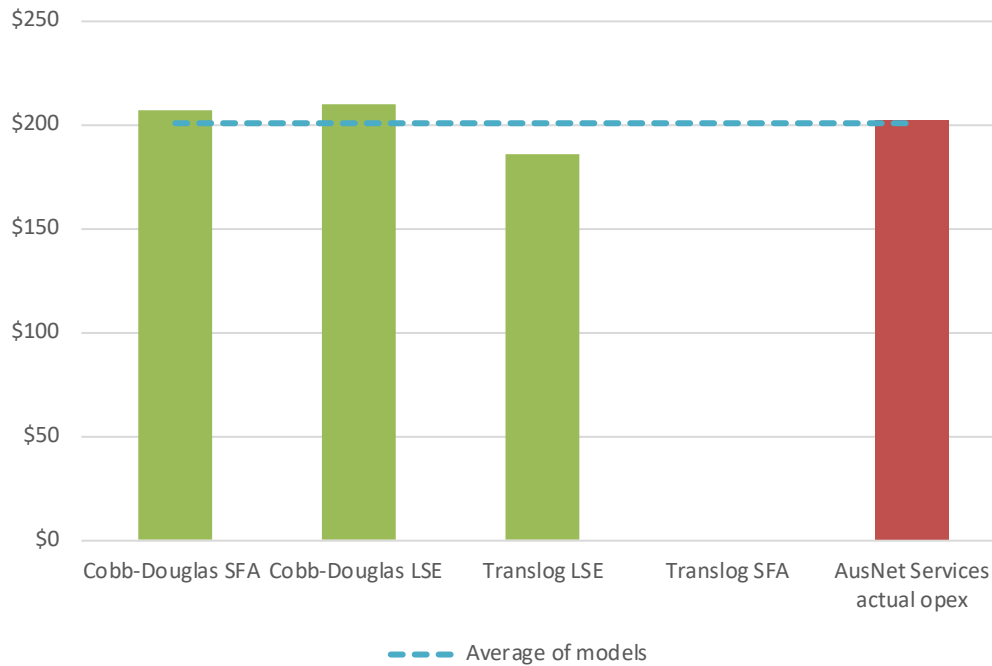
Figure 6.9 Estimates of efficient network services opex using data over the 2012–19 period ($ million, 2020–21)

Source: Economic Insights, *Benchmarking results for the AER – Distribution*, October 2020; AER analysis.

Note: We exclude the efficiency score for the SFA TLG model for AusNet Services as it does not satisfy the monotonicity requirement (as discussed above). See Economic Insights, *Benchmarking results for the AER – Distribution*, October 2020, p. 13.

Across the two periods, the average estimate of efficient network services opex for AusNet Services in its base year is $1.7 million ($2020–21) or 0.8 per cent higher than AusNet Services' actual network services opex. This is an update from the draft decision, where the difference was $8.5 million ($2020–21) and 4.2 per cent. The change from the draft decision is due to a number of factors as mentioned throughout this section (e.g. updating to use results from the *2020 Annual Benchmarking Report*, the use of an OEF for capitalisation). As also discussed above, we have not used the SFA TLG model's estimate of efficient opex for AusNet Services as its results do not satisfy our key property of monotonicity – in the draft decision this model's estimate for efficient opex was similar but slightly below AusNet Services' actual opex.

In light of this evidence, on balance we consider that AusNet Services remains relatively efficient (or within the bounds of not materially inefficient). However, a continuation of a declining trend in relation to AusNet Services' efficiency (including its relative efficiency compared to other businesses that are improving) over the 2021–26 regulatory control period would be of concern when assessing its efficiency in setting base opex for the following regulatory control period.

Operating Environment Factors

Distribution businesses do not all operate under exactly the same operating environments. Our economic benchmarking techniques account for differences in operating environments to a significant degree, including the scope of services provided, the share of undergrounding and network densities. However, our benchmarking models do not directly account for all factors, such as differences in legislative or regulatory obligations, climate and geography.

Given this, we also consider OEFs as a part of our benchmarking analysis. This enables us to assess the efficiency of a distribution business' operations on a like-for-like basis to inform our assessment of whether its base year opex is efficient or materially inefficient. We do this by quantifying the material OEFs to adjust the benchmark comparison point (upwards for negative OEFs, downwards for positive OEFs) to account for the operating environment of the distribution business we are assessing (see Box 1). This adjusted comparison point is then compared to the business' efficiency score (from the benchmarking models), allowing us to account for potential cost differences due to material OEFs between the business and the benchmark comparison businesses. More detail on the mechanics of our approach is contained in past decisions.[57]

Based on a 2018 review carried out by our consultant Sapere-Merz, we have identified a limited number of OEFs that materially affect the relative opex of each business in the NEM. Sapere-Merz consulted with stakeholders, including the electricity network businesses in undertaking this review.[58]

The material OEFs Sapere-Merz identified are:

1. The higher operating costs of maintaining sub-transmission assets.

2. Differences in vegetation management requirements.

3. Jurisdictional taxes and levies.

4. The costs of planning for, and responding to, cyclones.

5. Backyard reticulation (in the ACT only).

6. Termite exposure.

Consistent with the draft decision, we have calculated the adjustments for each of these OEFs for AusNet Services. Since the draft decision, these adjustments have been updated for an additional year of data and the results of the *2020 Annual Benchmarking Report.* The results from the 2020 report impact the composition of the

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[57]   AER*, Preliminary Decision, Ergon Energy determination 2015–20, Attachment 7 – Operating Expenditure,* April 2015, pp. 93–138; AER, *Draft Decision, Ausgrid Distribution determination 2019–24, Attachment 6 - Operating Expenditure,* November 2018, pp. 31–33; AER, *Draft Decision, Endeavour Energy Distribution determination 2019–24, Attachment 6 - Operating Expenditure,* November 2018, pp. 27–29.

[58]   Sapere Research Group and Merz Consulting*, Independent review of Operating Environment Factors used to adjust efficient operating expenditure for economic benchmarking*, August 2018.

comparator businesses[59] (with the addition of TasNetworks) and the efficient base opex for each business against which the cost of the OEF is compared to derive a percentage impact.[60] As discussed further below, we have also now included an OEF adjustment for capitalisation practices.

Table 6.4 shows our calculated OEFs for AusNet Services for the two benchmarking periods that are incorporated into the analysis shown in Figure 6.8 and Figure 6.9.[61]

Table 6.4   OEF adjustments for AusNet Services, per cent

	2006–19 period	2012–19 period
Sub-transmission (Licence conditions)	−0.2	0.1
Vegetation management (bushfire)	4.0	6.2
Taxes and levies	−1.5	−1.4
Termite exposure	0.1	0.1
Capitalisation	−0.8	−1.9
Total	1.6	3.1

Source: AER, *Annual Benchmarking Report, Electricity distribution network service providers*, November 2020; Sapere Research Group and Merz Consulting, *Independent review of Operating Environment Factors used to adjust efficient operating expenditure for economic benchmarking*, August 2018; AER analysis.

These results indicate that AusNet Services incurs net cost disadvantages (1.6 per cent and 3.1 per cent over the two benchmarking periods, respectively) relative to the comparator benchmark businesses. That is, relative to the benchmark comparator businesses AusNet Services incurs more costs given its operating environment. As per our standard approach, we reduce our benchmark comparator point of 0.75 to account for these cost disadvantages. The most material of these adjustments are discussed below.

OEF adjustment for vegetation management

The OEF for vegetation management (bushfire) exists to account for the differences in opex between distribution businesses due to differences in bushfire risk for clearing vegetation, in this case between AusNet Services and the comparator networks.[62]

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[59]   The OEF adjustments are calculated using the customer-number weighted average of the comparator businesses as the reference point.

[60]   The OEF estimates in percentage terms are calculated by dividing the cost of the OEF by historical opex that is efficiency-adjusted using the opex efficiency scores.

[61]   The spreadsheets used to calculate these adjustments are published along with this decision.

[62]   In past decisions, we have also calculated a second vegetation management OEF, termed division of responsibility, in relation to the cost disadvantage in the scale of vegetation management responsibility compared to the benchmark comparator businesses in Victoria and South Australia. This was because in Queensland distribution businesses are responsible for vegetation clearance from all network assets, whereas in Victoria and South Australia, other parties such as councils, landowners and roads authorities are responsible for some

Consistent with the draft decision, we have applied the approach that we recently applied in our Ergon Energy determination, which was a re-application of the approach used in our Queensland 2015 decisions.[63] This approach calculates the vegetation management OEF for the relevant business by quantifying the cost impact of vegetation management regulations introduced in Victoria after the 2009 Black Saturday bushfires. The increased opex expected to be incurred as a result of the new regulations is used as a proxy for the differences in costs of managing bushfire risks in Victoria compared to other states. As a Victorian business, AusNet Services faced these additional vegetation management obligations and costs, and being a more rural business it is relatively more affected by bushfire risk obligations, which is reflected in the positive OEF adjustments shown in Table 6.4.[64]

OEF adjustment for capitalisation

Consistent with our final decision for Jemena,[65] we have included an OEF adjustment to account for AusNet Services' capitalisation practices being materially, although not substantially, different to the comparator businesses. Consistent with past decisions,[66] we have characterised capitalisation as an OEF in that while it is somewhat under managerial discretion, this factor is unrelated to efficiency. In addition, we do not consider that capitalisation practices are sufficiently accounted for elsewhere (i.e. directly in the data adjustments, modelling, or other OEF adjustments). For the purposes of our alternative estimate in this decision, and consistent with the method adopted for the Jemena final decision, we have applied an adjustment to recognise differences in AusNet Services' capitalisation practices compared to the comparator businesses. We used two ratios (opex/totex and opex/total cost) to inform this adjustment but note that the magnitude of our alternative estimate, and our final decision, does not change using an alternative method incorporating a third ratio (opex/total inputs).

We consider this approach fit for purpose in the context of AusNet Services' circumstances and for this final decision. However, we consider that the optimal method of identifying and adjusting for material difference in capitalisation between distribution businesses is an area of ongoing work and is an issue that we intend to explore further in the context of the *2021 Annual Benchmarking Report*.

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vegetation clearance. See AER, *Draft decision, Ergon Energy distribution determination 2020–21 to 2024–25 Attachment 6*, October 2019, pp. 83–85. Given AusNet Services is a Victorian network, its cost advantage/disadvantage for this OEF under our calculation method is zero.

[63] AER, *Preliminary Decision, Ergon Energy determination 2015−16 to 2019−20, Attachment 7 − Operating Expenditure,* April 2015, p. 200; AER, *Final decision, Ergon Energy distribution determination 2020 to 25 Attachment 6, Operating expenditure,* June 2020, pp. 41–44.

[64] More details of how this OEF adjustment are calculated is shown in the calculation spreadsheet, which we have published along with this decision.

[65] AER, *Final Decision, Jemena 2021–26, Attachment 6 Operating expenditure,* April 2021, section 6.4.1.2; Appendix C.

[66] AER, *Final Decision Ausgrid distribution determination 2015–16 to 2018–19, Attachment 7 - Operating expenditure,* April 2015, pp. 180–182, 193–196.

Following past decisions, we have used the term capitalisation practices to encompass two broad types of capitalisation undertaken by distribution businesses:

- capitalisation policy, i.e. a business' reporting/classification of expenditure as opex or capex, (e.g. expensing/capitalising overheads) including under a cost allocation method (CAM)[67]

- opex/capital trade-offs, i.e. a business' utilisation of opex versus capital inputs.

We observe some degree of variation among businesses in their capitalisation practices. The mix of opex and capital to produce outputs will be particular to each business, and there is some flexibility in capitalisation policy.[68] As noted above, benchmarking relies on like-with-like comparability. We recognised at the start of our economic benchmarking programme in 2014, that differences between businesses in terms of capitalisation potentially reduces comparability. For example, without broadly consistent capitalisation practices, a low opex efficiency score could penalise a business with a policy to expense all corporate overheads. We considered that the businesses' CAMs/capitalisation policies applying in 2014 (including Evoenergy's revised CAM) were broadly consistent.[69] We then 'froze' the CAMs as at 2014 for benchmarking purposes to minimise the scope for businesses to game the benchmarking by reallocating costs between opex and capex.[70]

AusNet Services submitted in its initial proposal that the capitalisation approach used for benchmarking will have a significant bearing on businesses' opex efficiency scores.[71] In the draft decision, we noted while capitalisation practices could potentially be impacting on our opex benchmarking scores, we did not consider this factor likely to be having a material impact, either positive or negative, on AusNet Services' opex benchmarking scores. On the indicators we examined, we considered that there was not strong evidence that AusNet Services' benchmarking score was being unduly impacted one way or the other by capitalisation practices. We stated that this issue was an area of ongoing work and sought feedback to inform the final decision.[72]

AusNet Services' revised proposal focused on the issue of different capitalisation practices and their impact on opex benchmarking efficiency scores. While AusNet Services welcomed the AER's measures to investigate differences in cost

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[67] Businesses do not need to specify their capitalisation policies as a part of the CAMs submitted to the AER, although some businesses have included these in their CAMs.

[68] For example, we know that, under their revised CAMs, CitiPower, Powercor and United Energy fully expense their corporate overheads, while other businesses do not. The extent of these differences is limited by some statutory reporting requirements e.g.in relation to expensing or capitalising certain costs.

[69] Economic Insights, *Economic Benchmarking Results for the Australian Energy Regulator's 2019 DNSP Annual Benchmarking Report,* 5 September 2019, pp. 3-4.

[70] Where a business has subsequently changed its CAM, we ask that it continue to provide network services opex annually as if the 2014 CAM still applied.

[71] AusNet Services*, Revised regulatory proposal 2022–26, Part III*, January 2020, p. 140.

[72] AER, *Draft Decision, AusNet Services 2021–26, Attachment 6 Operating expenditure,* September 2020, p. 36.

allocation and capitalisation approaches, it continued to advocate for the AER developing a uniform approach to assessing networks' capitalisation policies.[73]

AusNet Services maintained that benchmarking results change significantly depending on which capitalisation approach is used for benchmarking purposes (2014 CAMs or current CAMs). It presented analysis in its revised proposal which showed that the benchmarking results change significantly depending on which capitalisation approach is used. In particular, when Powercor and CitiPower's opex under its current CAMs is used, Powercor's performance decreased, CitiPower's ranking dropped from second to ninth position, and the overall industry productivity converged.[74]

In terms of other stakeholders, Ausgrid also submitted that the AER's current benchmarking approach does not do enough to adjust for differences in capitalisation policies.[75] It argued that using the 2014 CAMs for benchmarking opex artificially lifts Powercor and CitiPower's efficiency scores, and presented analysis which showed that these businesses' opex MPFP efficiency scores are significantly higher under their 2014 frozen CAMs compared to the current CAMs. Ausgrid considered the continued use of the frozen 2014 CAMs could be misleading and skews the benchmarking results, given that the actual level of opex these businesses spend under their current approved CAMs is much higher. It also submitted that the comparison point for a business' opex/totex ratio should be the frontier business' (Powercor's) opex/totex ratio.

