



FINAL DECISION

AusNet Services transmission determination 2017-2022

Overview

April 2017

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Note

This overview forms part of the AER's final decision on AusNet Services' revenue proposal 2017–22. It should be read with other parts of the final decision.

The final decision includes the following documents:

Overview

Attachment 1 – maximum allowed revenue

Attachment 2 – regulatory asset base

Attachment 3 – rate of return

Attachment 4 – value of imputation credits

Attachment 5 – regulatory depreciation

Attachment 6 – capital expenditure

Attachment 7 – operating expenditure

Attachment 8 – corporate income tax

Attachment 9 – efficiency benefit sharing scheme

Attachment 10 – capital expenditure sharing scheme

Attachment 11 – service target performance incentive scheme

Attachment 12 – pricing methodology

Attachment 13 – pass through events

Attachment 14 – negotiated services

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Shortened forms

Shortened form	Extended form
AARR	aggregate annual revenue requirement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ASRR	annual service revenue requirement
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
DRP	debt risk premium
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
MAR	maximum allowed revenue
MRP	market risk premium
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider

Shortened form	Extended form
NTSC	negotiated transmission service criteria
opex	operating expenditure
PPI	partial performance indicators
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
repex	replacement expenditure
RFM	roll forward model
RIN	regulatory information notice
RPP	revenue and pricing principles
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
TNSP	transmission network service provider
TUoS	transmission use of system
WACC	weighted average cost of capital

1 Introduction

We, the Australian Energy Regulator (AER), are responsible for the economic regulation of electricity transmission and distribution systems in all Australian states and territories, with the exception of Western Australia. AusNet Services owns and operates Victoria's electricity transmission network. We regulate the revenues that AusNet Services can recover from its customers.

AusNet Services submitted a revised revenue proposal for its electricity transmission network on 21 September 2016. AusNet Services' revised proposal sets out the revenue it proposes to recover from electricity consumers through transmission charges for the period 2017–22. The revised proposal was in response to our draft decision which was published on 20 July 2016. This overview, together with its attachments, constitutes our final decision on AusNet Services' revenue proposal.

The National Electricity Law (NEL) and National Electricity Rules (NER) provide the regulatory framework governing electricity networks. In regulating AusNet Services, we are guided by the National Electricity Objective (NEO), as set out in the NEL. The NEO is:¹

to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—

- (a) price, quality, safety, reliability and security of supply of electricity; and
- (b) the reliability, safety and security of the national electricity system.

1.1 Structure of Overview

This overview provides a summary of our final decision and its individual components. The remainder is structured as follows:

- Section 2 provides a high level summary of our final decision
- Section 3 provides a breakdown of our final decision into its key components
- Section 4 sets out our final decision on the incentive schemes that will apply to AusNet Services for the 2017–22 regulatory control period
- Section 5 explains our views on the regulatory framework and the NEO
- Section 6 outlines our consultation process in reaching this final decision and our view of AusNet Services' consumer engagement undertaken in developing its revenue proposal
- Appendix A contains the full list of constituent components that make up AusNet Services' proposal and our final decision on each of them

¹ NEL, s. 7.

- Appendix B lists the stakeholder submissions received on our draft decision and AusNet Services' revised revenue proposal.

In our attachments to this decision we set out detailed analysis of the constituent components that make up our final decision.

1.2 Victorian electricity transmission

In Victoria, two separate organisations are responsible for the electricity transmission network—AusNet Services and the Australian Energy Market Operator (AEMO). Under this model, the transmission network planning functions in Victoria are separated from network ownership and operation.

AusNet Services is the transmission network service provider (TNSP) which owns and operates Victoria's electricity transmission network. It is responsible for transporting electricity from generation sources into Victoria's five lower-voltage distribution networks.²

AEMO is also a designated TNSP and is responsible for planning and procuring the augmentation of the Victorian shared transmission network. Given that AEMO is responsible for augmentation investment and plans, these are not included in AusNet Services' revenue proposal.

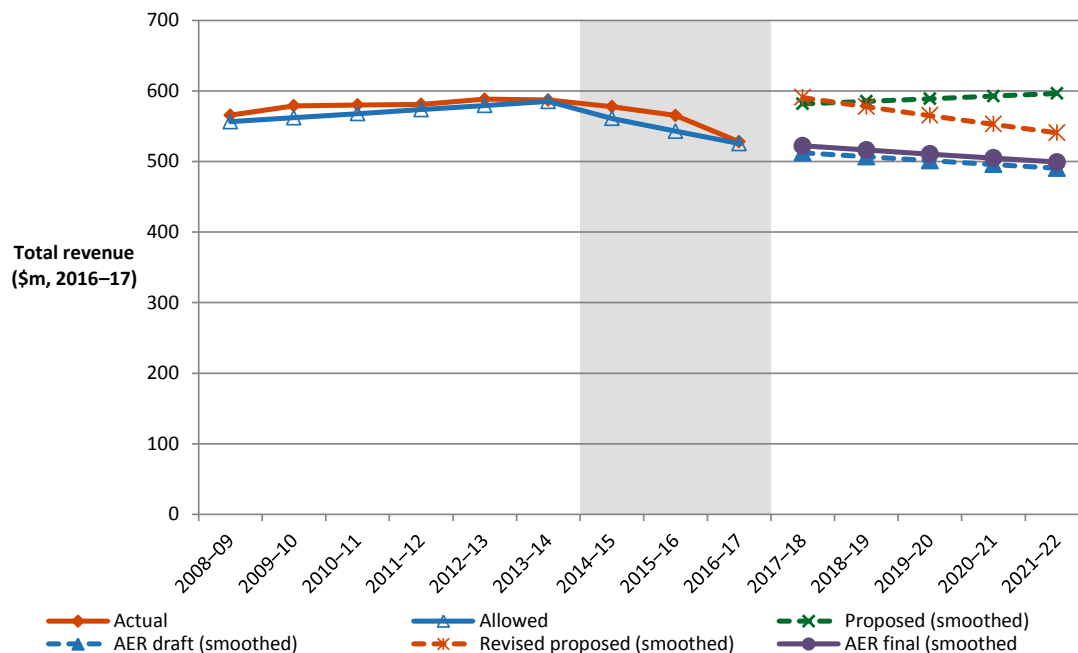
² Ausnet Services, Determining electricity transmission revenue (<http://www.ausnetservices.com.au/Electricity/Determining+Revenues/Transmission+Network.html>), Accessed online 19 May 2016.

2 Final decision

Our final decision is that AusNet Services can recover \$2741.7 million (\$ nominal, smoothed) from consumers over the 2017–22 regulatory control period. This is a 7.6 per cent reduction from AusNet Services' revised proposed revenue allowance of \$2967.5 million (\$ nominal). Our final decision allows AusNet Services to recover 1.7 per cent more revenue than our draft decision of \$2695.0 million (\$ nominal).

Figure 2.1 compares our final decision on AusNet Services' revenue for 2017–22 to its proposed revenue and to the revenue allowed and recovered during the two previous regulatory control periods of 2008–14 and 2014–17. AusNet Services' annual revenue decreased each year from 2014–17 in real dollar terms.

Figure 2.1 AusNet Services' past total revenue, proposed total revenue and AER final decision total revenue allowance (\$million, 2016–17)



Source: AER analysis.

2.1 What is driving allowed revenue?

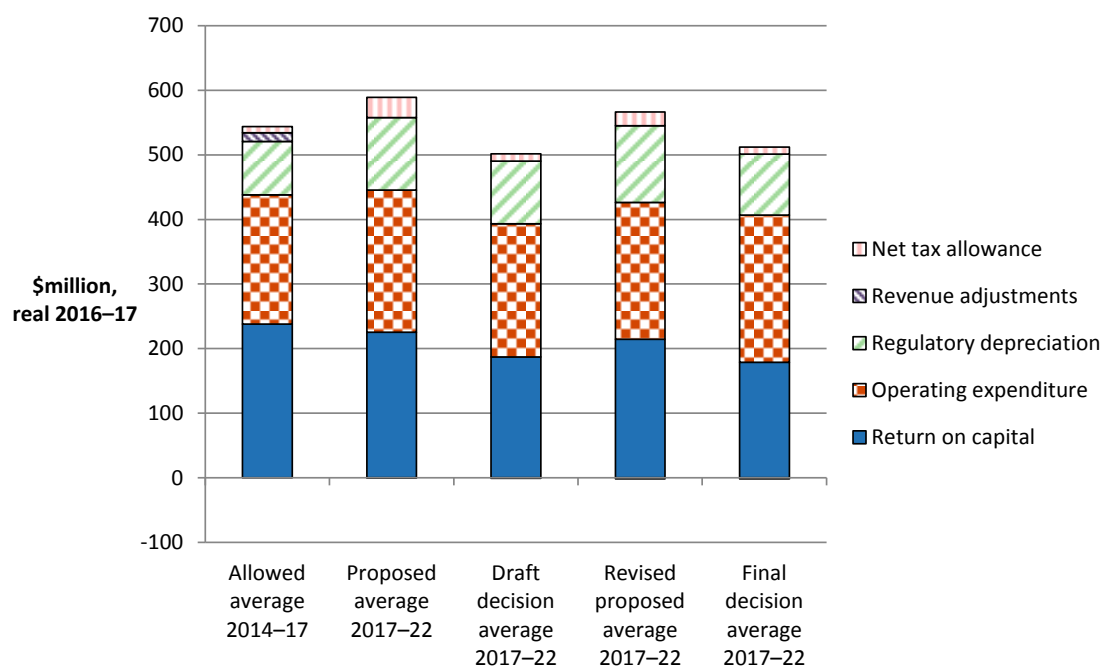
Our final decision approves average annual revenues for the 2017–22 regulatory control period that are \$32.5 million (\$ 2016–17)—or 6.0 per cent—lower than was approved in our decision for 2014–17 in real dollar terms.³ Our final decision provides

³ The comparison of average annual revenues between the 2017–22 and 2014–17 regulatory control periods is based on smoothed revenues. In nominal dollar terms, our final decision average annual revenues for the 2017–22

9.7 per cent less revenue than AusNet Services sought to recover through its revised revenue proposal in real dollar terms.

Figure 2.2 compares the average annual building block revenue from our final decision to that proposed by AusNet Services for the 2017–22 regulatory control period, and to the approved average amount for the 2014–17 regulatory control period.