Based on our further review of a range of qualitative and quantitative evidence, we now consider that there is sufficient evidence of capitalisation practices being materially although not substantially different between AusNet Services and the comparator businesses. This is a firmer conclusion than reached in the draft decision (and the *2020 Annual Benchmarking Report*) and reflects our further review of the issue.

Qualitatively, we have observed in the context of the AER's role in approving businesses' CAMs that there is variation in the manner in which businesses allocate and capitalise shared costs. For example, some distribution businesses (e.g. CitiPower, Powercor, Ergon Energy, and Jemena for the 2021–26 regulatory control period) have changed their capitalisation policy to expense more corporate (or all) overheads through a change in their CAM.

Quantitatively, for the purpose of this final decision we now consider that there is a material, although not substantial difference between AusNet Services' and the comparator businesses' capitalisation practices, and that that these differences have a material impact on its opex benchmarking scores. We have formed this view with particular regard to:

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73 AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, pp. 96–97.

74 AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, pp. 96–97.

75 Ausgrid, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, pp. 4–8.

- The sensitivity of reported opex and associated opex benchmarking scores under alternative capitalisation policies

- AusNet Services' opex/capital ratios relative to the comparators, and a further assessment of the advantages and disadvantages of the three types of ratio we have identified.

In relation to the first factor, results of our modelling indicate that reported opex and the opex benchmarking scores are sensitive to the capitalisation policy in place. To explore this question, we recast the historical opex series on the basis of the current CAMs that businesses have in place (backcast to 2006) and ran our econometric cost models using this series (instead of the frozen 2014 CAM opex series). Given the current CAMs incorporate a change in capitalisation policy for three businesses (Powercor, CitiPower, and Ergon Energy), this analysis provides an insight into the impact of varying capitalisation practices on opex and opex benchmarking scores. While we do not consider we can rely on the current CAM efficiency scores to replace the 2014 CAM scores, or for deriving an OEF adjustment (as explained in our final decision for Jemena[76]), the change in the benchmarking efficiency scores indicates their sensitivity to capitalisation change and/or differences.

As an example to indicate this sensitivity, while AusNet Services' opex is the same under the 2014 and current CAMs (as it has not changed its CAM), AusNet Services' opex econometric efficiency scores under the current CAMs are 17 per cent higher than under the 2014 CAMs. This change in AusNet Services' score reflects the increase in the opex of the benchmark comparators (CitiPower and Powercor) under their revised CAMs.

In relation to the second factor, we continue to consider that opex/capital ratios are able to capture net capitalisation practices, irrespective of specific sources e.g. capitalisation/expensing of overheads, preferences for opex over capex. All else equal, a higher (lower) opex/capital ratio indicates a relatively greater (lesser) use of opex relative to capital inputs. As set out in the draft decision, we consider there are three types of opex/capital ratios that are informative indicators of businesses' capitalisation practices, with all measured as average ratios over the full (2006–19) and short (2012–19) benchmarking periods.[77]

- Opex/totex

- Opex/total cost where total costs is opex + capital costs (the latter measured by the annual user cost of capital (AUC))

- Opex/total inputs.

Since the draft decision, we have further examined the merits of the three ratios, and consider that they provide evidence that AusNet Services' capitalisation practices are

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[76] See AER, *Final Decision, Jemena 2021–26, Attachment 6 Operating expenditure*, April 2021, section 6.4.1.2 and Appendix C.

[77] AER, *Draft Decision, AusNet Services 2021–26, Attachment 6 Operating expenditure,* September 2020, p. 36–40.

materially, although not substantially, different to the comparator businesses. In particular, we consider that, on balance, AusNet Services reports/utilises somewhat less opex than capital in delivering outputs compared to the comparator businesses. This is indicated by AusNet Services' opex/capital ratios being, approximately 1-2 per cent below the comparator-average ratios depending on the method used to weight these ratios (as outlined below).

We continue to consider that each ratio has strengths and limitations, and so we have had regard to all three ratios as indicators of variations in capitalisation practices. Our views around each of these ratios, and their strengths and weaknesses, is set out in Appendix A.

In terms of calculating the OEF adjustment, for the purposes of this final decision we have derived this based on the percentage divergence of AusNet Services' opex/totex and opex/total cost ratios relative to the respective comparator-average ratios. Specifically, we have calculated the OEF adjustment for the two benchmarking periods (2006–19 and 2012–19) by taking the midpoint of the percentage differences between AusNet Services' opex/totex and opex/total cost ratios and the respective customer-weighted comparator-average ratios (all measured as average ratios over the two benchmarking periods). This calculation method is consistent with our standard OEF adjustment calculation method of calculating the percentage impact of the OEF on a business' opex relative to the comparator-average impact. This approach incorporates two different measures of opex/capital mix, recognising that each has advantages and disadvantages, as discussed in Appendix A.

For this final decision, we also examined a range of alternative methods of calculating the OEF adjustment for capitalisation for this decision, including those put forward by Jemena, as discussed in Appendix D of Jemena's final decision. We consider that a feasible alternative method would incorporate the opex/total inputs ratio, which was the third ratio that we put forward in the draft decision.[78] Specifically, we considered an OEF adjustment method based on the weighted average of the opex/totex (0.5 weight), opex/total cost (0.25) and opex/total inputs (0.25) ratios. We adopted this particular weighting to reflect that the opex/total cost and opex/total inputs ratios both incorporate a measure of the capital stock, set against the opex/totex ratio which is expenditure-based. We note that we have some concerns with using an index-based ratio in this manner, for technical reasons explained in Appendix A. We will further review the use of the opex/total input ratio within our broader review of capitalisation in the *2021 Annual Benchmarking Report*. We note that the broad magnitude of our alternative estimate, and our final overall decision to accept AusNet Services' opex proposal, does not change under this alternative method.

In relation to AusNet Services and stakeholder views, we share AusNet Services' and other stakeholders' view that opex efficiency scores are sensitive to the CAM and associated capitalisation policy. This is to be expected, given the large impact of

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[78]   AER, *Draft Decision, Jemena 2021–26, Attachment 6 Operating expenditure*, September 2020, p. 93.

CitiPower/Powercor's capitalisation policy change on their level of opex and the significance of opex as a variable in opex benchmarking. However, we consider a fresh analysis of the difference between a given business and the comparator businesses under any alternative set of CAMs is still required. This is because whether and to what extent the business' capitalisation practices differ from the comparator businesses under a given CAM still needs to be taken into account. A further concern we have with relying on the current CAMs for deriving an OEF adjustment is that the current CAMs may reflect some degree of endogenous response to our benchmarking, rather than reflecting only updates to costing approaches or corporate structures.

We do not agree with Ausgrid's submission on the comparator point.[79] We use 0.75 rather than 1.0 (or the frontier business) as the comparator point for comparing capitalisation practices. This is to be consistent with our standard approach to OEF adjustment calculation.

Taxes and levies

In its initial proposal, AusNet Services submitted that its OEF relating to tax and levies needed to be re-estimated, on the basis that there has been a recent change to the classification of its opex for benchmarking to include tax and levies.[80] In the draft decision, we noted we would welcome further details and any updated data from AusNet Services.

AusNet Services did not provide this additional information in its revised proposal. We understand that this change refers to a change in classification (i.e. the inclusion of AusNet Services' taxes and levies into network services opex from 2016), rather than a change in underlying taxes and levies payments. For consistency with how we have calculated the other OEF adjustments for other businesses, we have therefore relied on the information collected from AusNet Services and other businesses through the 2018 OEF review and reflected in the OEF estimates above. However, we note that using the tax and levies OEF adjustment in Table 6.4 that is based on the information available to us, our finding is that AusNet Services' base year opex is relatively efficient. We do not consider this conclusion would change based on an updated tax and levies OEF adjustment if we considered there was a case for this and the data was available.

6.4.1.3 Final year increment

Our standard practice to calculate final year opex is to add the difference between the opex forecast for the final year of the preceding regulatory control period and the opex forecast for the base year to the amount of actual opex in the base year.[81] As a result of the six month extension to the current regulatory control period, we have updated

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[79] Ausgrid, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 7.

[80] AusNet Services*, Revised regulatory proposal 2022–26, Part III,* January 2020, pp. 138–140.

[81] AER, *Expenditure forecast assessment guidelines for electricity distribution,* November 2013. pp. 22–23.

our final year increment calculation by replacing the opex forecast for the final year of the preceding regulatory control period with the annualised half year 2021 forecast.

By forecasting opex in this way, the opex forecast assumes AusNet Services makes no efficiency gains between the base year and the final year. This allows AusNet Services to retain the efficiency gains it makes in the final year through the opex forecast.[82] This is consistent with the decision to apply the EBSS during the 2016–20 regulatory control period.[83]

6.4.1.4 Base adjustments

ESV levy

Our final decision is to remove ESV levies from base opex in our alternative estimate. This is because they will be recovered via the price control mechanism over the 2021–26 regulatory control period following our decision on 19 March 2021 to approve the ESV levy as a jurisdictional scheme.[84] This is consistent with AusNet Services' revised opex proposal, which removed ESV levy costs from base opex, although it proposed that they be recovered via an annual B factor adjustment in the price control formula.[85]

Table 6.5   ESV levy ($ million, 2020–21)

	2021–22	2022–23	2023–24	2024–25	2025–26	Total
AusNet Services' revised proposal	–2.2	–2.2	–2.2	–2.2	–2.2	–11.2
AER final decision	–2.2	–2.2	–2.2	–2.2	–2.2	–11.2
Difference	–	–	–	–	–	–

Source: AusNet Services, information request #089, March 2021.

Note: Numbers may not add due to rounding. Differences of '0.0' and '–0.0' represent small variances and '–' represents no variance.

AusNet Services' initial proposal also removed ESV levies from base opex and sought to recover these costs through an annual L factor adjustment in the price control mechanism over the 2021–26 regulatory control. Our draft decision did not include this base adjustment in our alternative estimate for the following reasons:[86]

- base opex reflects the cost of meeting existing regulatory obligations, including the obligation to pay the ESV levy

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[82]   AER, *Expenditure forecast assessment guidelines for electricity distribution*, November 2013, pp. 22–23.

[83]   AER, *AusNet Services distribution determination 2016 to 2020, Final decision, Attachment 9, Efficiency Benefit Sharing Scheme*, May 2016, pp. 6–7.

[84]   AER*, Determination on CPU jurisdictional scheme request*, March 2021*.

[85]   AusNet Services, *Revised regulatory proposal 2021–26*, December 2020, p. 77.

[86]   AER*, Draft Decision, AusNet Services 2021–26, Attachment 6 Operating expenditure,* September 2020, pp. 41–42.

- changes in specific costs should be managed within:

  o the existing base opex as the cost of other projects or programs decline. A rise in a single cost category is not sufficient to justify a step change, and/or

  o the rate of change forecast which escalates base opex to capture real increases in input prices and output growth (net of productivity growth).

In its revised proposal, AusNet Services maintained its position to recover the ESV levies through the price control.[87]

The VCO's submission was supportive of our draft decision and considered the ESV levy increases should be absorbed by the distribution businesses.[88] However, ECA's consultant, Spencer&Co supported moving the ESV levy into the price control mechanism, on the basis that these fees are outside the control of the business.[89]

On 25 February 2021, CitiPower, Powercor and United Energy submitted an application to request that the AER determine the ESV levy is a jurisdictional scheme.[90] We considered that the ESV levy meets the jurisdictional scheme criteria, and we determined that ESV levy is a jurisdictional scheme.[91] Further details are in our decision.[92] In this distribution determination, we have also made a decision on how AusNet Services, and the other Victorian businesses, are to report to the AER on its recovery of the jurisdictional scheme amounts for the scheme and on the adjustments to be made to pricing proposals to account for over and under recovery.[93] As a result, the ESV levy becomes an approved jurisdictional scheme for AusNet Services. The scheme amounts are recovered via the price control mechanism and therefore we have removed such costs from total opex in our alternative estimate.

We note that while the ESV levy meets the jurisdictional scheme criteria, and have not included these costs in our alternative estimate, we consider from a policy perspective there is a strong case for such costs to remain in base opex. The reasons for this are:

- While they are costs which may be outside the control of the distribution businesses, neither opex nor the EBSS within our framework distinguishes between controllable and uncontrollable costs. As stated in our explanatory statement for the EBSS[94] to do so would weaken the incentive framework and there is no compelling reason to share the cost of uncontrollable events between

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87 AusNet Services, *Revised regulatory proposal 2021–26*, December 2020, p. 77.

88 Headberry Partners report to VCO, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021– 26 Submission to Initial Proposals*, January 2021, p. 55.

89 Spencer&Co report to ECA, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 18.

90 CitiPower. Powercor and United Energy, *Jurisdictional scheme determination request,* February 2021.

91 NER, cll. 6.18.7A(n) and 6.18.7A(x).

92 AER*, Determination on CPU jurisdictional scheme request*, March 2021.

93 NER, cl, 6.12.1(20) and AER, *Final decision, AusNet Services distribution determination 2021–26 – Overview, April* 2021, Appendix A; AER, *Final decision, AusNet Services distribution determination 2021–26, Attachment 14 Control mechanisms,* April 2021, Appendix D.

94 AER, *Explanatory statement – efficiency benefit sharing scheme,* November 2013*,* pp. 19–21.

consumers and the businesses differently to all other costs they face. Uncontrollable costs present both upside and downside risks for businesses, with any material risks able to be managed via pass-through events and contingent projects. So while levies and licence fee costs may be largely out of the control of businesses, we consider this should not preclude them from being included in our total opex forecast and subject to the EBSS.

- While we recognise that licence fee and levy costs may experience changes, our top down approach seeks to set a total opex forecast. As explained in our assessment approach in the draft decision[95] 'even if disaggregated opex categories have high volatility, the total opex varies to a lesser extent because new or increasing components of opex are generally offset by decreasing costs or discontinued opex projects. Further, we expect the regulated business to manage the inevitable 'ups and downs' in the components of opex from year to year—to the extent they do not offset each other—by continually re-prioritising its work program, as would be expected in a workably competitive market. Our incentive-based, revealed cost, framework incentivises them to do so.'

- Increasing the number of items included in the price control mechanism makes it difficult for consumers to know how much tariffs will change year to year if they are subject to numerous adjustments.

AusNet Services' revised proposal also sought to recover changes in expected AEMO fees through the price control mechanism for similar reasons it outlined in its revised proposal for ESV levies.[96]

On 26 March 2021, AEMO published its final report on Electricity Fee Structure which determined that distributors will not be charged participant fees for the next fee period.[97] As a result of AEMO's final report there is no need to include these fees in opex or the price control formula.

Metering systems reallocation

Our final decision is to include a base adjustment to reallocate $8.1 million ($2020–21) of IT opex for metering services to standard control services (from alternative control services) in our alternative estimate.[98] This is consistent with our draft decision.

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[95] AER, *Draft Decision, AusNet Services 2021–26, Attachment 6 Operating expenditure*, September 2020, p. 16.
[96] AusNet Services, *Revised Regulatory Proposal 2021–26,* December 2020, p. 78.
[97] AEMO, *Final Report and Determination, Electricity Fee Structures,* March 2021, pp. 5, 26.
[98] Standard control services are those relating to the distribution system where as alternative control services are specific services that are only requested by certain customers, such as metering.

Table 6.6 Metering reallocation ($ million, 2020–21)

	2021–22	2022–23	2023–24	2024–25	2025–26	Total
AusNet Services' revised proposal	2.5	2.5	2.5	2.5	2.5	12.3
AER final decision	1.6	1.6	1.6	1.6	1.6	8.1
Difference	–0.8	–0.8	–0.8	–0.8	–0.8	–4.2

Source: AusNet Services, *Revised Regulatory proposa. 2021–26 – Opex model, December 2020*; AER analysis.
Note: Numbers may not add up to total due to rounding.

In our draft decision, we included a base adjustment to reallocate $7.8 million ($2020–21) of IT opex for metering services to standard control services in our alternative estimate. This was a downward adjustment from AusNet Services' proposed $29.4 million ($2021–21) reallocation.[99] We applied the following reallocations:[100]

- We substituted our 6 per cent standard control service / 94 per cent alternative control service cost allocation approach for the 50 per cent standard control service / 50 per cent alternative control service allocation proposed by AusNet Services. Our allocation was based on:

  o power quality data where we considered it could be used as a reasonable cost allocator. This allocation was based on a review by our Technical Advisory Group which considered it reasonable to obtain power quality data from 1 per cent of meters relative to AusNet Services' assumption of collecting power quality data from 85 per cent of meters.

  o an equal cost allocation split across standard control services and alternative control services where we considered there was insufficient information to establish a causal method of allocation using the power quality data provided.

In its revised proposal, AusNet Services submitted the following reallocations for these components (which are different to our draft decision reallocation of 6 per cent standard control services / 94 per cent alternative control services):[101]

- 20 per cent standard control service / 80 per cent alternative control services for Mesh UIQ and SIQ licensing. AusNet Services based the causal allocation on the annual license fees it pays for the UIQ and SIQ applications. The license fees are based on the quantity of meters that data is collected from. For the SIQ license, this is based on collecting power quality data from 100 per cent of meters.[102]

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[99]   AER, *Draft decision, AusNet Services determination 2021–26, Attachment 6 Operating expenditure,* September 2020 p. 42.

[100]   AER, *Draft decision, AusNet Services determination 2021–26, Attachment 6 Operating expenditure,* September 2020 pp.43–44.

[101]   AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, p. 179.

[102]   AusNet Services, *Information request 090,* January 28.

- 36 per cent standard control services / 64 per cent alternative control services for the Telstra Mesh 'Backhaul'. To derive this proposed reallocation, AusNet Services continued to assume a volume of power quality which is equivalent to collecting data from 85 per cent of meters. To adjust for the smaller packet size of power quality data collected, AusNet Services applied a 10 per cent estimate to the volume of power quality to justify its proposed reallocation.[103]

ECA had no objection to the reallocation of metering costs to standard control services as it considered it makes little difference to customers where there is no metering competition.[104]

Consistent with our draft decision, for the Mesh UIQ/ SIQ licensing component, we have retained a 6 per cent standard control / 94 per cent alternative control service cost allocation. AusNet Services submitted that it collects 'PQ data from 100% of [our] meters through SIQ and our license is based on 100% of our meters collecting PQ data.'[105] We do not consider the costs of collecting power quality data from 100 per cent of meters outweighs the benefits passed on to consumers from this practice. Consistent with our draft decision, we consider it is more reasonable to obtain power quality data from 1 per cent of meters. This is discussed in more detail in Attachment 16 – Alternative control services.

Also consistent with our draft decision, our final decision is to apply a 6 per cent standard control services / 94 per cent alternative control service cost allocation for the Telstra Mesh 'Backhaul' component in determining our alternative estimate. We do not consider AusNet Services' proposed reallocation of 36 per cent / 64 per cent is efficient on the basis that AusNet Services has not provided justification for the volume of power quality data it proposes to collect from meters. While AusNet Services proposed to adjust its volume power quality data to account for the smaller packet size, the volume proposed is still significantly larger than we consider is reasonable.

We have continued to treat this as a base adjustment, consistent with our draft decision and have updated the costs to account for updated inflation forecasts for the final decision.

Lease capitalisation

Consistent with our draft decision,[106] our final decision is to include a base adjustment of –$21.8 million ($2020–21) as a non-recurrent efficiency adjustment in our alternative estimate to reflect new reporting obligations associated with leases under revised Australian Accounting standard AASB 16.

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[103] AusNet Services, *Information request 066 – Q2*, January 28, p. 2.

[104] Spencer&Co, Energy Consumers Australia, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26 Submission to Initial Proposals,* January 2021, p 18.

[105] AusNet Services, *Information request 090,* February 23.

[106] AER, *Draft decision*, *AusNet Services determination 2021–26, Attachment 6 Operating expenditure,* September 2020*,* pp. 40–41.

Table 6.6   Lease capitalisation ($ million, 2020–21)

	2021–22	2022–23	2023–24	2024–25	2025–26	Total
AusNet Services' revised proposal	–4.4	–4.4	–4.4	–4.4	–4.4	–21.8
AER final decision	–4.4	–4.4	–4.4	–4.4	–4.4	–21.8
Difference	–	–	–	–	–	–

Source: AusNet Services, information request #089, March 2021; 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.

In our draft decision, we accepted that regulatory accounts should be prepared in accordance with the applicable accounting standards, noting that from 1 April 2019 AusNet Services proposed to treat all existing property leases as capex consistent with AASB 16. Our reasoning for treating the new reporting obligations as a non-recurrent efficiency adjustment is outlined in AusNet Services' EBSS draft decision.[107] We also noted that this treatment was consistent with AusNet Services CAM and had a neutral impact on consumers as AusNet Services will only be recovering the net present value of the opex lease payments via our capex forecast.[108]

AusNet Services' revised proposal accepted our draft decision.[109] Therefore, we have included this base adjustment in our alternative estimate for the final decision.

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.[110]

In its revised proposal AusNet Services applied our standard approach to forecasting the rate of change. Specifically it:

- **Output growth:** adopted the output weights, measures and values we used in our draft decision.[111]

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[107] AER, *Draft decision, AusNet Services distribution determination 2021–26 - Attachment 8 - Efficiency benefit sharing scheme,* September 2020, pp. 11–12.

[108] AER, *Draft decision, AusNet Services determination 2021–26, Attachment 6 Operating expenditure,* September 2020, p. 41.

[109] AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, p. 74.

[110] AER, *Expenditure forecast assessment guideline for electricity distribution*, November 2013, pp. 23–24.

[111] AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, p. 81, AusNet Services, *information request #089,* March 2021.

- **Price growth:** adopted our input price weightings of 59.2 per cent labour and 40.8 per cent non-labour and an average of Wage Price Index (WPI) price growth forecasts from Deloitte and BIS Oxford Economics for labour price growth.[112]

- **Productivity growth:** adopted our productivity growth forecast of 0.5 per cent per year.[113]

The rate of change proposed by AusNet Services contributes $25.7 million ($2020–21), or 2.1 per cent, to AusNet Services' updated revised proposal total opex forecast of $1238.7 million ($2020–21). This equates to opex increasing on average by around 0.9 per cent each year in the next regulatory period.[114]

We have also included a rate of change that on average is around 0.9 per cent each year in the next regulatory period in our alternative estimate. We have set out in Table 6.8 AusNet Services' updated revised proposal and our alternative estimate for each component of the rate of change. We set out the reasons for our forecast below.

We received one submission from the VCO, relating to the rate of change. It generally supported our approach to forecast the rate of change in our draft decision, specifically how we accounted for the impact of COVID 19. The VCO stated that we should apply the same approach across all the Victorian businesses.[115] We have considered this submission in making our final decision.

Table 6.7 Forecast rate of change, per cent

	2021–22*	2022–23	2023–24	2024–25	2025–26
AusNet Services' proposal					
Price growth	0.5	0.3	0.4	0.6	0.8
Output growth	0.5	0.8	1.0	1.0	1.0
Productivity growth	0.4	0.5	0.5	0.5	0.5
Overall rate of change	**0.6**	**0.6**	**0.9**	**1.1**	**1.3**
AER final decision					
Price growth	0.5	0.4	0.4	0.4	0.6
Output growth	0.5	0.8	1.1	1.0	1.0
Productivity growth	0.4	0.5	0.5	0.5	0.5

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112 AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, p. 81; AusNet Services, *information request #089,* March 2021.

113 AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, p. 82; AusNet Services, *information request #089,* March 2021.

114 AusNet Services, *information request #089,* March 2021.

115 Headberry Partners report to VCO, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26 Submission to Initial Proposals*, January 2021, p. 18, 52.

	2021–22*	2022–23	2023–24	2024–25	2025–26
Overall rate of change	0.6	0.7	0.9	1.0	1.1
Overall difference	0.0	0.1	0.0	−0.1	−0.2

*   The rate of change for 2021–22 reflects nine months' worth of growth in price, output and productivity to account for the extension of the current regulatory control period by six months to transition the timing of the regulatory control period for Victorian electricity distribution networks from a calendar year basis to a financial year basis. We discussed the reasons for this in our draft decision which are summarised below.

Source: AusNet Services, *information request #089,* March 2021.; AER analysis.

Note: Numbers may not add up to totals due to rounding.

6.4.2.1 Forecast price growth

We have included forecast average annual real price growth of 0.4 per cent in our alternative opex estimate.[116] This compares to AusNet Services' proposed average annual price growth of 0.5 per cent.[117] This increases our alternative estimate of total opex by $14.1 million ($2020–21), instead of $14.2 million ($2020–21) as proposed by AusNet Services.

Our real price growth forecast is a weighted average of forecast labour price growth and non-labour price growth:

- To forecast labour price growth we have used the forecast of growth in the WPI for the Victorian electricity, gas, water and waste services (utilities) industry. Specifically, we have used an average of forecasts from Deloitte and the BIS Oxford forecasts submitted by AusNet Services. In our draft decision we did not use the BIS Oxford forecasts submitted by AusNet Services with its initial proposal because we considered they did not account for the COVID–19 pandemic impact or the legislated changes to the superannuation guarantee.[118] The revised BIS Oxford forecasts submitted by AusNet Services now account for both of these issues.[119]

- Both we and AusNet Services applied a forecast non-labour real price growth rate of zero.[120] This is consistent with our draft decision and AusNet Services' initial proposal.

- We applied benchmark input price weights of 59.2 per cent and 40.8 per cent for labour and non-labour, respectively. These are the weights we use for our

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[116]   Due to rounding this is lower than the average in Table 6.8.

[117]   AusNet Services, *information request #089,* March 2021.

[118]   AER, *Draft decision AusNet Services distribution determination 2021–26, Attachment 6, Operating expenditure,* September 2020, pp. 46–47.

[119]   AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, pp. 71, 81.

[120]   AusNet Services, *information request #089,* March 2021..

econometric modelling in our annual benchmarking report.[121] This is also consistent with our draft decision and AusNet Services' revised proposals.[122]

Consequently, we and AusNet Services have applied the same approach to forecast price growth. The only differences between our real price growth forecasts and AusNet Services' is that we have:

- used more recent forecasts of WPI growth from Deloitte[123]

- adjusted BIS Oxford Economics' WPI growth forecast for 2021–22 to reflect the growth between the average WPI value for the first six months of calendar year 2021 and the average value for the 2021–22 financial year. This is to account for the shift from calendar years to financial years and is the same approach we adopted for the draft decision.[124]

6.4.2.2 Forecast output growth

We have included forecast average annual output growth of 0.9 per cent in our alternative opex forecast. This increases our alternative estimate of total opex by $27.0 million ($2020–21) instead of $26.4 million ($2020–21) as proposed by AusNet Services. The difference between us and AusNet Services is due to updates to output weights, which are discussed below.

In its revised proposal AusNet Services included an average annual output growth forecast of 0.9 per cent based on our standard approach to forecast output growth, and consistent with its initial proposal.[125]

In our draft decision we stated that we would update the output weights to reflect the results from all five of our economic benchmarking models in the *2020 Annual Benchmarking Report*, which we published in November 2020.[126]

For this final decision, we have used the updated weights derived from the *2020 Annual Benchmarking Report* to forecast our alternative estimate of forecast opex for this final decision. As set out below, in addition to updating these weights to reflect the results in the most recent benchmarking report, we have also considered the appropriate weights to use in response to feedback received as a part of the Victorian resets. In summary, we have forecast output growth by:

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[121] Economic Insights, *Memorandum prepared for the AER on review of reports submitted by CitiPower, Powercor and United Energy on opex input price and output weights*, 18 May 2020, p. 8.

[122] AER, *Draft decision AusNet Services distribution determination 2021–26, Attachment 6, Operating expenditure*, September 2020, pp. 46–47; AusNet Services, *information request #089,* March 2021.

[123] Deloitte Access Economics, *Wage Price Index forecasts - Prepared for the Australian Energy Regulator,* Table vii, p. xiii, 1 April 2021. We have added increases to the superannuation guarantee of 0.5 per cent to Deloitte's forecast.