Figure 2.2 AER's final decision on constituent components of total revenue (\$million, 2016–17)

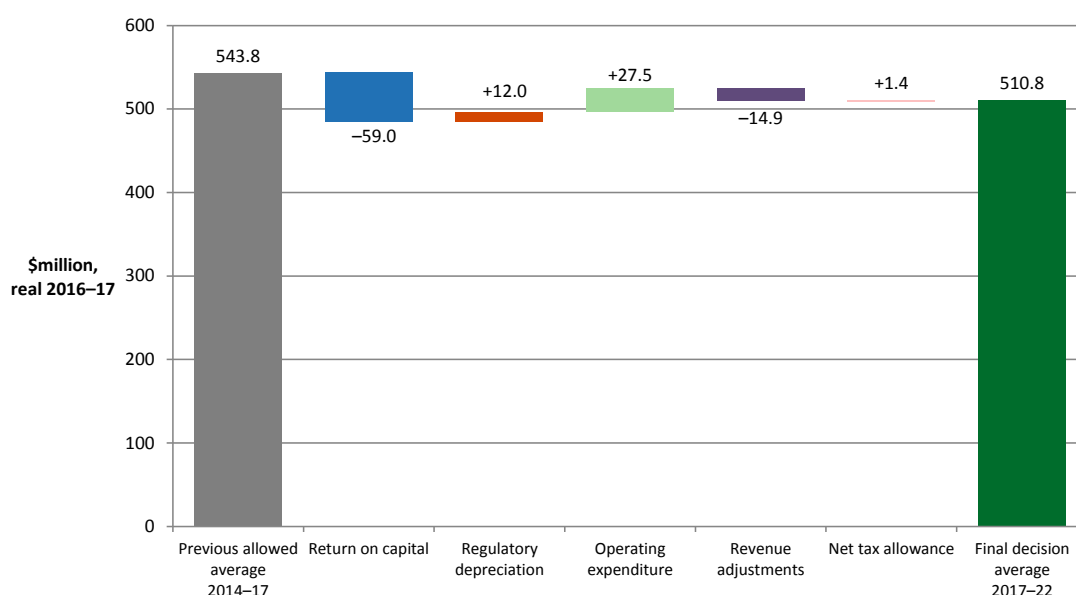


Source: AER analysis.

Figure 2.3 compares our final decision for the 2017–22 regulatory control period with AusNet Services' allowed revenue for the 2014–17 regulatory control period, broken down by the various building block components that make up the forecast revenue allowance. These are annual amounts based on average unsmoothed building block costs over the two relevant regulatory control periods.

regulatory control period is about \$14.9 million (or 2.8 per cent) higher than the average annual revenues approved for the 2014–17 regulatory control period.

Figure 2.3 AER's final decision for the 2017–22 regulatory control period and AusNet Services' 2014–17 allowed average annual building block costs (\$million, 2016–17)



Source: AER analysis.

These figures highlight that the return on capital is the key difference between our final decision for the 2017–22 regulatory control period and AusNet Services' allowed revenue for the 2014–17 regulatory control period. The reduction in the return on capital is however partially offset by an increase in opex.

The reduction in the return on capital is driven by changes in the estimated rates of return on debt and equity. The estimated return on debt and return on equity fell between regulatory periods by 2.4 and 1.9 percentage points respectively. The falls were largely caused by a reduction in the risk free rate. However, the equity beta used also fell from 0.8 for the 2014–17 regulatory control period to 0.7 for the 2017–22 regulatory control period reducing the estimated equity risk premium.

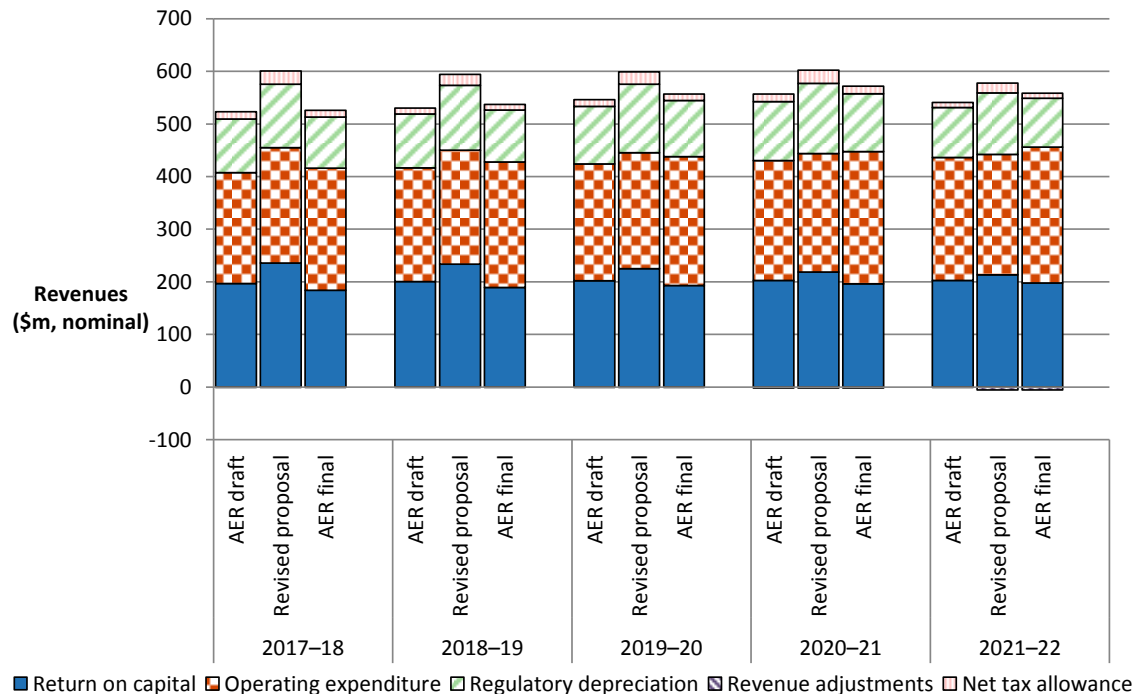
The increase in AusNet Services' opex allowance between the two periods is primarily due to an increase in forecast easement land tax. AusNet Services advised in a submission subsequent to its revised proposal that the Victorian Government had increased its easement land tax for 2017–18. This is discussed further in section 3.6.

2.2 Key differences between our draft and final decisions

While our approved revenue allowance is less than AusNet Services proposed, it is higher than we allowed in our draft decision. Our final decision allows AusNet Services to recover 1.7 per cent more revenue from its customers than our July 2016 draft decision of \$2695.0 million (\$nominal). Figure 2.4 shows the building block components from our final determination that make up the annual building block

revenue requirement for AusNet Services, and the corresponding components from its revised proposal and our draft decision.

Figure 2.4 AusNet Services annual building block revenue requirement (\$million, nominal)



Source: AER analysis

In our draft decision we applied a rate of return of 6.16 per cent. While our approach to calculating the rate of return has not changed, our final decision updates the rate of return to reflect data from approved averaging periods for the return on equity and debt. The rate of return of 5.8 per cent approved in this final decision is lower than our draft decision of 6.16 per cent. While this results in a reduction in revenue from our draft decision, this is offset by increases in expenditure categories.

Our final decision opex forecast is higher than both our draft decision and AusNet Services' revised proposal opex. Our final decision is higher due to a substantial increase in forecast easement land tax. AusNet Services advised in a submission subsequent to its revised proposal that the Victorian Government had increased its easement land tax for 2017-18. Accordingly, we increased our forecast annual easement land tax from \$114.3 million (\$2016-17) to \$135.0 million (\$2016-17).⁴ This is discussed further in section 3.6 and attachment 7.

The capex forecast allowed in our final decision is also higher than our draft decision. This is primarily due to updated inputs from AusNet Services, which mean that the

⁴ AusNet Services, *Submission on revised proposal*, 20 December 2016.

same methodology applied to calculate the benefits of forecast replacement capex in our draft decision now suggests a higher forecast is warranted. Our final decision on AusNet's forecast capex is discussed further in section 3.5.

2.3 Expected impact of decision on residential electricity bills

The annual electricity bill for customers in Victoria will reflect the combined cost of all the electricity supply chain components. These components are:

- the cost of purchasing electricity (the wholesale energy generation cost)
- the cost of the poles/towers and wires used to transport the electricity (the transmission and distribution networks), and other infrastructure such as metering cost;
- the cost of environmental policies, including subsidies for renewable energy, such as solar feed-in-tariffs; and
- the retailer's costs and profit margin.

Therefore, the electricity bill changes to reflect movements in one or more of the components in the bill. Our final decision on AusNet Services affects the high voltage part of the poles/towers and wires (transmission network charges) component of the electricity bill for Victorian customers, which account for approximately 5 per cent of an average customer's annual electricity bill. This small percentage largely explains the relatively modest impact this final decision is likely to have on average annual electricity bills.

We estimate the expected bill impact by varying the transmission charges in accordance with our final decision, while holding other components of the bill constant. Based on this approach, we expect that our final decision will result in the transmission component of the average annual residential electricity bills in Victoria remaining generally constant over the 2017–22 regulatory control period. The transmission component of the average annual residential electricity bill in 2021–22 is expected to be only about \$4 (\$ nominal) above the current, 2016–17 level. We note that this bill impact estimate is indicative only, and individual customers' actual bills will also depend on their usage patterns and the structure of their chosen retail tariff offering.

While our approach isolates the effect of our decision on electricity prices, it does not imply that other components will remain unchanged across the regulatory control period.⁵ We note that in its recent electricity price trends report for Victoria, the AEMC has indicated that wholesale costs are expected to rise following the closure of the

⁵ It also assumes that actual energy demand will equal the forecast in our final decision. Since AusNet Services operates under a revenue cap, changes in demand will also affect annual electricity bills across the 2017–22 regulatory control period.

Hazelwood power station.⁶ However, we do not expect transmission charges flowing from this final decision will be a contributor to the overall bill changes. Further detail on our final decision impact on overall bills is set out in attachment 1.

⁶ AEMC, *2016 Residential Electricity Price Trends: Final Report – Victoria*, December 2016, p. 3.