[124] AER, *Draft decision AusNet Services distribution determination 2021–26, Attachment 6, Operating expenditure,* September 2020, p. 53.

[125] AusNet Services, *information request #089,* March 2021.

[126] AER, *Draft decision AusNet Services distribution determination 2021–26, Attachment 6, Operating expenditure,* September 2020, p. 50.

- Calculating the growth rates for three outputs (customer numbers, circuit line length and ratcheted maximum demand). This is a change from our draft decision where we also used energy throughput. AusNet Services applied the output measures we used for our draft decision, including energy throughput.[127]

- Calculating four weighted average overall output growth rates for these three outputs using the output weights from four of the five models presented in our *2020 Annual Benchmarking Report* (see Table 6.9). For the reasons set out below, we did not use the opex MPFP model for this final decision. In contrast AusNet Services' updated revised proposal relied on all the five benchmarking models.

- For our Translog models, calculating the elasticities at the full sample mean. For our draft decisions we calculated the elasticities at the Australian sample mean, which is the approach AusNet Services also adopted in its revised proposal. We discuss the reasons for this change in approach below.

- Averaging the four model specific weighted overall output growth rates.

The output weights that we have used in our alternative estimate for the final decision are set out in Table 6.9.

Table 6.8   AER output weights, per cent

	Cobb-Douglas SFA	Cobb-Douglas LSE	Translog LSE	Translog SFA	Average	Draft decision average
Customer numbers	50.9	63.3	49.5	59.3	55.7	52.5
Circuit length	14.9	16.4	16.6	14.2	15.5	20.7
Ratcheted maximum demand	34.2	20.3	33.9	26.5	28.7	25.1
Energy throughput	–	–	–	–	–	1.7

Source: Economic Insights, *Memorandum prepared for the AER on review of reports submitted by CitiPower, Powercor and United Energy on opex input price and output weights*, 18 May 2020, p. 21; AER, *Draft decision AusNet Services distribution determination 2021–26*, Attachment 6, Operating expenditure, September 2020, pp. 49–50.

Note   Numbers may not add up to 100 per cent due to rounding. Energy throughput is only used in the opex MFPF model.

The difference between our output growth forecasts and AusNet Services' updated revised proposal is due to us:

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[127]   AER, *Draft decision AusNet Services distribution determination 2021–26, Attachment 6, Operating expenditure*, September 2020, p. 49; AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, p. 81.

- Updating output weights to reflect our 2020 annual benchmarking results as stated in the draft decision.[128]

- Not using the opex MPFP output weights and consequently not including energy throughput in forecasting our output growth (see below).

- Using output weights from the Translog opex cost function with data normalised by the full sample means (see below).

AusNet Services accepted our draft decision on the forecast growth of the individual output measures and we have maintained these in developing our alternative estimate.[129]

Exclusion of opex MPFP weights from our alternative output growth forecast

Our standard approach to forecast output growth has been to calculate the average output growth across all of the benchmarking models we have published in our most recent annual benchmarking report for the full benchmarking period. For our draft decision this was four econometric methods (two Cobb-Douglas (CD SFA and CD LSE) and two Translog (TLG SFA and TLG LSE)) and one using the opex partial productivity index number method (opex MPFP).[130] In its revised proposal as a part of the Victorian distribution resets Jemena and its consultant, CEPA, submitted that it was inappropriate to use the opex MPFP output weights for the purpose of trending opex forward because they reflect drivers of total cost, not the relationship between output and opex.[131] CitiPower, Powercor and United Energy also raised concerns with using the opex MPFP weights, although they did use them in their revised proposals.[132]

We agree that we should not include the opex MPFP weights in determining our forecast of output growth because they reflect drivers of, and relationship with total cost, not necessarily opex. This is consistent with Economic Insights' view.[133] Consequently, we have not used the output weights from this model or energy throughput as an output measure in this final decision (as the opex MPFP benchmarking is the only model that includes this output).

[128] AER, *Draft decision AusNet Services distribution determination 2021–26, Attachment 6, Operating expenditure,* September 2020, p. 50.

[129] AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, p. 81.

[130] AER, *Draft decision AusNet Services distribution determination 2021–26, Attachment 6, Operating expenditure,* September 2020, p. 49–50.

[131] CEPA, *AERs opex benchmarking a review of the impact of capitalisation and model reliability - 20201203 - Public,* December 2020, p. 27; Jemena*, Revised Regulatory Proposal – 2021–26 - Att 05-01 Operating Expenditure ,* December 2020, p. 26.

[132] CitiPower, *Revised regulatory proposal 2021–26*, December 2020, p. 122.

[133] Economic Insights, *Economic Benchmarking Results for the Australian Energy Regulator's 2020 DNSP Annual Benchmarking Report,* October 2020, p. 5.

Translog cost function weights

For this final decision, we have calculated the Translog elasticities at the full sample mean. In our draft decision, we used the output weights from the Translog opex cost function models with data normalised by the Australian sample mean. We adopted this approach in response to concerns raised by Frontier Economics in a report submitted with CitiPower's, Powercor's and United Energy's initial regulatory proposals.[134] This considered the elasticities should be evaluated at output levels that reflect the operating characteristics of Australian distributors.

Our consultant, Economic Insights agreed there was some merit in normalising output variables in the opex cost function database by the respective means of the Australian sample, rather than the means of the full sample as suggested by Frontier Economics.[135] However, in its 2020 Benchmarking Report, Economic Insights advised against making this change until there has been sufficient opportunity to review the performance of the Translog models. The inclusion of additional data from 2019 raised a number of monotonicity violation concerns with the Australian distributors.[136] We agree with this advice and we will continue to monitor the performance of our Translog cost function as part our ongoing benchmarking development.[137]

Jemena submitted in its revised proposal that we should adopt the output weights based on the full sample mean if we were to continue relying on the Translog models.[138] This is what we have done for this final decision.

6.4.2.3 Productivity growth

Consistent with our draft decision, we have forecast annual productivity growth of 0.5 per cent.[139] This reduces our alternative estimate of total opex by $15.0 million ($2020–21). AusNet Services also adopted a productivity growth forecast of 0.5 per cent per year in its revised proposal, consistent with our draft decision, which reduced its total opex forecast by $14.8 million ($2019–20).[140]

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[134] Frontier Economics, *Review of econometric models used by the AER to estimate output growth - a report prepared for Citipower, Powercor and United Energy*, 5 December 2019, pp. 16–18.

[135] Economic Insights*, Memorandum prepared for the AER on review of reports submitted by CitiPower, Powercor and United Energy on opex input price and output weights*, 18 May 2020, p. 20.

[136] Economic Insights, *Economic Benchmarking Results for the Australian Energy Regulator's 2020 DNSP Annual Benchmarking Report*, October 2020, p. 13.

[137] For more detail about issues on the performance of the Translog cost function benchmarking models (in relation to monotonicity), see: Economic Insights, *Economic Benchmarking Results for the Australian Energy Regulator's 2020 DNSP Annual Benchmarking Report,* October 2020, p. 34.

[138] Jemena, *Revised Regulatory Proposal – 2021–26 - Att 05-01 Operating Expenditure,* December 2020, p. 27.

[139] AER, *Draft decision, AusNet Services distribution determination 2021–26, Attachment 6, Operating expenditure*, September 2020, p. 53.

[140] AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, p. 82.

6.4.3　Step changes

In its revised proposal, AusNet Services:

- re-proposed three of the same step changes as in its initial proposal

- did not re-propose the opex step change for cyber security (noting that it would allocate all of the incremental cyber security costs to reach the required transmission standards to its transmission business)

- proposed two new step changes.[141]

Table 6.10 summarises the step changes AusNet Services included in its initial, revised and updated revised proposals as well as what we included in our alternative estimates for the draft and final decisions. In its updated revised proposal, AusNet Services' step changes totalled $55.2 million ($2020–21) as compared to the $20.6 million ($2020–21) included in its revised proposal. This update included a step change for insurance premiums of $45.1 million ($2020–21), which we considered should be recovered via a step change.

We have included $55.2 million ($2020–21) for five step changes in our alternative estimate for the final decision. We have examined each step change on its own merit and whether the proposal meets the intent of what step changes should reflect as set out in the Expenditure Forecast Assessment Guideline.[142] Noting that step changes should not double count cost increases compensated through the rate of change, we have included step changes in our alternative estimate for:

- Rapid Earth Fault Current Limiter (REFCL) testing and maintenance: $4.5 million ($2020–21)

- IT cloud: $2.6 million ($2020–21)

- new five minute meter requirements: $3.5 million ($2020–21)

- increasing insurance premiums: $45.1 million ($2020–21)

- a negative step change from the 2020 summer bushfires: $0.5 million ($2020–21).

141　AusNet Services, information request #089, March 2021; AusNet Services, *2021–26 Revised regulatory proposal,* December 2020, pp. 87–90.

142　AER, *Expenditure forecast assessment guideline for electricity distribution*, November 2013, p. 24.

Table 6.9 AusNet Services' step change proposals and our alternative estimates ($ million, 2020–21)

Step change	AusNet Services initial proposal	AER draft decision	AusNet Services revised proposal	AusNet Services updated revised proposal	AER alternative estimate for Final Decision	Difference
REFCL testing and maintenance	5.9	5.8	4.5	4.5	4.5	0.0
IT cloud	2.6	–	2.6	2.6	2.6	–
Cyber Security	4.6	–	–	–	–	–
5 minute meter data	3.6	3.5	3.5	3.5	3.5	–
Insurance premiums	–	–	10.5	45.1	45.1	–
Bushfire cost pass through	–	–	-0.5	-0.5	-0.5	0.0
Total step changes	16.7	9.3	20.6	55.2	55.2	0.0

Source: AusNet Services, *Regulatory proposal 2021–26 – Supporting document – Workbook 1 – Regulatory determination,* January 2020; AusNet Services, *information request #089,* March 2021.; AER, *Final Decision – AusNet Services distribution determination 2021–26 – Opex model, April* 2021; AER, *Draft Decision – AusNet Services distribution determination 2021–26 – Opex model,* September 2020; AER analysis.

Note: Numbers may not add up to total due to rounding. The difference is between AusNet Services' updated proposal and our final decision. Differences of '0.0' and '–0.0' represent small variances and '–' represents no variance.

The following sections sets out the reasons for our alternative estimate of each step change.

6.4.3.1 Rapid Earth Current Fault Limiters

Our final decision is to include a step change of $4.5 million ($2020–21) for annual REFCL testing and maintenance in our alternative estimate, which is lower than our draft decision ($5.8 million, $2020–21).

Table 6.10 REFCL testing and maintenance ($ million, 2020–21)

	2021–22	2022–23	2023–24	2024–25	2025–26	Total
AusNet Services revised proposal	1.3	0.5	1.2	0.8	0.8	4.5
AER final decision	1.3	0.5	1.2	0.8	0.8	4.5
Difference	–0.0	–0.0	–0.0	–0.0	–0.0	–0.0

Source: AusNet Services, *information request #089,* March 2021.: AER analysis.

Note: Numbers may not add up to total due to rounding. Differences of '0.0' and '–0.0' represent small variances and '–' represents no variance.

In our draft decision, we included a step change of $5.8 million ($2020–21) for REFCL annual testing and maintenance in our alternative estimate but stated that we expected

AusNet Services to update this amount in its revised proposal. This update was to reflect the impact of any ESV amendment to its annual testing obligations and forecast inflation.

It its revised proposal AusNet Services included $4.5 million ($2020–21) and consistent with our request it accounted for the ESV's amendments to AusNet Services' annual testing obligations and updates in forecast inflation.[143] We have reviewed AusNet Services updated calculations and forecasts and are satisfied they are reasonable. As a result we have included $4.5 million in our alternative estimate.

6.4.3.2 IT cloud

Our final decision is to include a step change of $2.6 million ($2020–21) for an IT cloud step change in our alternative estimate. This is to recover cloud transition costs related to the roll out of a Customer Relationship Management IT system and Outage Management system to replace on-premises infrastructure. This differs from our draft decision to not include this step change in our alternative estimate.[144]

Table 6.11   IT cloud ($ million, 2020–21)

	2021–22	2022–23	2023–24	2024–25	2025–26	Total
AusNet Services' revised proposal	0.5	0.5	0.5	0.5	0.5	2.6
AER final decision	0.5	0.5	0.5	0.5	0.5	2.6
Difference	–	–	–	–	–	–

Source: AusNet Services, *Revised regulatory proposal 2022–26 – Opex Model (2022-26)*, December 2020; AER analysis.

Note: Numbers may not add up to total due to rounding. Differences of '0.0' and '–0.0' represent small variances and '–' represents no variance.

In our draft decision, we did not include the proposed $2.6 million ($2020–21) costs in our alternative estimate. This was because taking into account our consultant EMCa's advice, we considered insufficient evidence had been provided to demonstrate a capex-opex substitution. Our draft decision noted that for us to accept a step change on the basis of a capex-opex trade-off criteria, we would need to be satisfied that the proposed expenditure is prudent and efficient through robust cost benefit analysis to demonstrate clearly how increased opex would be more than offset by capex savings.[145]

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[143]   AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, pp. 84–85.

[144]   AER, *Draft decision, AusNet Services determination 2021–26, Attachment 6 Operating expenditure,* September 2020*,* p. *57–59.*

[145]   AER, *Draft decision, AusNet Services determination 2021–26, Attachment 6 Operating expenditure,* September 2020*,* pp. 58–59.

In its revised proposal[146] and responses to subsequent information requests, AusNet Services re-proposed this step change, submitting:

- Additional analysis undertaken to demonstrate the increased capex and program opex that would be incurred if the step change is not implemented. AusNet Services' further analysis demonstrated for the Customer Relationship Management and Outage Management systems, that it had chosen the most prudent and efficient option, where the opex required to implement the solution through the cloud is less than a corresponding capex-driven solution to implement the same functionality.

  AusNet Services provided further information about the forecasts associated with the options analysis for implementing the Customer Relationship Management and Operating Management systems (including a capex option). AusNet Services provided evidence demonstrating that the cost forecasts had undergone an external review by Deloitte Consulting using industry benchmarks of internal and contract labour, material cost and time estimates.[147]

- Engagement with the Customer Forum on AusNet Services' revised proposal, indicating it was still supportive of the inclusion of this step change as it considers the functionality that will be funded is required to improve the experience of customers.[148]

Some stakeholder submissions expressed their support for this proposed step change. The CCP17 submitted it does not oppose AusNet Services' 'cloud based' approach if this is demonstrated to be the most effective technical solution. However it opposed acceptance unless the AER is convinced that the project is justified, provides sound benefits for customers and is not replicating potential Customer Service Incentive Scheme rewards.[149] The VCO supported this step change if a new benefit for consumers is identified.[150]

For our final decision we have included $2.6 million ($2020–21) in our alternative estimate for the IT cloud step change. We consider the proposed step change meets the requirements for a capex/opex trade-off as it has the highest net present value in meeting the required functionalities and the proposed opex solution is lower cost than the capex solution.

We do not consider AusNet Services' proposed IT cloud step change duplicates the Customer Service Incentive Scheme rewards on the basis that customer relationship

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[146] AusNet Services, *Revised regulatory proposal 2022–26 – Appendix 4c – Addendum – ICT cloud capex opex trade off,* December 2020.

[147] AusNet Services*, Information request 069*, January 2021.

[148] AusNet Services, *Revised regulatory proposal 2021–26 – Supporting document Appendix 3A – Customer Forum Memo,* December 2020*,* p. 2.

[149] CCP17, Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*,* January 2021, p. 88.

[150] Headberry Partners report to VCO, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26 Submission to Initial Proposals, January 2021,* p. 55.

management, better planning and management of planned outages are not captured under this incentive scheme.

6.4.3.3 Five minute settlement

Consistent with our draft decision, our final decision is to include $3.5 million ($2020–21) in our alternative estimate.

Table 6.12 Five minute settlement ($ million, 2020–21)

	2021–22	2022–23	2023–24	2024–25	2025–26	Total
AusNet Services revised proposal	0.5	1.4	0.4	0.6	0.7	3.5
AER final decision	0.5	1.4	0.4	0.6	0.7	3.5
Difference	–	–	–	–	–	–

Source: AusNet Services, information request #089, March 2021.

Note: Numbers may not add due to rounding. Differences of '0.0' and '–0.0' represent small variances and '–' represents no variance.

In our draft decision, we were satisfied that the proposal was prudent to meet the five minute settlement rule published by the Australian Energy Market Commission (AEMC) on 28 November 2017[151] and made minor adjustments to the proposed cost to align with our rate of change decision.[152]

AusNet Services' revised proposal accepted our draft decision.[153]

As a result, our final decision includes a step change for five minute settlement in our alternative estimate which is consistent with AusNet Services revised proposal, updated to include some mechanical updates for inflation and price growth.

6.4.3.4 Insurance premiums

Our final decision is to include a step change of $45.1 million ($2020–21) for increases in insurance premiums in our alternative estimate (but not to allow a cost pass through event for insurance premiums).

Table 6.13 Insurance premiums ($ million, 2020–21)

	2021–22	2022–23	2023–24	2024–25	2025–26	Total
AusNet Services updated revised proposal	4.8	6.8	8.9	11.1	13.4	45.1

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[151]   AEMC, *Five Minute Settlement, final determination,* 28 November 2017.

[152]   AER, *Draft Decision, AusNet Services 2021–26, Attachment 6 Operating expenditure,* September 2020, pp. 54–55.

[153]   AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, p. 84.

	2021–22	2022–23	2023–24	2024–25	2025–26	Total
AER final decision	4.8	6.8	8.9	11.1	13.4	45.1
Difference	–	–	–	–	–	–

Source: AusNet Services, *Information request #089,* March 2021.; AER analysis.

Note: Numbers may not add due to rounding. Differences of '0.0' and '–0.0' represent small variances and '–' represents no variance.

In AusNet Services' revised proposal, it proposed a combination of a step change and a cost pass. This included a step change for insurance premium increases known as a result of the latest insurance renewals ($10.5 million ($2020–21)) from its base year and a proposed cost pass through for future increases over the 2021–26 regulatory control period.[154]

Our assessment of AusNet Services' revised proposal revolved around two key areas:

- whether we could estimate the prudent and efficient insurance premium forecasts over the 2021–26 regulatory control period and how much certainty there was around these forecasts

- how these costs should be recovered – via a step change or through a cost pass through mechanism.

To better understand these issues, we engaged expert consultant Taylor Fry to assist our assessment.[155] We asked them to review AusNet Services' revised proposal and the additional information that AusNet Services provided from its insurance brokers (AON) in relation to the expected insurance premium price increases over the 2021–26 regulatory control period.

The key conclusions from Taylor Fry's report are that the forecasts provided by AON are directionally consistent with Taylor Fry's expectations of future premiums, given its understanding of the prevailing market conditions, and can be considered reasonable. However, the advice also explains there is significant uncertainty and variability in forecasting insurance premiums over a five year period.[156]

On balance, we are of the view that in the current circumstances, while there is some uncertainty associated with forecasting insurance premium increases (and consequently a risk of over or under estimating those increases), it is appropriate for us to use the forecasts of future insurance premium increases to include a step change in our alternative estimate. This position takes into account:

- Taylor Fry's findings that it is more likely that AusNet Services' will likely have to purchase lower levels of cover due to further withdrawals of capacity from the

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154 AusNet Services, *Revised regulatory proposal 2021–26*, December 2020, pp. 89, 156–159.

155 Taylor Fry, *AER AusNet Services Bushfire Insurance Public summary*, March 2021.

156 Taylor Fry, *AER AusNet Services Bushfire Insurance Public summary*, March 2021, p. 3.

market as well as the reasonableness and likelihood of the insurance premium forecasts provided by AusNet Services.

• Consistency with our incentive based regulation framework, where businesses are best incentivised to achieve efficient cost outcomes by including costs in the total opex forecast. An example of this is AusNet Services' decision (after consulting with its customers) to raise its deductible from $10 million to $25 million in order to cut in half the premium increases in its 2020–21 renewal.[157]

We also consider that when the step change is added to the other elements of the opex forecast, the total opex amount meets the opex criteria based on the information we have available. In reaching this position we took into account stakeholder submissions summarised below.

The VCO supported analysis of the insurance premium proposals to ensure that the step change and cost pass through events are not double counted. It noted there is support for developing the most efficient bushfire insurance program for each business with consumers sharing in the increased costs and risks, including general insurance which it considered had not been impacted by the increased bushfire risk.[158]

The CCP17 submitted it is aware that insurance coverage is decreasing, while insurance costs are rising rapidly for all Australian electricity network businesses. The CCP17 viewed the changes to insurance markets to be material and beyond reasonable budget projections, with these changes likely to be sustained over a long period due to climate change. Consequently, the CCP17 accepted that the higher insurance prices are likely to remain over the coming regulatory period.[159]

Consultant for ECA, Spencer&Co supported the steps taken by businesses to mitigate the costs impacts of rising insurance premiums on customers. They also considered that the businesses response to insurance premium increases is reasonable in the circumstances.[160]

We acknowledge the benefits of using a cost pass through for businesses to recover insurance premium costs over the next regulatory period. These include that a cost pass through lessens the need to set a forecast when there is significant uncertainty and customers only pay for higher costs when they are known during the period. However, we consider on balance that the long term interests of consumers is better served if the appropriate incentives remain with the businesses to actively work to moderate expected increases in insurance premiums over the next regulatory control period.

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[157] AusNet Services, *Revised regulatory proposal 2021–26*, December 2020, p. 88.

[158] Headberry Partners report to VCO, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 56.

[159] CCP17, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, pp. 61–63.

[160] Spencer&Co report to ECA, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 15.

During our assessment process we shared these views with AusNet Services, and subsequently AusNet Services provided an updated revised proposal which included a step change for all insurance premium increases over the 2021–26 regulatory control period of $45.1 million ($2020–21). Based on our review, including our consultant's advice, we consider this to be a reasonable forecast for AusNet Services and have included this amount in our alternative estimate. We also note that the rate of change increases proposed by AusNet Services over the 2021–26 regulatory control period generally align with the proposals from Powercor, United Energy and Jemena. As a result, we have not accepted the proposed insurance premium nominated cost pass through event for the 2021–26 regulatory control period. See attachment 15 for further discussion.

6.4.3.5 2019–20 Summer bushfire cost pass through avoided costs

Our final decision is to include a step change of –$0.5 million ($2020–21) in our alternative estimate reflecting 2019–20 bushfire costs that will be avoided as a result of works bought forward and separately funded under a cost pass through event application.

Table 6.14 Bushfire cost pass through avoided costs ($ million, 2020–21)

	2021–22	2022–23	2023–24	2024–25	2025–26	Total
AusNet Services' revised proposal	–0.1	–0.1	–0.1	–0.1	–0.1	–0.5
AER final decision	–0.1	–0.1	–0.1	–0.1	–0.1	–0.5
Difference	–0.0	–0.0	–0.0	–0.0	–0.0	–0.0

Source: AusNet Services, *information request #089,* March 2021; AER analysis.

Note: Numbers may not add due to rounding. Differences of '0.0' and '–0.0' represent small variances and '–' represents no variance.

AusNet Services included a new –$0.5 million ($2020–21) step change in its revised proposal to reflect savings for ongoing bushfire-related maintenance activities that were brought forward, or superseded, as a result of the remediation activities required in response to the 2019–20 bushfires. These works included vegetation management and asset inspection activities (and associated repair work) and were a part of a separate cost pass through event application from AusNet Services.[161]

There were minor discrepancies between the proposed savings included in the revised proposal and the savings forecast in the cost pass through application. We have included a step change of –$0.5 ($2020–21) consistent with the forecast savings identified and accepted in its 2019–20 bushfire cost pass through application.[162]

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[161]   AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, pp. 89–90.

[162]   AusNet Services, *Cost pass through application - 2020 Summer Bushfires*, May 2020, p. 24.

6.4.4 Category specific forecasts

We have included three expenditure items, debt raising costs, innovation and GSL payments, in our alternative estimate of total opex as category specific forecasts, which we did not forecast using the base-step-trend approach.

6.4.4.1 GSL payments

We have included a category specific forecast of $32.7 million ($2020–21) for GSL payments in our alternative estimate. This is lower than the forecast of $45.9 million ($2020–21) that AusNet Services included in its revised proposal.[163] It is also lower than the forecast of $46.0 million ($2020–21) we included in our draft decision.[164]

In capturing the impact of the changes to the GSL scheme (set out below), AusNet Services proposed both a forecast of GSL payments for the 2021–26 regulatory control period and a 'transitional' amount to recover abnormally high GSL payments in the 2015 to 2019 period due to events it considered were beyond its control. Our alternative estimate of the GSL payments for the 2021–26 regulatory control period is very similar to AusNet Services' forecast. Our lower total GSL forecast is largely driven by our lower alternative estimate for the 'transitional amount' (see Table 6.16). While we consider it appropriate to provide a 'transitional amount' we consider that it should be calculated in a way that accounts for all changes in the GSL scheme and the abnormality of the 2015 to 2019 period.

We discuss how we have forecast GSL payments, and why our forecast differs from AusNet Services' revised proposal, below.

GSL reliability payments are payments AusNet Services is required to pay to customers that experience outages that do not meet a set standard. In Victoria, the criteria for GSL payments are set by the Essential Services Commission (Victoria). Consistent with our draft decision, we have updated our forecast of GSL payments in this final decision to reflect the revisions made to the GSL scheme by the Essential Services Commission in November 2020.[165]

In its revised proposal, AusNet Services updated its forecast of GSL payments to account for the changes made by the Essential Services Commission. Its revised proposal also included a 'transitional amount' in addition to its forecast of the GSL payments it expected to incur in the 2021–26 regulatory control period.

AusNet Services forecast GSL payments using its outage data for the years 2015 to 2019. It calculated the GSL payments it would have incurred in those years had the new scheme been in place and averaged these 'backcasts' to derive its forecast. In

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163   AusNet Services, *Revised regulatory proposal 2021–26*, December 2020, pp. 91–94.

164   AER, *Draft decision, AusNet Services determination 2021–26, Attachment 6 Operating expenditure*, September 2020, pp. 60–61.

165   Essential Services Commission (Victoria), *Electricity Distribution Code customer service standards final decision*, 16 November 2020.

this way it forecast GSL payments totalling $29.8 million ($2021–21) for the 2021–26 regulatory control period.[166]

In addition, it proposed a 'transitional amount' of $16.1 million ($2021–21). AusNet Services stated that from 2015 to 2019, it made significant GSL payments for events that were outside of its control. Due to the changes to the GSL scheme, many of these payments were excluded from its backcast payments under the new scheme and thus not included in AusNet Services' forecast GSL payments for the 2021–26 regulatory control period. The proposed 'transitional amount' would recover these GSL payments. AusNet Services also adjusted its proposed 'transitional amount' to account for the time value of money.[167]

Table 6.15 Forecast GSL payments, ($ million, 2020–21)

	AusNet Services' proposal	AER alternative estimate	Difference
Forecast GSL payments	29.8	28.8	−1.0
Transitional amount	16.1	3.9	−12.2
Total	**45.9**	**32.7**	**−13.2**

Source: AusNet Services, *Revised regulatory proposal 2021–26*, December 2020, pp. 91–92; AER analysis.

Revisions to the GSL scheme

In our draft decision we noted that the Essential Services Commission was reviewing the consumer protection framework in the Electricity Distribution Code, including the GSL scheme. We stated that we would update the GSL payment forecasts in our final decision to account for the GSL scheme changes, once finalised.[168] The Essential Services Commission published its final decision in November 2020.[169] In its decision, the Essential Services Commission made a number of revisions to the scheme, including:

- removing outages on major event days and all exclusions from counting toward duration or frequency payments

- updated the duration and frequency thresholds to reflect the removal of outages on major event days and all exclusions from counting toward duration or frequency payments

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[166]   AusNet Services, *Revised regulatory proposal 2021–26*, December 2020, p. 91.
[167]   AusNet Services, *Revised regulatory proposal 2021–26*, December 2020, p. 92.
[168]   AER, *Draft decision, AusNet Services determination 2021–26, Attachment 6 Operating expenditure*, September 2020, pp. 60–61.
[169]   Essential Services Commission (Victoria), *Electricity Distribution Code customer service standards final decision*, 16 November 2020.

- replacing single interruption supply restoration payments with major event day payments, such that customers receive a payment if they are without supply for 12 hours or more on a major event day

- giving customers access to both major event day payments and duration payments (previously customers did not receive a single interruption supply restoration payment if they received a duration payment)

- adjusting the GSL performance payment levels

- updating the definitions of sustained and momentary interruptions to align with the national framework (so a momentary interruption is defined as less than three minutes and a sustained interruption is more than three minutes).[170]

Why we use a five year historic average to forecast GSL payments

To forecast GSL payments for the current regulatory control period our standard approach is to use a five year historic average of GSL payments. This approach provided both an estimate of efficient GSL payments as well as shared any under or overspends incurred in the averaging period. It did this by allowing the business to get back any over spends (or 'pay back' under spends) in the five years of the following control period.