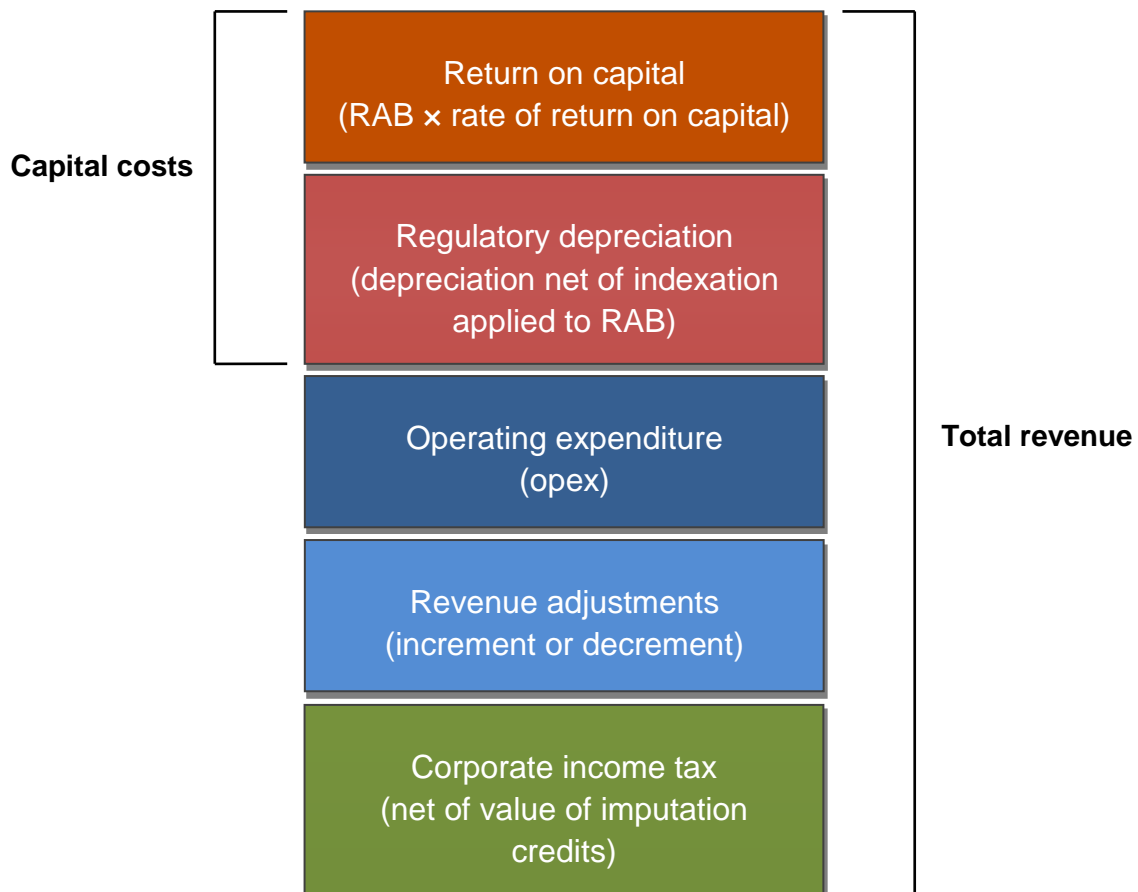
3 Key elements of our final decision

We use the building block approach to determine AusNet Services' maximum allowed revenue (MAR). The building block approach consists of five costs that a business is allowed to recover through its revenue allowance.

The building block costs are illustrated in Figure 3.1 and include:

- a return on the regulatory asset base (RAB) (or return on capital)
- depreciation of the RAB (or return of capital)
- forecast opex
- revenue increments or decrements resulting from incentive schemes such as the efficiency benefit sharing scheme (EBSS)
- the estimated cost of corporate income tax.

Figure 3.1 The building block approach for determining total revenue



The building block costs are comprised of key elements that we determine through our assessment process. For example, the size of the RAB—and therefore the revenue

generated from the return on capital and return of capital building blocks—is directly affected by our assessment of capex.

This section summarises our final decision on key elements of the building blocks including:

- RAB (section 3.1)
- Rate of return (section 3.2)
- Imputation credits (section 3.3)
- Depreciation allowance (section 3.4)
- Efficient level of capex (section 3.5)
- Efficient level of opex (section 3.6)
- Forecast level of corporate income tax (section 3.7).

Incentive schemes including the EBSS and CESS are covered in section 4. Table 3.1 shows our final decision on AusNet Services' revenues including the building block components.

Table 3.1 AER's final decision on AusNet Services' revenues (\$million, nominal)

	2017–18	2018–19	2019–20	2020–21	2021–22	Total
Return on capital	183.9	189.2	193.2	196.3	198.1	960.7
Regulatory depreciation ^a	96.7	99.0	106.7	110.2	93.3	505.9
Operating expenditure ^b	232.4	238.5	244.8	251.2	257.8	1224.7
Revenue adjustments ^c	–0.2	–0.2	–0.3	–1.8	–5.4	–7.9
Net tax allowance	13.2	10.6	12.4	14.0	9.2	59.5
Annual building block revenue requirement (unsmoothed)	526.1	537.1	556.8	569.9	553.1	2742.8
Annual expected MAR (smoothed)	534.8	541.5	548.3	555.1	562.1	2741.7^d
X factor ^e	n/a ^f	1.12%	1.12%	1.12%	1.12%	n/a

Source: AER analysis.

(a) Regulatory depreciation is straight-line depreciation net of the inflation indexation on the opening RAB.

(b) Operating expenditure includes debt raising costs.

(c) Includes efficiency benefit sharing scheme and shared asset amounts.

(d) The estimated total revenue cap is equal to the total annual expected MAR.

(e) The X factors will be revised to reflect the annual return on debt update. Under the CPI–X framework, the X factor measures the real rate of change in annual expected revenue from one year to the next. A negative X factor represents a real increase in revenue. Conversely, a positive X factor represents a real decrease in revenue.

(f) AusNet Services is not required to apply an X factor for 2017–18 because we set the 2017–18 MAR in this decision. The MAR for 2017–18 is around 1.1 per cent lower than the approved MAR for 2016–17 in real terms, or around 1.3 per cent higher in nominal terms.

3.1 Regulatory asset base

We make a decision on AusNet Services' opening regulatory asset base (RAB) at 1 April 2017 as part of our revenue determination. We also make a decision on AusNet Services' projected RAB for the 2017–22 regulatory control period.⁷

The RAB roll forward accounts for the value of AusNet Services' regulated assets over the regulatory control period. The size of the RAB substantially impacts AusNet Services' revenue path and the price consumers ultimately pay. It is an input into the determination of the return on capital and depreciation (return of capital) building blocks.⁸ Other things being equal, a higher RAB increases both the return on capital and depreciation allowances. In turn, these increase AusNet Services' revenue, and prices for services.

We determine AusNet Services' opening RAB to be \$3170.3 million (\$ nominal) as at 1 April 2017. The difference of \$11.0 million between this amount and AusNet Services' revised proposal reflects the update to the roll forward model (RFM) for 2016–17 actual inflation that is now available.

To determine the opening RAB as at 1 April 2017, we have rolled forward the RAB over the 2014–17 regulatory control period to determine a closing RAB value at 31 March 2017. This roll forward includes an adjustment at the end of the 2014–17 regulatory control period to account for the difference between actual 2013–14 capex and the estimate approved at the 2014–17 determination.⁹ The roll forward also includes an adjustment for new assets—labelled 'Group 3 assets'—added to the opening RAB at 1 April 2017 and a true-up for the difference between actual and forecast Group 3 assets rolled in at the 2014–17 determination.¹⁰ Expenditure on Group 3 assets occurs throughout the regulatory control period, but this capex is not added to the RAB each year (as is usually the case). Instead, these assets are added to the RAB at the commencement of each regulatory control period.¹¹

Table 3.2 sets out our final decision on the roll forward of the RAB values for the 2014–17 regulatory control period.

⁷ NER, cl. 6A.6.1.

⁸ The size of the RAB also impacts the benchmark debt raising cost allowance. However, this amount is usually relatively small and therefore not a significant determinant of revenues overall.

⁹ The end of period adjustment will be positive (negative) if actual capex is higher (lower) than the estimate approved at the 2014–17 determination.

¹⁰ During a regulatory control period, AEMO or a distribution business may request AusNet Services to provide augmentations to the transmission network or distribution connection services. While the assets constructed due to these requests provide prescribed transmission services, the forecast capex associated with these assets sit outside of the revenue determination. This is because AusNet Services is not responsible for the planning of these capex. AusNet Services and AEMO refer to the assets that provide these services as 'Group 3' assets. Group 3 assets sit outside of the RAB and are governed by commercial contracts until such time as they are rolled into the RAB, usually at the next revenue reset. See: AusNet Services, *Revenue proposal*, October 2015, p. 23.

¹¹ As noted above, this adjustment includes estimated expenditure where actual expenditure is not yet known; so there is an additional true-up required at the next revenue determination.

Table 3.2 AER's final decision on AusNet Services' RAB for the 2014–17 regulatory control period (\$ million, nominal)

	2014–15	2015–16	2016–17 ^a
Opening RAB	2876.0	2948.1	2985.0
Capital expenditure ^b	151.3	145.1	181.1
Inflation indexation on opening RAB	66.4	44.3	38.7
Less: straight-line depreciation ^c	145.6	152.5	161.2
Closing RAB	2948.1	2985.0	3043.6
Difference between estimated and actual capex in 2013–14			20.0
Return on difference for 2013–14 capex			4.6
Final year adjustments ^d			102.1
Opening RAB as at 1 April 2017			3170.3

Source: AER analysis.

- (a) Based on estimated capex.
- (b) As incurred, net of disposals, and adjusted for actual CPI.
- (c) Adjusted for actual CPI. Based on as-commissioned capex.
- (d) Roll in of Group 3 assets at 1 April 2017, and true-up for difference between actual and forecast Group 3 asset roll in at the 2014–17 determination, and historical inventory allocation adjustment.

We determine a forecast closing RAB value at 31 March 2022 of \$3443.9 million (\$ nominal). This is \$81.3 million (or 2.4 per cent) higher than AusNet Services' revised proposal. Our final decision on the forecast closing RAB reflects the amended opening RAB as at 1 April 2017, and our final decisions on the expected inflation rate (attachment 3), forecast capex (attachment 6) and forecast depreciation (attachment 5). The main driver of this increase is our final decision on the expected inflation rate. The higher expected inflation rate increases the indexation of the RAB component for the 2017–22 regulatory control period by \$126.6 million.¹² This more than offsets our final decision reduction to forecast capex. The net impact is a higher RAB at 31 March 2022 than that proposed by AusNet Services.

Table 3.3 sets out our forecast RAB for AusNet Services in 2017–22.

¹² The inflation on the opening RAB is removed from the regulatory depreciation allowance. See section 3.4 and attachment 5 for further details.

Table 3.3 AER's final decision on AusNet Services' RAB for the 2017–22 regulatory control period (\$million, nominal)

	2017–18	2018–19	2019–20	2020–21	2021–22
Opening RAB	3170.3	3261.2	3330.0	3383.9	3414.4
Capital expenditure ^a	187.6	167.8	159.7	141.7	122.8
Inflation indexation on opening RAB	76.1	78.3	79.9	81.2	81.9
Less: straight-line depreciation ^b	172.8	177.2	186.6	191.4	175.2
Closing RAB	3261.2	3330.0	3382.9	3414.5	3443.9

Source: AER analysis.