However, when there are changes to the GSL scheme, using an average of actual GSL payments may not produce a forecast that reflects the changed scheme. Using instead an average of the payments that would have been incurred under the new scheme may not provide both an estimate of efficient GSL payments as well as share any under or overspends. This is because such a forecast would not be based on the distributor's actual GSL payments, and thus may not share its actual over or underspends.

Whether or not the forecast of GSL payments is required to provide for the sharing of under or overspends to account for scheme changes will depend on whether or not there have been any abnormal events which resulted in under or overspends. When there were no abnormal events in the averaging period, then the forecast will appropriately provide the expected GSL payments under the new scheme. That is, when there have been no abnormal events the GSL allowance does not need to also provide for the sharing of the GSL payments associated with abnormal events.

If there were abnormal events in the averaging period, then how the GSL over or underspends associated with those events are shared will depend on how the GSL scheme changes:

- If the backcast overspends (underspends) due to the abnormal events are less than the overspends (underspends) actually incurred, then AusNet Services would not fully recover its actual overspends (underspends).

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[170] Essential Services Commission (Victoria), *Electricity Distribution Code customer service standards final decision*, 16 November 2020.

- Similarly, if the backcast overspends (underspends) due to the abnormal events are greater than the overspends (underspends) actually incurred, then AusNet Services would recover more than its actual overspends (underspends).

To account for the changes to the GSL scheme we need to add the incremental impact of the scheme changes to our standard approach of using a five year historic average of actual GSL payments. The incremental impact of the scheme changes is the differences between expected GSL payments under the new scheme and expected GSL payments under the current scheme. This approach can be expressed as:

$$GSL\ allowance = 5\ year\ average\ payments\ (current)$$
$$+\ [expected\ payments\ (new) - expected\ payments\ (current)]$$

However, this approach is not directly comparable to AusNet Services' proposal. That is, it is not comprised of a forecast of GSL payments under the new GSL scheme and a 'transitional amount'. But the above equation can be rearranged to make it comparable to AusNet Services' proposed allowance:

$$GSL\ allowance = expected\ payments\ (new)$$
$$+\ [5\ year\ average\ payments\ (current)$$
$$-\ expected\ payments\ (current)]$$

Under this construction the expected payments under the new scheme provides the forecast of the GSL payments likely to be incurred in the next regulatory control period. The difference between the five year average payments under the current scheme and the expected payments under the current scheme provides the 'transitional amount'. Deriving the 'transitional amount' in this way would pay back the additional GSL payments it incurred in abnormal years.

We have used our alternative approach to calculate a forecast of the GSL payments AusNet Services is likely to incur in the 2021–26 regulatory control period as well as a 'transitional amount' that we consider fairly shares AusNet Services GSL over and underspends in the 2015 to 2019 period with its customers. We discuss this in more detail below.

Forecast GSL payments

Looking first at the forecast of GSL payments, we are not satisfied that AusNet Services' forecast reasonably reflect the GSL payments it is likely to incur in the 2021–26 regulatory control period. AusNet Services forecast GSL payments of $29.8 million ($2020–21), which reflects the GSL costs it would have incurred in the 2015–19 period had the new GSL scheme been in place.[171]

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[171] AusNet Services, *Revised regulatory proposal 2021–26*, December 2020, p. 91.

Instead we have used in our alternative estimate a ten year average of the GSL payments that AusNet Services would have paid under the new scheme as the best estimate of the GSL payments it is likely to incur in the 2021–26 regulatory control period. Using a longer term average reduces the impact of abnormal, or outlier events and is more likely to reflect the likely costs to be incurred. We think this is particularly important given the significant volatility displayed in the 2015 to 2019 period. AusNet Services' GSL payments under the current scheme varied from $2.8 million (nominal) in 2017 to $17.4 million (nominal) in 2016 (see Table 6.17). In its response to an information request on how to forecast GSL payments, AusNet Services stated:[172]

> For the avoidance of doubt, the concerns raised by AusNet Services do not relate to the forecasting approach of GSL opex, being an averaging approach of recent years payment data. We consider that given the nature of the GSL scheme (for example, the year-on-year volatility and the incentive impacts of alternative ways of forecasting, which were not contemplated in the scheme's design), this is an appropriate way to forecast GSL opex.

However, we consider that using an average of five years of data (from 2015 to 2019) to forecast GSL payments is inconsistent with AusNet Services' proposal that a 'transitional amount' is also required. By this we mean that the proposed 'transitional amount' is justified on the basis that extreme events occurred in the current five year period, coupled with the changes to the GSL scheme (because, as explained above, the abnormal events resulted in significant GSL payments that AusNet Services stated it would not get back due to the changes to the GSL scheme). So if extreme events occurred that require a 'transitional amount', we do not consider the same five year period should be used as the basis to forecast GSL payments.

To test the appropriateness of the 2015 to 2019 period for forecasting, we compared the outage data in those years to the previous five years. AusNet Services provided backcast outage data under the current GSL scheme back to 2010.[173] (Although we note that the backcast data for the current scheme did not include single event payments for the years 2010 to 2014. We do not, however, consider the absence of this data significantly impacts the analysis.) We found that the payments made under the current scheme in the years 2010 to 2014 (which averaged $7.3 million) were significantly lower than those in the years 2015 to 2019 (which averaged $9.0 million, see the first row in Table 6.17). This supports AusNet Services claim that the 2015 to 2019 period included extreme events. As a result it incurred unforecast GSL payments that it will not recover in the next regulatory control period due to the changes to the GSL scheme (discussed further below). However, we consider that this also shows that the last five years were not typical and are not a reasonable basis for forecasting GSL payments going forward.

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[172]   AusNet Service, *information request #067*, January 2021.

[173]   AusNet Service, *information request #067*, January 2021.

Table 6.16 Backcast GSL payments ($ million, nominal)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average 2015–19	Average 2010–19
Current scheme	6.4	6.1	8.9	6.7	8.7	7.3	17.4	2.8	6.2	11.3	9.0	8.2
New scheme	5.1	4.9	6.4	5.3	6.1	5.6	10.9	3.0	5.0	8.2	6.5	6.0

Source: AusNet Service, *information request #067*, January 2021; AER analysis.

Note: The current scheme payment amounts exclude single event payments because AusNet Services did not provide these amounts for all ten years. The new scheme amounts for the years 2010 to 2013 are an estimate based on the current scheme amounts (excluding single event payments). See the discussion below for further details.

In these circumstances, we consider an average calculated over a longer period of time, such as 10 years (two regulatory control periods), would be more appropriate to forecast the GSL payments AusNet Services is likely to incur in the 2021–26 regulatory control period.

AusNet Services also provided outage data for the years 2014 to 2019 to calculate the GSL payments it would have incurred under the new GSL scheme. [174] It was not able to easily provide outage data for the years 2010 to 2013.

As we consider it would be appropriate to forecast GSL payments over a longer (10 year) period, we investigated if and how this could be done without outage data for 2010 to 2013. To do this we tested the statistical relationship between the total GSL payments under the new scheme and the payments (excluding single event payments) paid under the current scheme for the period 2014 to 2019. We found that there was a close statistical relationship. [175] Given these results, we consider this statistical relationship can be used to produce robust estimates of the GSL payments that would have been paid under the new GSL scheme in the years 2010 to 2013. We have shown these results in the second row of Table 6.17 (which shows the payments that would have been paid under the new scheme). While we recognise that these estimates for the period 2010 to 2013 will not be as accurate as a backcast calculated directly from the outage data for each customer in each year, we consider any difference would likely be small and unbiased. We have used these estimates, and the backcast payments for the years 2014 to 2019 based on outage data, to forecast the GSL payments AusNet Services is likely to incur in the 2021–26 regulatory control period. Accordingly we have forecast annual GSL payment of $6.0 million (nominal). This equates to a total forecast of $28.8 million ($2020–21) in real terms (see Table 6.18).

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[174]   AusNet Service, *information request #067*, January 2021.

[175]   A simple linear regression produced an R squared value of 0.993, showing that movement in the GSL payments incurred under the current scheme explained 99.3 per cent of the movement in the new scheme GSL payments. A plot of the regression results showed they fit the data well.

Table 6.17   Forecast GSL payments ($ nominal)

	2021–22	2022–23	2023–24	2024–25	2025–26	TOTAL
10 year average, new scheme, nominal	6.0	6.0	6.0	6.0	6.0	**30.2**
Forecast GSL payments, $2020–21	6.0	5.9	5.8	5.6	5.5	**28.8**

Source: AER analysis

We have also considered whether GSL payments have been increasing over time (due to climate change, for example) and whether we need to account for such a trend when forecasting GSL payments. While AusNet Services' average GSL payments in the period 2015 to 2019 were higher than the previous five years (see Table 6.17) it is unclear whether this reflects an increasing trend. The significant volatility in the 2015 to 2019 period makes it difficult to identify any trend. We also note that the increase in GSL payments on AusNet Services' network is not seen consistently across the other Victorian networks.

We also looked at feeder level outage data for any trend in outages. We found that the system average interruption frequency index for each feeder class and network in the period 2015 to 2019 has been stable or declining compared to the period 2010 to 2014. This indicates that, on average, customers are not experiencing more outages over time. We also found that CitiPower, Jemena and United Energy have all reduced their system average interruption duration indexes in 2015 to 2019 compared to the period 2010 to 2014. Powercor's system average interruption duration indexes did increase on its long rural feeders. But we note that this did not lead to Powercor overspending relative to its GSL forecast in the 2015 to 2019 period. Consequently we are not satisfied that there is sufficient evidence to conclude that there is a trend increase in outages, beyond AusNet Services' control, that makes forecasting based on a ten year average unreasonable.

Transitional amount to share AusNet Services' GSL over and underspends

Secondly, looking at the forecast for a transitional amount to reflect under and overspends in the 2016–20 regulatory control period, we are satisfied that it is reasonable to provide an additional amount to share these amounts. We note that GSL payments were not included in the EBSS in the 2016–20 regulatory control period, or the 2011–15 period. We stated in our final decision for the 2016–20 regulatory control period:[176]

> We forecast GSL costs using a five year historical averaging approach to maintain consistency with our forecasting method for previous regulatory control periods. The incentives provided by using a five year historical average

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[176]   AER, *Final decision, AusNet distribution determination, Attachment 7, Operating expenditure*, May 2016, p. 92.

are consistent with adopting a single year revealed cost approach and applying the EBSS.

This shows that it was our intention that under and overspends from GSL payments be shared between AusNet Services and its customers like other opex costs. Consequently we have sought to calculate a 'transitional amount' in a way that achieves this.

We have calculated a 'transitional amount' of $3.9 million ($2020–21), which is less than the $16.1 million ($2020–21) proposed by AusNet Services. We have calculated our 'transitional amount' using the approach discussed above. That is, we have calculated it as the difference between the five year average of GSL payments under the current scheme and the expected payments under the current scheme (see Table 6.19). Consistent with how we have forecast the expected payments under the new scheme, we have calculated the expected payments under the current scheme as the average of the ten year average of GSL payments under the current scheme. We consider the reasons for using a ten year average to forecast GSL payments, discussed above, apply equally to calculating the 'transitional amount'. This gives an annual a total 'transitional amount' of $3.9 million ($2020–21).

Table 6.18 Forecast GSL payments and 'transitional amount'

	2021–22	2022–23	2023–24	2024–25	2025–26	TOTAL
10 year average, current scheme, nominal	8.4	8.4	8.4	8.4	8.4	**42.1**
5 year average, current scheme, nominal	9.2	9.2	9.2	9.2	9.2	**46.2**
Transitional amount, nominal	0.8	0.8	0.8	0.8	0.8	**4.1**
Transitional amount', $2020–21	0.8	0.8	0.8	0.8	0.8	**3.9**

Source: AER analysis

We consider that AusNet Services' approach to calculating the 'transitional amount' overstates the amount required for two reasons:

1. it does not account for all changes in the GSL scheme

2. it relies only on data from an abnormal period.

We agree with AusNet Services that the changes to the treatment of major event days under the new scheme have the biggest impact on the GSL payments that AusNet Services will incur in the next regulatory control period. However, we consider that the impacts of the other changes should also be accounted for. Furthermore, we note that the changes the Essential Services Commission made to the GSL scheme were considered as a package. For example, the Essential Services Commission stated that it updated the duration and frequency thresholds to reflect the removal of

outages on major event days and all exclusions from counting toward duration or frequency payments.[177] Our approach, outlined above, accounts for all changes.

AusNet Services stated that an alternative approach that accounts for all changes yields a similar outcome to its proposed approach. Specifically, AusNet Services' alternative approach would result in a 'transitional amount' of $13.0 million ($2020–21), or $15.6 million ($2020–21) when the time value of money is accounted for.[178] However, AusNet Services' alternative approach was to calculate the difference between a five year average of GSL payments backcast under the new scheme and a five year average of actual GSL payments (under the current scheme). The net impact of adding a transitional amount equal to the difference between the two schemes to a GSL payments forecast equal to an average of payments under the new scheme would set a total GSL allowance equal to the average of its payments under the current scheme. Consequently, such an approach would not account for any of the changes to the GSL scheme. The total GSL allowance would simply reflect the average of the payments it incurred under the current scheme. We do not agree that the fact that AusNet Services' proposed GSL allowance, inclusive of its 'transitional amount', is similar to the average of its actual GSL payments in 2015 to 2019 supports its proposed approach to calculating the 'transitional amount'.

We have shown, and AusNet Services agreed, that a change in GSL payments due to scheme changes does not require a 'transitional amount' if there have been no abnormal events in the averaging period.[179] AusNet Services' approach to calculating the 'transitional amount', by relying only on five years of data, fails to account for the abnormality of the current five year period. We consider any reasonable approach would need to account for the abnormality of the period 2015 to 2019. Our approach does this by comparing the GSL payments paid out in the 2015 to 2019 period to the payments it would have had to pay in normal conditions as proxied by the payments over the period 2010 to 2019.

We also note that AusNet Services' actual GSL payments in the period 2015 to 2019 totalled $5.6 million ($2020–21) more than the GSL payment forecasts included in its approved total opex forecasts. If the purpose of the 'transitional amount' is to share the GSL over and under spends AusNet Services incurred in the 2015 to 2019 period, a 'transitional amount' of $16.1 million ($2020–21) appears unreasonable, given it is almost three times the overspend it actually incurred.

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177 Essential Services Commission, *Electricity Distribution Code customer service standards final decision*, 16 November 2020, p. 48.

178 AusNet Services, *information request #067*, January 2021.

179 AusNet Services, *information request #067*, January 2021.

The 'transitional amount' should not be adjusted for the time value of money

AusNet Services proposed that the 'transitional amount' be adjusted to account for the time value of money.[180] AusNet Services stated that the GSL scheme is different from other incentive schemes because:[181]

- the aim is to recognise that some customers have been inconvenienced by outages

- it is a redistribution scheme that transfers payments from all of its customers to a select group of impacted customers

- it is not designed to incentivise investment in the network

- events that trigger large GSL payments to customers, such as the 2016 storm, are not within AusNet Services' control.

For these reasons AusNet Services argued that it should not bear the financial penalty that comes with the GSL scheme.[182]

However, we consider that adjusting the 'transitional amount' for the time value of money would be inconsistent with both the regulatory framework and our decision for the 2016–20 regulatory control period.

The regulatory framework established by the NER is an incentive based one, not a cost plus one. Consistent with this, we included a forecast of GSL payments in its ex-ante opex forecast for the 2016–20 control period. The forecast was based on an historic average of GSL payments, thus sharing under and overspends on GSL payments in a similar way to other opex costs which are subject to the EBSS.[183] The final decision did not provide a true-up in the control mechanism to compensate AusNet Services for its actual GSL payments. We explicitly considered the option of allowing AusNet Services to recover its actual GSL costs and stated:[184]

> The CCP also suggested that GSL costs "could be recovered during the course of the regulatory period". We consider providing for GSL payments in our ex-ante opex forecast provides network service providers with an incentive to minimise those payments and to maintain service levels at an efficient level. Actual GSL costs may be either higher or lower than forecast as they depend on the frequency of unplanned outages. Recovering GSL costs ex-post, as the CCP suggests may reduce the incentive for distributors to maintain service levels.

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[180]   AusNet Services, *Revised regulatory proposal 2021–26*, December 2020, p. 92.

[181]   AusNet Services, *Revised regulatory proposal 2021–26*, December 2020, pp. 93–94.

[182]   AusNet Services, *Revised regulatory proposal 2021–26*, December 2020, p. 94.

[183]   AER, *Final decision, AusNet distribution determination, Attachment 7, Operating expenditure*, May 2016, p. 92.

[184]   AER, *Final decision, AusNet distribution determination, Attachment 7, Operating expenditure*, May 2016, p. 93.

To now compensate AusNet Services for its actual GSL payments in the 2016–20 regulatory control period, rather than sharing the under and overspends, would retrospectively change that decision.

In its revised proposal, AusNet Services stated:[185]

> We note that in incentive schemes such as the EBSS and CESS, the costs and benefits of underspends and overspends varies from year to year and are shared between a DNSP and its customers. These schemes operate on the premise that the underlaying parameters are within a DNSP's control, therefore the financial rewards or penalties are warranted.

This statement is incorrect. The EBSS is designed to share efficiency gains and losses associated with all opex costs, regardless of whether they are 'controllable' or not. In consulting on version 2 of the EBSS, we explicitly considered how 'uncontrollable' costs should be treated. In the explanatory statement published with the final decision on the EBSS, we stated:[186]

> In our draft EBSS, we considered there was no strong reason why we should exclude nominated 'uncontrollable' cost categories from the EBSS. By including such costs in the EBSS, uncontrollable cost decreases or increases are shared between NSPs and consumers in the same way as any efficiency gain or loss (that is, approximately 30:70 with a five year carryover period). If we excluded such costs, uncontrollable cost increases would be shared in the same way as an efficiency loss would be without an EBSS. Without an EBSS, NSPs' share of cost increases differs across the regulatory control period. We saw no reason why uncontrollable cost increases should be shared differently between NSPs and consumers in different regulatory years…

> We acknowledge the EBSS will reward or penalise NSPs for some forecasting error associated with uncontrollable events. However, on the whole, the risk of uncontrollable events presents both upside and downside risk to NSPs. Relevantly, any material risks can be managed through pass-through events and contingent projects. We do not think there is a compelling argument to share the cost of uncontrollable events differently to all other costs facing NSPs.

> While some events may be uncontrollable, NSPs usually have some control over the costs associated with such events. Allowing exclusions would reduce the incentive to respond to such events efficiently.

Consistent with this, we maintain the view that GSL payment over and underspends should not be treated differently to other opex over or underspends because they are 'uncontrollable'. Further, and consistent with the EBSS explanatory statement, we consider that while the occurrence of major event days may be beyond the control of

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185   AusNet Services, *Revised regulatory proposal 2021–26*, December 2020, p. 93.
186   AER, *Explanatory statement, Efficiency benefit sharing scheme*, November 2013, p. 19.

AusNet Services, they are often predictable (from weather forecasts, for example) and AusNet Services can control how it prepares for, and responds to, major event days.

Consistent with the reasons given in the EBSS explanatory statement, we consider the pass through framework is the appropriate mechanism to deal with material uncontrollable events. Accordingly, we consider that AusNet Services' GSL over and underspends should be shared consistently with other opex over and underspends. The approach we have used to calculate the 'transitional amount' achieves this.

6.4.4.2 Innovation

Consistent with our draft decision,[187] our final decision is to include a category specific forecast of $1.2 million ($2020–21) to fund innovation projects to test ways of managing low voltage networks and improving network management.

Table 6.19   Innovation ($ million, 2020–21)

	2021–22	2022–23	2023–24	2024–25	2025–26	Total
AusNet Services' revised proposal	0.2	0.2	0.2	0.2	0.2	1.2
AER final decision	0.2	0.2	0.2	0.2	0.2	1.2
Difference	0.0	0.0	0.0	0.0	0.0	0.0

Source: AusNet Services, *information request #089,* March 2021; AER analysis.

Note: Numbers may not add due to rounding. Differences of '0.0' and '–0.0' represent small variances and '–' represents no variance.

In our draft decision, we accepted the proposed category specific forecast for innovation as it was supported by the Customer Forum and, as a category specific forecast, it will not become a part of recurrent expenditure.

AusNet Services' revised proposal accepted our draft decision.[188] Therefore, we have included this category specific forecast in our alternative estimate.

6.4.4.3 Debt raising costs

We have included debt raising costs of $11.4 million ($2020–21) in our alternative estimate. This is $0.1 million ($2020–21) higher than the $11.3 million ($2020–21) forecast proposed by AusNet Services.[189]

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

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187   AER, *Draft decision, AusNet Services determination 2021–26, Attachment 6 Operating expenditure,* September 2020, pp. 61–63.

188   AusNet Services, *Revised regulatory proposal 2021–26,* December 2020, p. 94.

189   AusNet Services, *information request #089,* March 2021.

benchmarking approach rather than a service provider's actual costs in a single year. This provides for 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 draft decision.[190]

6.4.5   Assessment of opex factors

In deciding whether or not we are satisfied the service provider's forecast reasonably reflects the 'opex criteria' under the NER, we have regard to the 'opex factors'.[191]

We attach different weight to different factors when making our decision to best achieve the National Electricity Objective. This approach has been summarised by the AEMC as follows:[192]

> As mandatory considerations, the AER has an obligation to take the capex and opex factors into account, but this does not mean that every factor will be relevant to every aspect of every regulatory determination the AER makes. The AER may decide that certain factors are not relevant in certain cases once it has considered them.

Table 6.21 summarises how we have taken the opex factors into account in making our final decision.

Table 6.20   Our consideration of the opex factors

Opex factor	Consideration
The most recent annual benchmarking report that has been published under rule 6.27 and the benchmark opex that would be incurred by an efficient distribution 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 opex that would be incurred by an efficient distribution network service provider over the next regulatory control 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 opex 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 an efficient provider for that particular network over the relevant period.
	We have used several assessment techniques that enable us to estimate the benchmark opex that an efficient service provider would require over the forecast period. These techniques include productivity index number and opex cost function modelling. We have used our judgment based on the results from all of these

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190   AER, *Draft decision, AusNet Services determination 2021–26, Attachment 3 – Rate of return, September 2020*, pp. 10–12.

191   *NER*, cl. 6.5.6(e).

192   AEMC, *National Electricity Amendment (Economic Regulation of Network Service Providers) Rule 2012, Final Rule Determination*, 29 November 2012, p. 115.

Opex factor	Consideration
	techniques to holistically form a view on the efficiency of AusNet Services' proposed total forecast opex compared to the benchmark efficient opex that would be incurred over the relevant regulatory control period.
The actual and expected opex of the Distribution 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 AusNet Services' actual past opex with that of other service providers to form a view about whether or not its revealed opex is efficient such that it can be relied on as the basis for forecasting required opex in the forthcoming period.
The extent to which the opex forecast includes expenditure to address the concerns of electricity consumers as identified by the Distribution Network Service Provider in the course of its engagement with electricity consumers.	This particular factor requires us to have regard to the extent to which service providers have engaged with consumers in preparing their proposals, such that they factor in the needs of consumers.[193] Based on the information provided by AusNet Services in its revised proposal and the CCP17's advice, we consider AusNet Services consulted with consumers in developing its revised proposal, including through its Customer Forum. We have examined the issues raised by consumers in developing our alternative estimate of opex, e.g. the step changes for IT cloud and insurance and taken this into account as part of considering these factors.
The relative prices of capital and operating inputs	We have considered capex/opex trade-offs in considering AusNet Services' proposed step changes. For instance we considered whether a step change for IT cloud is an efficient capex/opex trade-off. We considered whether there are capex and opex solutions in considering this step change. We have had regard to multilateral total factor productivity analysis when deciding whether or not 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 relative prices of capital and operating inputs.
The substitution possibilities between operating and capital expenditure.	As noted above we considered capex/opex trade-offs in considering AusNet Services' proposed step changes. 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 relied on 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. We also had regard to multilateral total factor productivity benchmarking when deciding whether or not 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. Further, we considered the different capitalisation policies of the service providers' and how this may affect opex performance under benchmarking.

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

| Opex factor	Consideration
Whether the opex forecast is consistent with any incentive scheme or schemes that apply to the Distribution Network Service Provider under clauses 6.5.8 or 6.6.2 to 6.6.4.	The incentive scheme that applied to AusNet Services' opex in the 2016–20 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 AusNet Services' opex for the 2021–26 regulatory control period.
The extent the opex forecast is referable to arrangements with a person other than the Distribution Network Service Provider that, in the opinion of the AER, do not reflect arm's length terms.	Our primary tools assess total opex efficiency, with supporting tools examining the efficiency of both opex and capital inputs as well as at the category level. 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 who does not use related party providers. If a service provider is inefficient, we adjust their total forecast opex proposal, regardless of its arrangements with related providers.
Whether the opex forecast includes an amount relating to a project that should more appropriately be included as a contingent project under clause 6.6A.1(b).	This factor is only relevant in the context of assessing proposed step changes (which may be explicit projects or programs). We have not identified any opex project in the forecast period that should more appropriately be included as a contingent project.
The extent the Distribution 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 final project assessment report (as defined in clause 5.10.2) published under clause 5.17.4(o), (p) or (s)	In having regard to this factor, we must identify any regulatory investment test (RIT-D) submitted by the business and ensure the conclusions of the relevant RIT-D are appropriately addressed in the total forecast opex. AusNet Services did not submit any RIT-D project for its distribution network.
Any other factor the AER considers relevant and which the AER has notified the Distribution Network Service Provider in writing, prior to the submission of its revised proposal under clause 6.10.3, is an operating expenditure factor.	We did not identify and notify AusNet Services of any other opex factor.

Source: AER analysis.

Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
CAM	cost allocation method
capex	capital expenditure
CCP17	Consumer Challenge Panel, sub-panel 17
CESS	capital expenditure sharing scheme
distributor	distribution network service provider
DNSP	distributor
EBSS	efficiency benefit sharing scheme
ECA	Energy Consumers Australia
ESV	Energy Safe Victoria
GSL	guaranteed service levels
MPFP	multilateral partial factor productivity
MTFP	multilateral total factor productivity
NEL	National Electricity Law
NEM	National Electricity Market
NER	National Electricity Rules
OEFs	operating environment factors
opex	operating expenditure
PPI	partial performance indicators
Pricing Order	electricity pricing order
PTRM	post-tax revenue model
RBA	Reserve Bank of Australia
REFCL	Rapid Earth Fault Current Limiter
RIN	regulatory information notice

A Our analysis of the opex/capital ratios that inform the extent of capitalisation practice differences

As discussed in section 6.4.1.2, we have now included an OEF adjustment to account for AusNet Services' capitalisation practices being materially different to the comparator businesses. In making this assessment we have been informed by the extent to which AusNet Services' opex/totex, opex/total cost, and opex/total inputs ratios differ to the comparator businesses'. In this appendix, we present updated ratios for both benchmarking periods and discuss their advantages and disadvantages below.