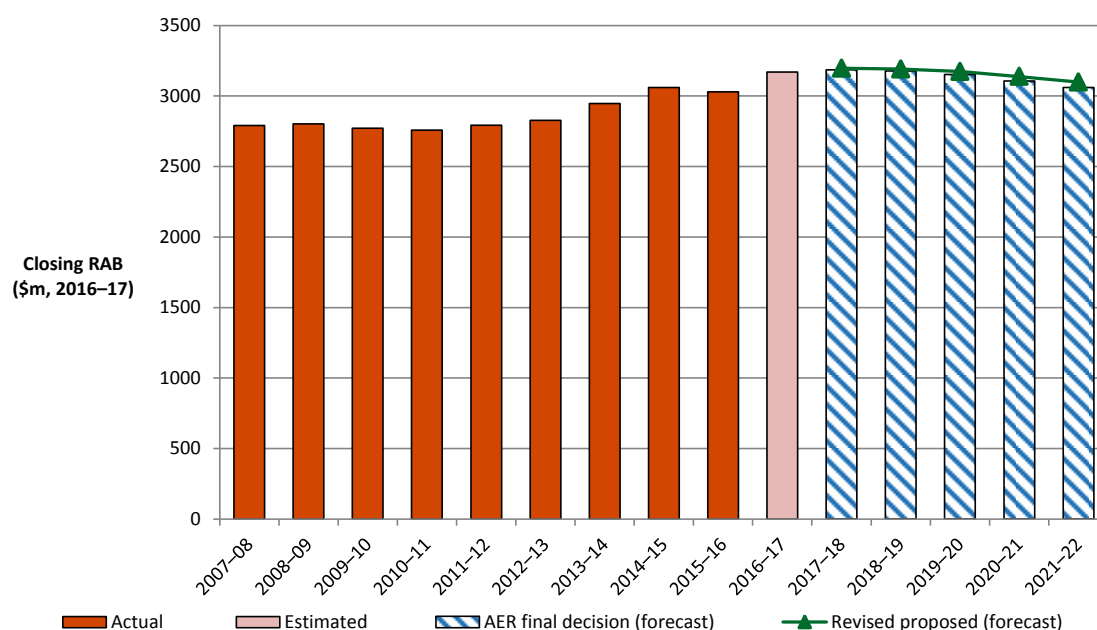
- (a) As incurred and net of disposals. Inclusive of equity raising costs and the half-WACC to account for the timing assumptions in the PTRM.
- (b) Based on as-commissioned capex.

We accept AusNet Services' proposal that the forecast depreciation approach (instead of an actual depreciation approach) updated for actual inflation is to be used to establish the opening RAB at the commencement of the 2022–27 regulatory control period.¹³ We consider this approach will provide sufficient incentives for AusNet Services to achieve capex efficiency improvements over the 2017–22 regulatory control period. AusNet Services is not currently subject to a capital expenditure sharing scheme (CESS). As explained in section 4.2 and attachment 10, we will apply the CESS to AusNet Services for the 2017–22 regulatory control period.

Figure 3.2 compares our final decision on AusNet Services' forecast RAB to AusNet Services' proposal and actual RAB in real dollar terms. The forecast RAB does not include any Group 3 assets (augmentation capex), which may be commissioned during the 2017–22 regulatory control period. These assets would be added to the RAB at the next reset.

¹³ NER, cl. S6A.2.2B(a).

Figure 3.2 AusNet Services' actual RAB, proposed forecast RAB and AER final decision forecast RAB (\$ million, 2016–17)



Source: AER analysis.

Further detail on our final decision in regards to AusNet Services' RAB is set out in attachment 2.

3.2 Rate of return (return on capital)

The return on capital is the key difference between our final decision for the 2017–22 regulatory control period and AusNet Services' allowed revenue for the 2014–17 regulatory control period. Both the estimated return on equity and estimated return on debt fell across the periods.

The estimated return on equity fell from 9.5 per cent in the 2014–17 regulatory control period to 7.1 per cent in the 2017–22 regulatory control period. The estimated return on debt fell from 6.79 per cent in the 2014–17 regulatory control period to 4.94 per cent in the 2017–22 regulatory control period.

Table 3-4 Final decision on AusNet Services' rate of return (% nominal)

	Previous allowed return (2014–17)	AER draft decision (2017–18)	AER final decision (2017–18)	Allowed return over 2017–22 regulatory control period
Return on equity (nominal post-tax)	9.51	7.10	7.1	Constant (7.1%)
Return on debt (nominal pre-tax)	6.79	5.54	4.94	Updated annually
Gearing	60	60	60	Constant (60%)
Nominal vanilla WACC	7.87	6.16	5.80	Updated annually for return on debt
Forecast inflation	2.45	2.44	2.40	Constant (%)

Source: AER analysis; AusNet Services, *Transmission Revenue Review 2017-2022 - Revised Revenue Proposal*, 21 September 2016; AER, *Final Decision: SP AusNet Transmission determination 2014-2017*, January 2014.

The falls were primarily caused by a reduction in the risk free rate, which flowed through to the estimated return on debt and return on equity. However, the equity beta used for return on equity estimation also fell from a value of 0.8 for the 2014–17 regulatory control period to 0.7 for the 2017–22 regulatory control period reducing the estimated equity risk premium.

Differences between the draft and final decisions for the 2017–22 regulatory control period were much smaller. The rate of return of 5.80 per cent approved in this final decision is lower than our draft decision of 6.16 per cent. Our approach to calculating the rate of return did not change, but our final decision updates the rate of return to reflect data from approved averaging periods used for estimating the return on equity and return on debt.

Further detail on our final decision in regards to AusNet Services' allowed rate of return is set out in attachment 3.

3.3 Value of imputation credits (gamma)

Our final decision adopts a value of imputation credits of 0.4. We do not accept AusNet Services' proposed value of imputation credits (or gamma) of 0.25. We consider that a value for imputation credits of 0.4 will result in equity investors in the benchmark efficient entity receiving an ex ante total return (inclusive of the value of imputation credits) commensurate with the efficient equity financing costs of a benchmark efficient entity.

In coming to a value of imputation credits of 0.4:

- We adopt a conceptual approach consistent with the Officer framework,¹⁴ which we consider best promotes the objectives and requirements of the NER/NGR. This approach considers the value of imputation credits is a post-tax value before the impact of personal taxes and transaction costs.¹⁵ As such, we view the value of imputation credits as the proportion of company tax returned to investors through the utilisation of imputation credits.¹⁶
- We consider our conceptual approach allows for the value of imputation credits to be estimated on a consistent basis with the allowed rate of return and allowed revenues under the post-tax framework in the NER/NGR.¹⁷
- We use the widely accepted approach of estimating the value of imputation credits as the product of two sub-parameters: the 'distribution rate' and the 'utilisation rate'.¹⁸ Our definition of, and estimation approach for, these sub-parameters is set out in Table 3.5.

Table 3.5 Gamma sub-parameters: definition and estimation approach

Sub-parameter	Definition	Estimation approach
Distribution rate (or payout ratio)	The proportion of imputation credits generated that is distributed to investors.	Primary reliance placed on the widely accepted cumulative payout ratio approach. Some regard is also given to Lally's estimate for listed equity from financial reports of the 20 largest listed firms.
Utilisation rate (or theta)	The utilisation value to investors in the market per dollar of imputation credits distributed. ¹⁹	A range of approaches, with due regard to the merit of each approach: <ul style="list-style-type: none"> • equity ownership approach • tax statistics • implied market value studies.

Source: AER analysis.

¹⁴ The Officer framework is discussed in detail in section **Error! Reference source not found..**

¹⁵ Post-tax refers to after company tax and before personal tax.

¹⁶ This means one dollar of claimed imputation credits has a post (company) tax value of one dollar to investors before personal taxes and personal transaction costs.

¹⁷ In finance, the consistency principle requires that the definition of the cash flows in the numerator of a net present value (NPV) calculation must match the definition of the discount rate (or rate of return / cost of capital) in the denominator of the calculation (see Peirson, Brown, Easton, Howard, Pinder, *Business Finance*, McGraw-Hill, Ed. 10, 2009, p. 427). By maintaining this consistency principle, we provide a benchmark efficient entity with an ex ante total return (inclusive of the value of imputation credits) commensurate with the efficient financing costs of a benchmark efficient entity.

¹⁸ These sub-parameters are discussed further in section **Error! Reference source not found..**

¹⁹ In this decision we use the terms theta, utilisation value and utilisation rate interchangeably to mean the same thing.

Overall, the evidence suggests a range of estimates for the value of imputation credits might be reasonable. With regard to the merits of the evidence before us, we choose a value of imputation credits of 0.4 from within a range of 0.3 to 0.5.

In considering the evidence on the distribution and utilisation rates, we have broadly maintained the approach set out in the Rate of Return Guideline (the Guideline), but have re-examined the relevant evidence and estimates. This re-examination, and new evidence and advice considered since the Guideline, led us to depart from the 0.5 value of imputation credits we proposed in the Guideline.

Further detail on our final decision in regards to the value of AusNet Services' imputation credits is set out in attachment 4.

3.4 Regulatory depreciation (return of capital)

Depreciation is the allowance provided so that capital investors can recover their investment over the economic life of the asset (return of capital). In deciding whether to approve the depreciation schedules submitted by AusNet Services, we make determinations on the indexation of the regulatory asset base (RAB) and depreciation building blocks for AusNet Services' 2017–22 regulatory control period.²⁰ The regulatory depreciation allowance is the net total of the RAB depreciation less the inflation indexation adjustment of the RAB.

Our final decision approves a regulatory depreciation allowance of \$505.9 million (\$ nominal) for the 2017–22 regulatory control period. This is \$118.3 million (19.0 per cent) lower than AusNet Services' proposed value of \$602.8 million (\$ nominal).

Table 3.6 shows our final decision on AusNet Services' depreciation allowance for the 2017–22 regulatory control period.

Table 3.6 AER's final decision on AusNet Services' depreciation allowance for the 2017–22 regulatory control period (\$ million, nominal)

	2017–18	2018–19	2019–20	2020–21	2021–22	Total
Straight-line depreciation	172.8	177.2	186.6	191.4	175.2	903.3
Less: inflation indexation on opening RAB	76.1	78.3	79.9	81.2	81.9	397.4
Regulatory depreciation	96.7	99.0	106.7	110.2	93.3	505.9

Source: AER analysis.

The key reasons for the difference between our regulatory depreciation allowance and the allowance proposed by AusNet Services' are:

²⁰ NER, cl. 6A.5.4(a)(1) and (3).

- We reject AusNet Services' revised proposal for accelerated depreciation over the next eight years of assets associated with the Yallourn Power Station (YPS)
- We made determinations on other components of AusNet Services' proposal that also affect the forecast regulatory depreciation allowance—for example, the expected inflation rate (attachment 3) and forecast capex (attachment 6). The revision to the expected inflation rate is the largest driver of the reduction in the regulatory depreciation allowance (which is net of the inflation indexation on the opening RAB) from that proposed.

Further detail on our final decision in regards to depreciation is set out in attachment 5.

3.5 Capital expenditure

Capital expenditure (capex) refers to the capital expenses incurred in the provision of network services. The return on and return of forecast capex are two of the building blocks we use to determine a TNSP's total revenue requirement.

Our final decision approves \$719.1 million (\$2016-17) total net forecast capex for the 2017–22 regulatory control period. This is \$32.1 million (or 4.3 per cent) lower than AusNet Services' proposed value of \$751.3 million. Table 3.7 shows our decision compared to AusNet Services' forecast.