The average opex/totex ratio for all the distribution businesses is shown in Figure A. 1 and Figure A. 2 for the 2006–19 period and 2012–19 periods.
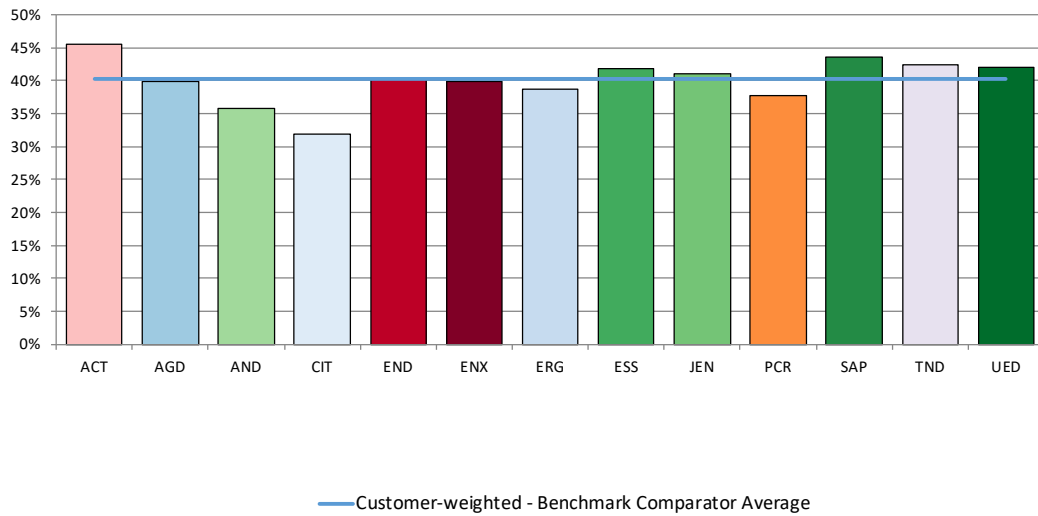
Figure A. 1 Opex to totex ratios for distribution businesses, 2006–19[194]

——Customer-weighted - Benchmark Comparator Average
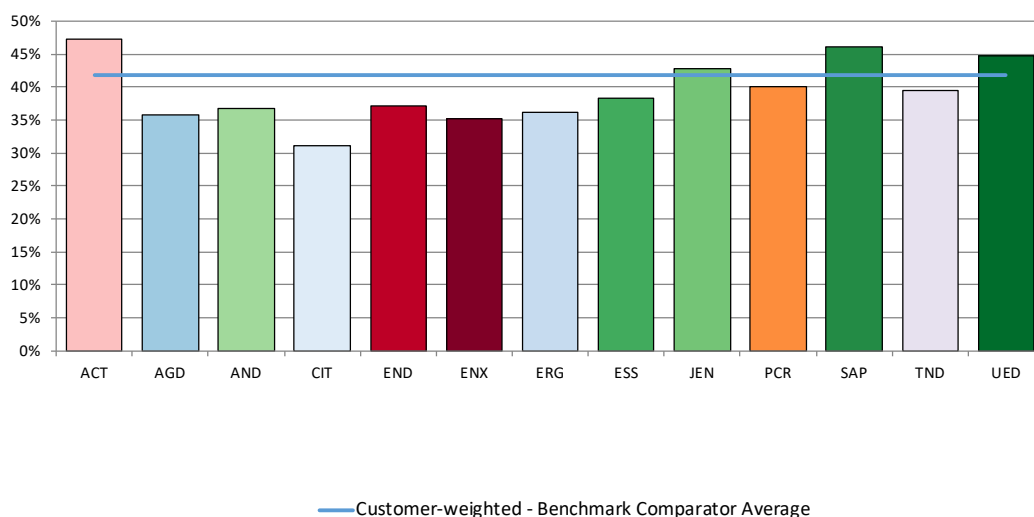
Source: Economic Benchmarking RINs, all distribution businesses; AER analysis.

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[194] Consistent with the opex series used for economic benchmarking, these charts use 2014-CAM backcast opex for those distribution businesses which have changed their CAM.

Figure A. 2 Opex to totex ratios for distribution businesses, 2012–19
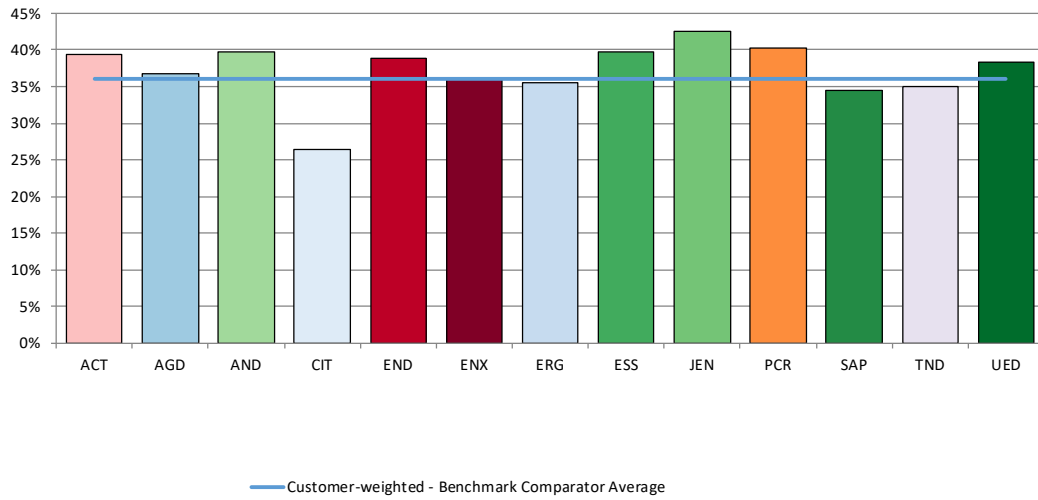

Customer-weighted - Benchmark Comparator Average

Source: Economic Benchmarking RINs, all distribution businesses; AER analysis.

We find that AusNet Services opex/totex ratio is 11–12 per cent below the benchmark comparator-average ratio across the two periods.

The key advantage of the opex/totex ratio is that it captures important dollar-for-dollar swings between opex and capex over the benchmarking period, such as capitalisation/expensing decisions on overheads. However, as an expenditure and flow-based measure, despite calculating it over a relatively long period, it is also likely subject to volatility. Several concerns were raised with the opex/totex ratio such as that other factors may be influencing the opex/totex ratio that are not related to the opex/capex mix, such as capital contributions. We have considered these concerns and consider that while the ratio will pick up some 'noise', this does not invalidate the use of this ratio as a high level gauge of capitalisation practices, particularly when used in combination with other ratios.

The average opex/total cost ratio for all the distribution businesses is shown in Figure A. 3 and Figure A. 4 for the 2006–19 period and 2012–19 periods.

Figure A. 3 Opex to total cost ratios for distribution businesses, 2006–19[195]

Customer-weighted - Benchmark Comparator Average

Source: Economic Benchmarking RINs, all distribution businesses; AER analysis.

Figure A. 4 Opex to total cost ratios for distribution businesses, 2012–19

Customer-weighted - Benchmark Comparator Average
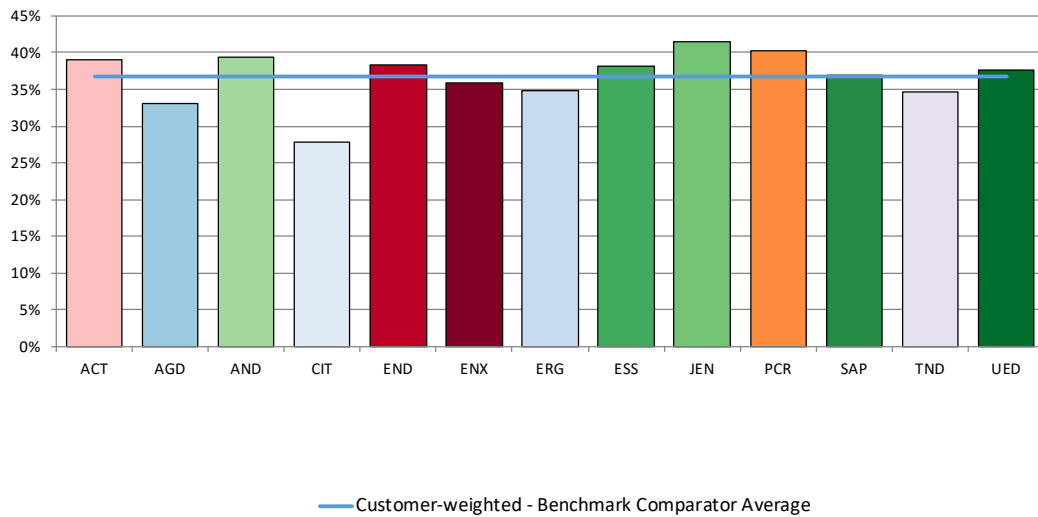
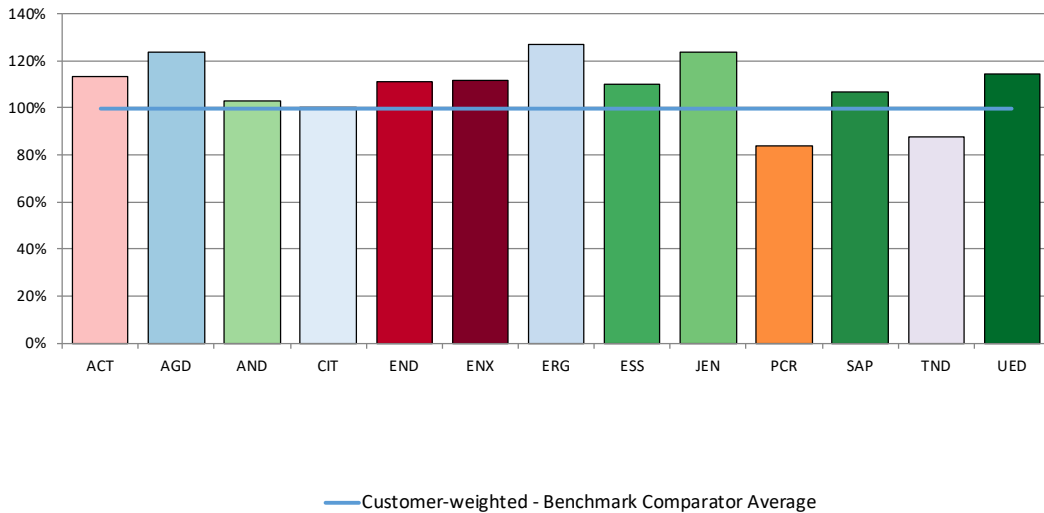Source: Economic Benchmarking RINs, all distribution businesses; AER analysis.

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[195]   Consistent with the opex series used for economic benchmarking, these charts use 2014-CAM backcast opex for those distribution businesses which have changed their CAM.

We find that AusNet Services opex/total cost ratio is now 7–10 per cent above the benchmark comparator-average ratio across the two periods.

Compared to the opex/totex ratio, the opex/total cost ratio is more theoretically consistent with the cost- rather than expenditure-based approach used in benchmarking. The annual user cost of capital is based on a stock measure for the durable capital input,[196] and thus supplements the above flow-based measure (i.e. opex/totex). While capital inputs is largely captured de facto in the benchmark modelling (due to its collinearity with the output variables), this holds for the average business in the data that holds a particular degree of capital intensity (capital inputs relative to opex). We consider that businesses such as AusNet Services with materially different capitalisation practices, as indicated by its opex/total cost ratio, may not be sufficiently captured. Against these advantages, average user cost is an imperfect measure of capital inputs, due to potential inconsistencies among the distribution businesses in approaches to (initial) regulatory asset base valuation.

The average opex/total inputs ratio for all the distribution businesses is shown in Figure A. 5 and Figure A. 6 for the 2006–19 period and 2012–19 periods.

Figure A. 5 Opex to total inputs ratios for distribution businesses, 2006–19[197]

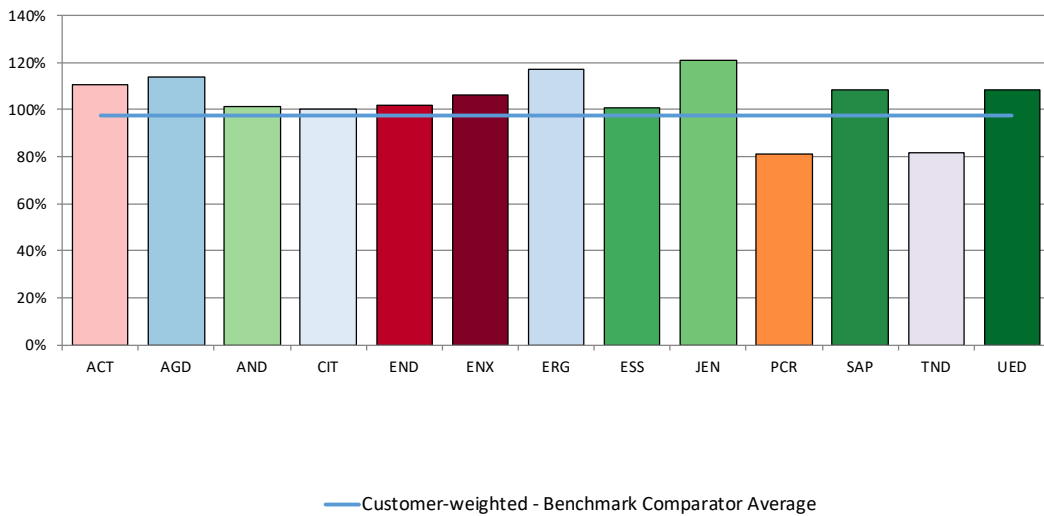Customer-weighted - Benchmark Comparator Average

Source: Economic Benchmarking RINs, all distribution businesses; Economic Insights, Files for 2020 DNSP Economic Benchmarking Report, 8 October 2020; AER analysis.

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[196] This assumes that the periodic flow of capital services is in proportion to the capital stock in place.

[197] Consistent with the opex series used for economic benchmarking, these charts use 2013-CAM backcast opex for those distribution businesses which have changed their CAM.

Source: Economic Benchmarking RINs, all distribution businesses; Economic Insights, Files for 2020 DNSP Economic Benchmarking Report, 8 October 2020; AER analysis.

We find that AusNet Services opex/total inputs ratio is 3–4 per cent above the benchmark comparator-average ratio across the two periods.

The opex/total inputs ratio uses the opex and capital input quantity indexes from the index number-based MTFP analysis to construct an index that reflects the ratio of opex to total inputs.[198] As a quantity based measure, we consider it reduces some of the issues set out above of the value-based measures. However, the capital input quantity constructed may be relatively insensitive to changes in capitalisation policy with respect to overheads. In addition, we consider that, as an index-based measure, the opex/total inputs ratio may be problematic if used in quantification of the OEF adjustment. This is because the ratio is an index, comprised of two indexes (opex inputs and total inputs) rather than direct observations, as is the case for the first two ratios. Multi-lateral indexes of this type are designed with a focus on preserving comparability of productivity levels across all businesses and over time. This is enabled by doing all comparisons through the sample average (e.g. average opex across all businesses and years), rather than directly between pairs of observations. This may limit its usefulness in deriving an OEF adjustment for capitalisation under which direct comparison between pairs of observations using observation specific information is preferred. Such an application in the case of the opex/total inputs ratio

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[198]   For each business, MTFP for each year over the 2006–2019 period is divided by opex MPFP for each year over that period. This gives the ratio of Opex/total inputs, since MTFP = Outputs/Total inputs, and Opex MPFP = Outputs/Opex.

may not be in conformance with the multi-lateral nature of the index. We will investigate this issue further as part of our further review of capitalisation.