Table 3.7 Final decision on AusNet Services' total forecast capex (\$2016–17, million)

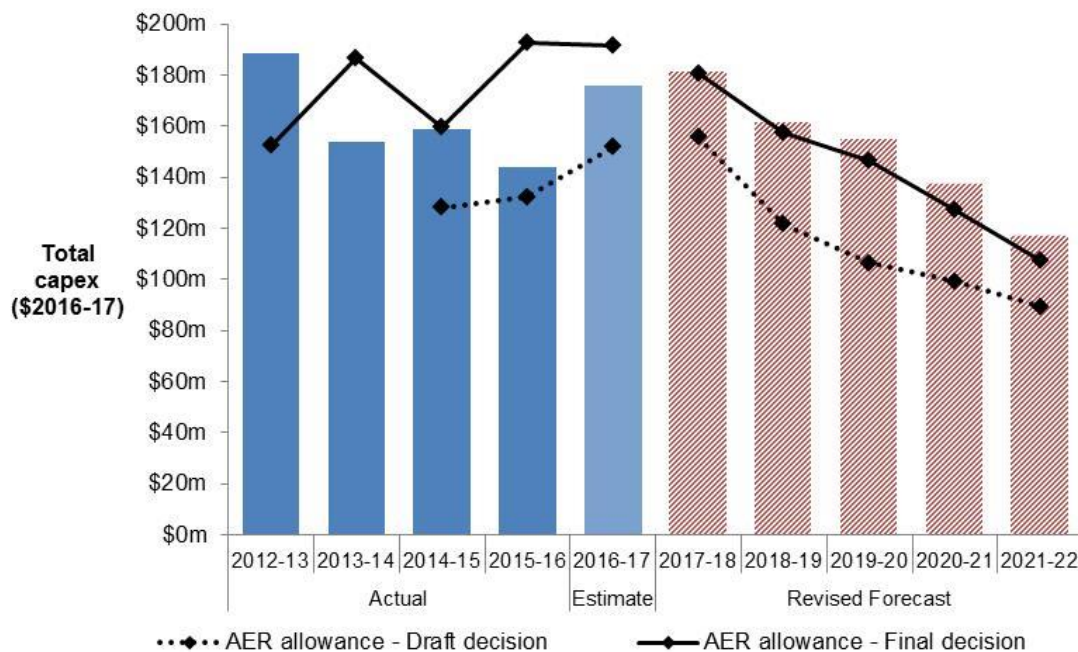
	2017–18	2018–19	2019–20	2020–21	2021–22	Total
AusNet Services' revised proposal	181.0	161.6	154.7	137.3	116.7	751.3
AER final decision	180.5	157.6	146.5	127	107.5	719.1
Total adjustment	-0.5	-4.0	-8.1	-10.3	-9.2	-32.1
Total adjustment (%)	-0.3%	-2.5%	-5.3%	-7.5%	-7.9%	-4.3%

Source: AusNet Services, Revised regulatory proposal; 21 September 2016, p. 81; and AER analysis.

Note: Numbers may not add up due to rounding.

Figure 3.3 shows our capex decision compared to AusNet Services' proposal, its past allowances and past actual expenditure.

Figure 3.3 AusNet Services' total actual and forecast capex 2014–2022



Source: AER analysis.

AusNet Services' forecasting methodology for replacement capex uses a quantified risk based approach to support an economic analysis of project costs and benefits. AusNet Services quantifies the cost of asset failure associated with supply security, health and safety, environmental and plant collateral damage risks, and replaces assets when the quantified costs of these risks outweigh forecast replacement costs. This risk quantification approach is generally consistent with good industry practice. However, we have identified some issues relating to AusNet Services' input assumptions which have led us to conclude that AusNet Services' economic assessment is likely to overstate the cost of safety and supply security risks.

The key components of our final decision include:

- Reductions in replacement capex related to estimated risks associated with safety based on a more realistic assumption of the probability of safety related outcomes,
- Reductions in replacement capex related to reliability risk driven by adoption of AEMO's forecasts of transmission connection point demand, and
- Reductions in replacement capex related to reliability risk based on more realistic assumptions on the time to restore supply after a failure.

The quantum of the various reductions described above is less than the equivalent reductions applied in our draft decision, and indeed relatively minor overall. This is due to the additional justification provided by AusNet Services to support the need for particular projects, such as the West Melbourne and East Rowville terminal station projects, and the application of revised input assumptions for safety risk exposure and forecast demand.

Further detail on our final decision in regards to capex is set out in attachment 6.

3.6 Operating expenditure

Our final decision is to approve total forecast opex of \$1132.0 million (\$2016–17) for the 2017–22 regulatory period, which we consider reasonably reflects the opex criteria under the National Electricity Rules.

Our final decision is higher than AusNet Services' revised proposal of \$1049.6 million (\$2016–17).²¹ This is because we have incorporated new information into our total opex forecast that became available subsequent to AusNet Services' revised proposal.

The Victorian Government increased the easement land tax imposed on AusNet Services.²² Accordingly, we increased our forecast of *annual* easement land tax from \$114.3 million to \$135.0 million (\$2016–17) in our alternative estimate.²³ Had this not occurred, our final decision would have been \$21.2 million lower than AusNet Services' revised proposal. Otherwise, our final decision is largely consistent with our draft decision.

Our final decision is set out in table 3.6.

Table 3.8 Our final decision on total opex (\$ million, 2016–17)

	2017–18	2018–19	2019–20	2020–21	2021–22	Total
AusNet Services' initial proposal	218.9	214.0	215.5	217.7	219.0	1085.0
AER draft decision	204.2	204.4	204.8	205.2	205.6	1024.1
AusNet Services' revised proposal	214.0	208.0	208.4	209.5	209.6	1049.6
AER final decision excluding impact of increase in easement land tax	204.6	205.1	205.7	206.2	206.7	1028.4
AER final decision	225.4	225.8	226.4	226.9	227.4	1132.0

Source: AusNet Services, *Revised proposal*, AER analysis. Note: Excludes debt raising costs. Numbers may not add up due to rounding.

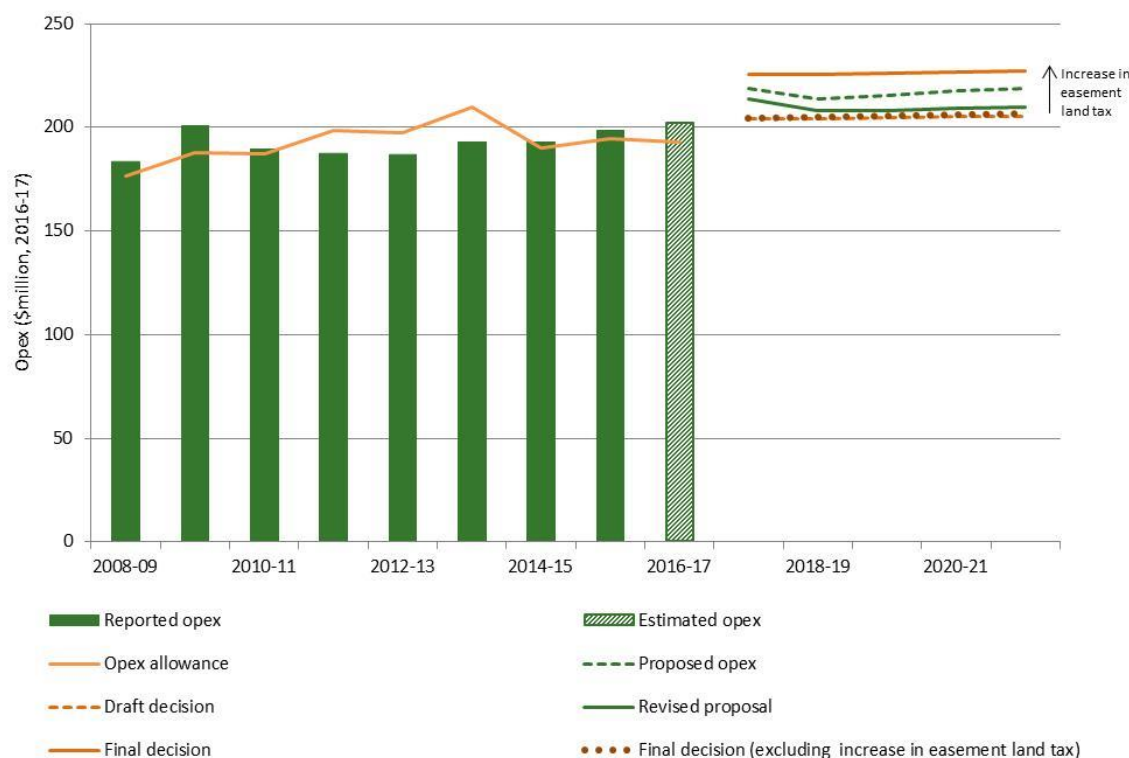
Figure 3.4 shows our final decision compared to AusNet Services' initial and revised proposals, its past allowances and actual expenditure. It also shows the impact of the increase in the easement land tax on our final decision.

²¹ Excludes debt raising costs; AusNet Services, *Revised revenue proposal: 2017–22 Opex model*, 21 September 2016.

²² AusNet Services, *Submission on revised proposal*, 20 December 2016, p. 4.

²³ We include a category specific forecast for easement land tax because AusNet Services is entitled to apply for a 'cost pass through' where our forecast differs (higher or lower) from the actual tax paid. To apply this pass through we need an explicit forecast of easement land tax costs. This is explained in section 7.5.3.2.

Figure 3.4 AER final decision compared to AusNet Services' past and proposed opex (\$ million, 2016–17)



Source: AusNet Services, *Regulatory accounts 2008-09 to 2014-15*; AusNet Services, *Economic benchmarking - Regulatory Information Notice response 2006 to 2015*; AusNet Services, *initial and revised opex model and PTRM*, AER analysis. Note: Excludes debt raising costs and movements in provisions.

We assessed AusNet Services' opex proposal by applying our 'base-step-trend' forecasting approach to develop our alternative estimate.

We used AusNet Services' reported opex in 2014–15 as the 'base' component of our opex forecast for 2017–22. Our transmission benchmarking results do not indicate AusNet Services' reported opex is materially inefficient compared to the other NEM businesses. We therefore consider its reported opex in 2014–15 is a reasonable starting point for determining our opex forecast.

Our forecast of the rate of change is lower than AusNet Services' for two key reasons.

First, in forecasting labour price growth, AusNet Services treated all services contract expenditure as labour costs. This assumes the price change of contractors' non-labour inputs is the same as their labour. Consequently, AusNet Services applied a higher weighting to labour price growth in determining the mix of labour and non-labour price growth. Given labour costs are expected to increase at a higher rate than non-labour inputs, this overstates the cost inputs required by a prudent and efficient network service provider.

Second, for the cost inputs calculation, we reject AusNet Services' proposal to use 'firm-specific weights', which were based on its actual expenditure in 2014, rather than the 'benchmark weights' we typically apply across our regulatory decisions. We consider that using a network business' actual input price weights distorts the incentive to use the efficient proportion of internal labour, among other concerns.

We have not incorporated any step changes in our opex forecast. AusNet Services' proposed step changes are not driven by new regulatory obligations or efficient capex-opex trade-offs. We consider adding step changes for new or increasing opex items identified by AusNet Services *and* incorporating AusNet Services' revealed costs would lead to a forecast of total opex that is above efficient levels. For similar reasons, we have not included a category specific forecast for self-insurance as proposed by AusNet Services.

Further detail on our final decision in regard to opex is set out in attachment 7.

3.7 Corporate income tax

We make a decision on the estimated cost of corporate income tax for AusNet Services' 2017–22 regulatory control period as part of our revenue determination. It enables AusNet Services to recover the costs associated with the estimated corporate income tax payable during the regulatory control period.

Our final decision includes an estimated cost of corporate income tax of \$59.5 million (\$ nominal) for AusNet Services over the 2017–22 regulatory control period. This represents a reduction of \$53.1 million (or 47.2 per cent) from AusNet Services' revised proposal. Table 3.9 shows our final decision on AusNet Services' corporate income tax allowance for the 2017–22 regulatory control period.

Table 3.9 AER's final decision on corporate income tax allowance for AusNet Services (\$million, nominal)

	2017–18	2018–19	2019–20	2020–21	2021–22	Total
Tax payable	22.1	17.7	20.6	23.3	15.4	99.2
Less: value of imputation credits	8.8	7.1	8.2	9.3	6.2	39.7
Net corporate income tax allowance	13.2	10.6	12.4	14.0	9.2	59.5

Source: AER analysis.

This reduction is mainly driven by our determination on AusNet Services' proposed value of imputation credits (gamma) as discussed in attachment 4. Our determinations on other building block components including forecast capex (attachment 6) and forecast opex (attachment 7) also affect revenues, which impact the tax calculation. The changes affecting revenues are discussed in attachment 1.

Further detail on our final decision in regards to corporate income tax is set out in attachment 8.

4 Incentive schemes

Incentive schemes are a component of incentive-based regulation and complement our approach to assessing efficient costs. The incentive schemes that will apply to AusNet Services are:

- the efficiency benefit sharing scheme (EBSS)
- the capital expenditure sharing scheme (CESS)
- the service target performance incentive scheme (STPIS).

Our incentive schemes encourage network businesses to make efficient decisions. They give network businesses an incentive to pursue efficiency improvements in opex and capex, and to share them with consumers. Incentives for opex and capex are balanced with the incentives under our STPIS. The incentive schemes encourage businesses to make efficient decisions on when and what type of expenditure to incur, and meet service reliability targets.

4.1 Efficiency benefit sharing scheme (EBSS)

The EBSS provides an incentive for service providers to pursue efficiency improvements in opex.

To encourage a service provider to become more efficient, under an ex ante framework, a service provider retains any efficiency gains it makes until the end of the regulatory control period when its opex forecast is reset. The EBSS allows the service provider to retain any efficiency gains it makes for a total of six years, regardless of the year in which the gains are made.²⁴ This provides a continuous incentive for service providers to pursue efficiency gains over the regulatory control period. It also discourages a service provider from incurring opex in the expected base year to receive a higher opex allowance in the following regulatory control period.

We approve a total EBSS carryover amount of \$1.0 million (\$2016–17), from the application of the EBSS in the 2014–17 regulatory control period, be added to AusNet Services' allowed revenue.²⁵ This is consistent with AusNet Service' revised proposal.²⁶ Our final decision on the EBSS carryover amounts from the 2014–17 regulatory control period is outlined in Table 4.1.

²⁴ The service provider keeps any efficiency gains in the year it makes them. The service provider then keeps those gains for the length of the carryover period. The carryover length is usually five years so the service provider keeps efficiency gains for a total of six years.

²⁵ AER, *Electricity transmission network service providers' - Efficiency benefit sharing scheme*, September 2007.

²⁶ AusNet Services, *Revised regulatory proposal*, 21 September 2016, p. 221.

Table 4.1 AER's final decision on AusNet Services EBSS carryover amounts (\$ million, 2016–17)

	2017-18	2018-19	2019-20	2020-21	2021-22	Total
AusNet Services proposal	1.7	1.7	1.7	0.5	-	5.6
AER draft decision	1.3	1.3	1.3	0.0	1.1	5.1
AusNet Services revised proposal	1.3	1.3	1.3	0.0	-3.0	1.0
AER final decision	1.3	1.3	1.3	0.0	-3.0	1.0

Source: AusNet Services, Regulatory proposal, October 2015, p.169; AusNet Services, Revised regulatory proposal, September 2016, p. 221; AER analysis.

Note: Numbers may not add up due to rounding.

Our final decision is to apply version two of the EBSS to AusNet Services in the 2017–22 regulatory control period.²⁷ When we apply version two of the EBSS, we will exclude the cost categories listed in section 9.4.2 of attachment 9 from forecast and actual opex used to calculate EBSS carryover amounts. Table 4.2 sets out our final decision on AusNet Services' target opex for the EBSS (total opex less excluded categories²⁸), against which we will calculate efficiency gains in the 2017–22 regulatory control period.

Table 4.2 AER's final decision on AusNet Services forecast opex for the EBSS (\$ million, 2016–17)

	2017-18	2018-19	2019-20	2020-21	2021-22
Total forecast opex	226.9	227.4	228.0	228.5	229.0
Less debt raising costs	-1.6	-1.6	-1.6	-1.6	-1.5
Less easement land tax	-135.0	-135.0	-135.0	-135.0	-135.0
Target opex for the EBSS	90.3	90.8	91.4	91.9	92.4

Source: AER analysis.

Note: Total forecast opex less forecast opex for easement land tax and debt raising costs. Forecast opex does not include AIS rebates or priority projects under the STPIS network capability function.

Further detail on our final decision in regards to the application of the EBSS, including proposed expenditure items to be excluded, is set out in attachment 9.

²⁷ AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013.

²⁸ Easement land tax and debt raising costs.

4.2 Capital expenditure sharing scheme (CESS)

The CESS provides an incentive for service providers to pursue efficiency improvements in capex. Similar to the EBSS, the CESS provides a network service provider with the same reward for an efficiency saving and the same penalty for an efficiency loss regardless of which year they make the saving or loss.

Under the CESS a service provider retains 30 per cent of the benefit or cost of an under spend or overspend, while consumers retain 70 per cent of the benefit or cost of an underspend or overspend. This means that for a one dollar saving in capex the service provider keeps 30 cents of the benefit while consumers keep 70 cents of the benefit. Conversely, in the case of an overspend, the service provider pays for 30 cents of the cost while consumers bear 70 cents of the cost.

We will apply the CESS as set out in version 1 of the capital expenditure incentives guideline to AusNet Services in the 2017–22 regulatory control period.²⁹ The guideline provides for the exclusion from the CESS of capex the service provider incurs in delivering a priority project approved under the network capability component of the STPIS for transmission network service providers.³⁰ This is consistent with the proposed approach we set out in our framework and approach paper.³¹

4.3 Service target performance incentive scheme (STPIS)

The STPIS is intended to balance a business' incentive to reduce expenditure with the need to maintain or improve service quality. It achieves this by providing financial incentives to businesses to maintain and improve service performance where customers are willing to pay for these improvements.

Businesses can only retain their rewards for sustained and continuous improvements to the reliability of supply for customers. Once improvements are made, the benchmark performance targets will be tightened in future years.

Our final decision is to apply all components of version 5 of the STPIS to AusNet Services for the 2017–22 regulatory control period. The STPIS parameters applied in our final decision are set out in attachment 11.

²⁹ NER, cl. 6A.14.1(5A). AER, *Capex incentive guideline*, November 2013, pp. 5–9.

³⁰ NER, cl 6A.14.1(5A).

³¹ AER, *Final framework and approach for AusNet Services transmission determination 2017–22*, April 2015, p. 23.

5 Understanding the NEO

The NEO is the central feature of the regulatory framework. The NEO is to:

promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—

(a) price, quality, safety, reliability and security of supply of electricity; and

(b) the reliability, safety and security of the national electricity system.³²

Energy Ministers have provided us with a substantial body of explanatory material that guides our understanding of the NEO.³³ The long term interests of consumers are not delivered by any one of the NEO's factors in isolation, but rather by balancing them in reaching a regulatory decision.³⁴

In general, we consider that we will achieve this balance and, therefore, contribute to the achievement of the NEO, where consumers are provided a reasonable level of safe and reliable service that they value at least cost in the long run.³⁵ We have also considered the quality and reliability of services provided to consumers. For example, opex allowances have been set so AusNet Services may meet existing and new regulatory requirements. Replacement expenditure (repex) allowances take into account the age and condition of assets. Our capex allowance is based on a contemporary estimate of the value of customer reliability. And the STPIS encourages maintenance, and indeed improvement of, service quality.

The nature of decisions under the NER is such that there may be a range of economically efficient decisions, with different implications for the long term interests of consumers.³⁶ At the same time, however, there are a range of outcomes that are unlikely to advance the NEO, or advance the NEO to the degree that others would.

For example, we do not consider that the NEO would be advanced if allowed revenues encourage overinvestment and result in prices so high that consumers are unwilling or unable to efficiently use the network.³⁷ This could have significant longer term pricing implications for those consumers who continue to use network services.

³² NEL, section 7.

³³ Hansard, *SA House of Assembly*, 9 February 2005, pp. 1451–1460; Hansard, *SA House of Assembly*, 27 September 2007, pp. 963–972; Hansard, *SA House of Assembly*, 26 September 2013, pp. 7171–7176.

³⁴ Hansard, *SA House of Assembly*, 26 September 2013, p. 7173.

³⁵ Hansard, *SA House of Assembly*, 9 February 2005, p. 1452.

³⁶ Re Michael: Ex parte Epic Energy [2002] WASCA 231 at [143].

Energy Ministers also accept this view – see Hansard, *SA House of Assembly*, 26 September 2013, p. 7172.

AEMC, *Rule determination, National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006 No. 18*, 16 November 2006, p. 50.

³⁷ NEL, s. 7A(7).

Equally, we do not consider the NEO would be advanced if allowed revenues result in prices so low that investors are unwilling to invest as required to adequately maintain the appropriate quality and level of service, and where customers are making more use of the network than is sustainable. This could create longer term problems in the network³⁸ and could have adverse consequences for safety, security and reliability of the network.

The NEL also includes the revenue and pricing principles (RPP),³⁹ which support the NEO. As the NEL requires,⁴⁰ we have taken the RPPs into account throughout our analysis.

The RPPs are:

A regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in—

- providing direct control network services; and
- complying with a regulatory obligation or requirement or making a regulatory payment.

A regulated network service provider should be provided with effective incentives in order to promote economic efficiency with respect to direct control network services the operator provides. The economic efficiency that should be promoted includes—

- efficient investment in a distribution system or transmission system with which the operator provides direct control network services; and
- the efficient provision of electricity network services; and
- the efficient use of the distribution system or transmission system with which the operator provides direct control network services.

Regard should be had to the regulatory asset base with respect to a distribution system or transmission system adopted—

- in any previous—
- as the case requires, distribution determination or transmission determination; or
- determination or decision under the National Electricity Code or jurisdictional electricity legislation regulating the revenue earned, or prices charged, by a person providing services by means of that distribution system or transmission system; or

³⁸ NEL, s. 7A(6).

³⁹ NEL, s. 7A.

⁴⁰ NEL, s. 16(2).

– in the Rules.

A price or charge for the provision of a direct control network service should allow for a return commensurate with the regulatory and commercial risks involved in providing the direct control network service to which that price or charge relates.

Regard should be had to the economic costs and risks of the potential for under and over investment by a regulated network service provider in, as the case requires, a distribution system or transmission system with which the operator provides direct control network services.

Regard should be had to the economic costs and risks of the potential for under and over utilisation of a distribution system or transmission system with which a regulated network service provider provides direct control network services.

Consistent with Energy Ministers' views, we set revenue allowances to balance all elements of the NEO and consider each of the RPPs.⁴¹ For example:

- In determining forecast opex and capex that reasonably reflects the opex and capex criteria, we take into account the revenue and pricing principle that should provide AusNet Services with a reasonable opportunity to recover at least efficient costs. (Refer to capex attachment 6 and opex attachment 7).
- We take into account the economic costs and risks of the potential for under and over investment by a network service provider in our assessment of AusNet Services' forecast capex and opex proposals. (Refer to capex attachment 6 and opex attachment 7).
- We consider the economic costs and risks of the potential for under and over utilisation of AusNet Services' transmission system in our demand forecasting (Refer to capex attachment 6).
- Our application of the EBSS, CESS, and STPIS in this determination provide AusNet Services with effective incentives which we consider will promote economic efficiency with respect to the direct control services that AusNet Services provides throughout the regulatory control period. (Refer to attachments 9, 10 and 11).
- We have determined AusNet Services' opening RAB taking into account the RAB adopted in the previous transmission determination. (Refer to attachment 2, regulatory asset base).
- The allowed rate of return objective reflects the revenue and pricing principle in s. 7A(5) of the NEL. We have determined a rate of return that we consider will provide AusNet Services with a return commensurate with the regulatory and commercial risks involved in providing direct control services. (Refer to attachment 3, rate of return).

⁴¹ Hansard, *SA House of Assembly*, 27 September 2007, p. 965; Hansard, *SA House of Assembly*, 26 September 2013, p. 7173.

- Our financing determinations provide the TNSP with a reasonable opportunity to recover at least the efficient costs of accessing debt and capital. (Refer to attachment 3, rate of return).

In some cases, our approach to a particular component (or part thereof) results in an outcome towards the end of the range of options that may be favourable to the businesses. While it can be difficult to quantify the exact revenue impact of these individual decisions, we have identified where we have done so in our attachments. Some of these decisions include:

- selecting at the top of the range for the equity beta
- setting the return on debt by reference to data for a BBB broad band credit rating, when the benchmark is BBB+
- the cash flow timing assumptions in the post-tax revenue model.

We take into account the RPPs when exercising discretion about an appropriate estimate. This requires a recognition that for the long term interests of consumers, the risk of under compensation for, or underinvestment by, a service provider may be less desirable than the risk of overcompensation or overinvestment. However, the AER is also conscious of the risk of introducing an inherent bias towards higher amounts where estimates throughout the different components of the determination are each set too conservatively.⁴² The legislative framework recognises the complexity of this task by providing the AER with significant discretion in many aspects of the decision-making process to make judgements on these matters.

Chapter 6A of the NER provides specifically for the economic regulation of TNSPs. It includes rules about the constituent components of our decisions. These are intended to contribute to the achievement of the NEO.⁴³

5.1 Achieving the NEO to the greatest degree

Electricity transmission determinations are complex decisions and must be considered as such. In most instances, the provisions of the NER do not point to a single answer, either for our decision as a whole or in respect of particular components. They require us to exercise our regulatory judgement. For example, chapter 6A of the NER requires us to prepare forecasts, which are predictions about unknown future circumstances. As a result, there will likely always be more than one plausible forecast.⁴⁴ There is substantial debate amongst stakeholders about the costs we must forecast, with both sides often supported by expert opinion. As a result, for certain components of our decision there may be several plausible answers or several plausible point estimates.

⁴² AEMC, *Rule determination, National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006 No. 18*, 16 November 2006, p. 52.

⁴³ NEL, s. 88.

⁴⁴ AEMC, *Rule Determination: National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006*, (16 November 2006), 52.

When the constituent components of our decision are considered together, this means there will almost always be several potential, overall decisions. More than one of these may contribute to the achievement of the NEO. Where this is the case, our role is to make an overall decision that we are satisfied contributes to the achievement of the NEO to the greatest degree.⁴⁵

We approach this from a practical perspective, accepting that it is not possible to consider every permutation specifically. Where there are choices to be made among several plausible alternatives each of which would result in an overall decision that contributes to the achievement of the NEO, we have selected what we are satisfied would result in an overall decision that contributes to the achievement of the NEO to the greatest degree. This is our role under the NEO.

In coming to this final decision we considered AusNet Services' revised revenue proposal. We have examined each of the building block components of the revised proposal and the incentive mechanisms that would apply across the 2017–22 regulatory control period. We considered the submissions we received in regard to AusNet Services' revised proposal. We conducted our own analysis and engaged expert consultants to help us better understand if and how AusNet Services' revised proposal contributes to the achievement the NEO. We also considered how our constituent decisions relate to each other, the impact that particular constituent decisions have on other constituent components of our decision, and have described these interrelationships in this final decision. We have undertaken an extensive and consultative regulatory review process to ensure we have canvassed stakeholder issues and made as much of this information publicly available as practicable. We have had regard to and weighed up all the information assembled before us in making this final decision.

Therefore, we are satisfied that among the options before us our final decision on AusNet Services' transmission determination for the 2017–22 regulatory control period contributes to the achieving the NEO to the greatest degree.

5.2 Interrelationships between constituent components

Examining constituent components in isolation ignores the importance of the interrelationships between components of the overall decision, and would not contribute to the achievement of the NEO. As outlined by Energy Ministers, considering the elements in isolation has resulted in regulatory failures in the past.⁴⁶ Interrelationships can take various forms, including:

⁴⁵ NEL, s. 16(1)(d).

⁴⁶ SCER, *Regulation impact statement: Limited merits review of decision-making in the electricity and gas regulatory frameworks*, Decision paper, 6 June 2013, p. 6

- underlying drivers and context which are likely to affect many constituent components of our decision. For example, forecast demand affects the efficient levels of capex and opex in the regulatory control period (see attachment 6 and 7).
- direct mathematical links between different components of a decision. For example, the level of gamma has an impact on the appropriate tax allowance; the benchmark efficient entity's debt to equity ratio has a direct effect on the cost of equity, the cost of debt, and the overall vanilla rate of return (see attachments 3, 4 and 8).
- trade-offs between different components of revenue. For example, undertaking a particular capex project may affect the need for opex or vice versa (see attachments 6 and 7).
- trade-offs between forecast and actual regulatory measures. The reasons for one part of a proposal may have impacts on other parts of a proposal. For example, an increase in augmentation to the network means the TNSP has more assets to maintain leading to higher opex requirements (see attachments 6 and 7).
- the TNSP's approach to managing its network. The TNSP's governance arrangements and its approach to risk management will influence most aspects of the proposal, including capex/opex trade-offs (see attachment 6).

We have considered interrelationships, including those above, in our analysis of the constituent components of our final decision. These considerations are explored in the relevant attachments.

6 Consultation

Stakeholder participation is important to informed decision making under the NEL and NER. It allows us to take a range of views into account when considering how a proposal or decision contributes to the NEO. Effective consultation and engagement provide confidence in our processes and are good regulatory practice. This is reflected in the consultation process set out in the NER, under which we have:

- published AusNet Services revenue proposals and supporting material
- published an issues paper identifying preliminary issues with the revenue proposal
- invited written submissions on the revenue proposal
- held a public forum on the revenue proposal
- published a draft decision and reasoning
- published AusNet Services revised revenue proposal and supporting material
- invited written submissions on the draft decision and revised revenue proposal
- published this final decision and reasoning.

We also sought advice from the AER's Consumer Challenge Panel (CCP) on AusNet Services revised revenue proposal. Both the CCP and AusNet Services met with the AER Board to discuss this review.

This process builds on consultation we undertook with a broad range of stakeholders as part of the Better Regulation program. Following changes to the NER in 2012, we spent much of 2013 consulting on and refining our assessment methods and approaches to decision making. We referred to this as our Better Regulation program. The Better Regulation program was designed to be an inclusive process that provided an opportunity for all stakeholders to be engaged and provide their input.⁴⁷

This gives us confidence the approaches set out in our various guidelines, which we have applied in this decision, will result in outcomes that will or are likely to contribute to the achievement of the NEO to the greatest degree. Our Better Regulation guidelines are available on our website⁴⁸ and include:

- Expenditure forecast assessment guideline
- Expenditure incentives guideline
- Rate of return guideline
- Consumer engagement guideline for network service providers
- Shared assets guideline

⁴⁷ AER, *Overview of the Better Regulation reform package*, April 2014, pp. 4 & 7–13.

⁴⁸ www.aer.gov.au/better-regulation-reform-program

- Confidentiality guideline.

The guidelines provide businesses, investors and consumers predictability and transparency of our approach to regulation under the new rules.

6.1 Consumer engagement

Recent changes to the NER provide further support for consumer involvement in the regulatory process, and enable us to engage more productively with energy consumers and businesses.⁴⁹ Chapter 6A of the NER was amended to, among other things, require:

- TNSPs to submit an overview with their revenue proposal which describes how they have engaged with consumers and sought to address any relevant concerns identified by that engagement⁵⁰
- the AER to publish an issues paper after receiving the TNSP's revenue proposal.⁵¹ The purpose of the issues paper is to assist consumer representative groups to focus on the key preliminary issues on which they should engage and comment⁵²
- the AER, when determining capex and opex allowances, to have regard to the extent to which the forecast includes expenditure to address the concerns of consumers as identified by the TNSP in the course of its engagement with the consumers.⁵³

Our Better Regulation Consumer engagement guideline sets out our expectations of how the network businesses should engage with their customers. We expect the network businesses to demonstrate a commitment to ongoing and genuine consumer engagement on issues relevant to consumers. We want to see businesses being more accountable to their consumers.⁵⁴ We understand the businesses may need some time to develop and implement robust and comprehensive engagement strategies and approaches.⁵⁵

As set out in the guideline, we monitor consumer engagement activities through the CCP and our ongoing engagement with stakeholders. We may publicly comment in our decisions on any shortcomings that we identify from an expenditure proposal that reflect weaknesses in consumer engagement.⁵⁶

⁴⁹ AEMC, *Rule determination, National Electricity Amendment (Economic Regulation of Network Service Providers)*, Rule 2012.

⁵⁰ NER, cl. 6A.10.1(g)(2).

⁵¹ NER, cl. 6A.11.3(b)(1).

⁵² AEMC, *Rule determination, National Electricity Amendment (Economic Regulation of Network Service Providers)*, Rule 2012.

⁵³ NER, cll. 6A.6.6(e)(5A) and 6A.6.7(e)(5A).

⁵⁴ AER, *Better Regulation: Consumer engagement guideline for network service providers*, November 2013, p. 5.

⁵⁵ AER, *Better Regulation: Consumer engagement guideline for network service providers*, November 2013, p. 12.

⁵⁶ AER, *Better Regulation: Consumer engagement guideline for network service providers*, November 2013, p. 12.

We have considered the material presented in AusNet Services' revised revenue proposal (section 6.2), and stakeholder views presented to us in submissions (section 6.3) to form a view of its progress in implementing improved engagement strategies and approaches (section 6.4). We have not undertaken a substantive review of AusNet Services' consumer engagement approaches and strategies against the above best practice principles as part of this process.

6.2 AusNet Services' consumer engagement activities

As part of preparing its revenue proposal, AusNet Services undertook a range of consumer engagement activities to understand the views of its stakeholders. We set out AusNet Services' consumer engagement activities in the lead up to its initial proposal in our draft decision.⁵⁷ In its revised proposal, AusNet Services submitted that it undertook further stakeholder engagement following the submission of its initial revenue proposal.⁵⁸

AusNet Services submitted that most of its engagement undertaken since its initial proposal focused explicitly on better understanding stakeholder perceptions of accelerated depreciation. A key reason for this was that there was strong opposition to any form of accelerated depreciation in consultation undertaken prior to the submission of its revenue proposal.⁵⁹

Following its initial submission, AusNet Services launched a range of engagement activities focusing on accelerated depreciation. These activities included discussions with customer advocates individually (formally and informally), and a customer advocate workshop. AusNet Services found that customer advocates did not support accelerated depreciation because customers would oppose higher short-term prices, despite longer-term price reductions.⁶⁰

AusNet Services submitted that it prepared its revised revenue proposal with stakeholder feedback in mind. AusNet Services' revised proposal sets out the stakeholder feedback received and how it has been addressed. In regard to accelerated depreciation, the revised revenue proposal does not apply declining balance depreciation to new investments.⁶¹

AusNet Services submitted that it is committed to continuing stakeholder engagement through a range of ongoing consultative activities including:⁶²

- improving the information that is available and easily accessible to customers and stakeholders through the launch of its new customer-centric website

⁵⁷ AER, *Draft decision, AusNet Services transmission determination 2017–22 overview*, September 2016, pp. 45–48.

⁵⁸ AusNet Services, *Revised revenue proposal 2017–22*, September 2016, p. 8.

⁵⁹ AusNet Services, *Revised revenue proposal 2017–22*, September 2016, pp. 8–10.

⁶⁰ AusNet Services, *Revised revenue proposal 2017–22*, September 2016, pp. 10–11.

⁶¹ AusNet Services, *Revised revenue proposal 2017–22*, September 2016, p. 13.

⁶² AusNet Services, *Revised revenue proposal 2017–22*, September 2016, p. 14.

- reviewing key learnings from the efforts to date. AusNet Services will conduct an internal workshop with those involved in the program to evaluate the efforts described in this report and discuss areas of improvement for future engagement
- continued consultation with key stakeholders through activities such as presentations and workshops tailored specifically to the information needs and expertise of those groups.

6.3 Consumer submissions

The CCP submitted that, since the initial revenue proposal, it has observed genuine and continuing efforts to engage with end customers. The CCP submitted that there is no question about the sincerity and desire of AusNet Services to actively and meaningfully engage with stakeholders. The CCP noted that it continues to observe good progress being made in AusNet Services efforts to engage.⁶³

The CCP however noted the following observations relating to AusNet Services consumer engagement:⁶⁴

- sometimes AusNet Services has tended to regard stakeholder engagement processes as mechanisms to convince stakeholders of an AusNet Services position, when more open methodologies would be more helpful
- the 'promise to the public' aspect of the IAP2 spectrum is less developed than other aspects of the spectrum. The CCP considered that the 'promise to the public' action is somewhere between the 'inform' and 'consult' aspects of the spectrum.

6.4 Our view of AusNet Services' consumer engagement

Consistent with our draft decision, we consider that AusNet Services has taken important steps to engage with its customers in a very positive manner. We note that the CCP has also made many positive comments in regards to AusNet Services consumer engagement stating that it has made genuine and continuing efforts to meaningfully engage with end users.

A key concern for stakeholders arising from AusNet Services' initial proposal was in regard to AusNet Services' use of accelerated depreciation. In its submission on AusNet Services initial proposal the CCP expressed disappointment that AusNet Services had rejected strong consumer advice regarding accelerated depreciation.⁶⁵ We note that AusNet Services has responded to this issue by undertaking a range of

⁶³ CCP, *Transmission for the Generations II, Response to AER draft decision for AusNet Services*, September 2016, p. 23.

⁶⁴ CCP, *Transmission for the Generations II, Response to AER draft decision for AusNet Services*, September 2016, p. 23.

⁶⁵ CCP, *Submission on AusNet Services' transmission revenue review 2017–2022*, 8 February 2016, p. 7.

engagement activities focussed on accelerated depreciation and seeking stakeholder feedback on its proposal.

We accept that there are still some concerns from the CCP, regarding aspects of AusNet Services' approach to stakeholder engagement. However, as we noted in our draft decision, stakeholder engagement is a relatively new aspect undertaken by network service providers and should continue to improve over time. AusNet Services has submitted that it is committed to continuing and improving its practices when it comes to stakeholder engagement.⁶⁶ We expect that AusNet Services will take into account the issues raised by the CCP in developing its consumer engagement program going forward.

⁶⁶ AusNet Services, *Revised revenue proposal 2017–22*, September 2016, p. 14.

A Constituent decisions

Our final decision on AusNet Services' transmission determination includes the following constituent components:⁶⁷

Constituent component

In accordance with clause 6A.14.1(1)(i) of the NER, the AER does not approve the total revenue cap set out in AusNet Services' revised building block proposal. Our final decision on AusNet Services' total revenue cap is \$2741.7 million (\$ nominal) for the 2017–22 regulatory control period. This decision is discussed in Attachment 1 of this final decision. [See also section 1.1–1.3 of the transmission determination]

In accordance with clause 6A.14.1(1)(ii) of the NER, the AER does not approve the maximum allowed revenue (MAR) for each regulatory year of the regulatory control period set out in AusNet Services' revised building block proposal. Our final decision on AusNet Services' MAR for each year of the 2017–22 regulatory control period is set out in Attachment 1 of this final decision. [See also section 1.1–1.3 of the transmission determination]

In accordance with clause 6A.14.1(1)(iii) of the NER, the AER has decided to apply the service component, network capability component and market impact component of Version 5 of the service target performance incentive scheme (STPIS) to AusNet Services for the 2017–22 regulatory control period. The values and parameters of the STPIS are set out in Attachment 11 of this final decision. [See also section 1.6 of the transmission determination]

In accordance with clause 6A.14.1(1)(iv) of the NER, the AER's final decision on the values that are to be attributed to the parameters for the efficiency benefit sharing scheme (EBSS) that will apply to AusNet Services in respect of the 2017–22 regulatory control period are set out in Attachment 9 of this final decision. [See also section 1.7 of the transmission determination]

In accordance with clause 6A.14.1(1)(v) of the NER, the AER has approved the commencement and length of the regulatory control period as AusNet Services proposed in its revenue proposal. The regulatory control period will commence on 1 April 2017 and the length of this period is five years, expiring on 31 March 2022. [See also section 1.9 of the transmission determination]

In accordance with clause 6A.14.1(2) and acting in accordance with clause 6A.6.7(d) of the NER, the AER has not accepted AusNet Services' total forecast capital expenditure of \$751.3 million (\$2016–17). Our substitute estimate of AusNet Services' total forecast capex for the 2017–22 regulatory control period is \$719.1 million (\$2016–17). This is discussed in Attachment 6 of this final decision.

In accordance with clause 6A.14.1(3)(ii) and acting in accordance with clause 6A.6.6(d) of the NER, the AER has not accepted AusNet Services' total forecast operating expenditure inclusive of debt raising costs of \$1057.6 million (\$2016–17). Our substitute estimate of AusNet Services' total forecast opex for the 2017–22 regulatory control period is \$1139.8 million (\$2016–17) including debt raising costs. This is discussed in Attachment 7 of this final decision.

In accordance with clause 6A.14.1(5A) of the NER, the AER has determined that version 1 of the capital expenditure sharing scheme (CESS) as set out in the Capital Expenditure Incentives Guideline will apply to AusNet Services in the 2017–22 regulatory control period. This is discussed in Attachment 10 of this final decision. [See also section 1.8 of the transmission determination]

In accordance with clause 6A.14.1(5B) and 6A.6.2 of the NER, the AER has decided that the allowed rate or return for the 2017–18 regulatory year is 5.8 per cent (nominal vanilla), as set out in Attachment 3 of this final decision. The rate of return for the remaining regulatory years 2018–22 will be updated annually because our decision is to apply a trailing average portfolio approach to estimating debt which incorporates annual updating of the allowed return on debt.

In accordance with clause 6A.14.1(5C) of the NER the AER has decided that the return on debt is to be estimated using a methodology referred to in clause 6A.6.2(i)(2), and using the formula to be applied in accordance with clause 6A.6.2(l). The methodology and formula are set out in Attachment 3 of this final decision.

In accordance with clause 6A.14.1(5D) of the NER the AER has decided that the value of imputation credits as referred to in

⁶⁷ NEL, s. 16(1)(c).

Constituent component

clause 6A.6.4 is 0.4. This is set out in Attachment 4 of this final decision.

In accordance with clause 6A.14.1(5E) of the NER the AER has decided, in accordance with clause 6A.6.1 and schedule 6A.2, that the opening regulatory asset base (RAB) as at the commencement of the 2017–22 regulatory control period, being 1 April 2017, is \$3170.3 million (\$ nominal). This is set out in Attachment 2 of this final decision. [See also section 1.5 of the transmission determination]

In accordance with clause 6A.14.1(5F) of the NER the AER has decided that the depreciation approach based on forecast capex (forecast depreciation) updated for actual inflation is to be used to establish the RAB at the commencement of AusNet Services' regulatory control period as at 1 April 2022. This is discussed in Attachment 2 of this final decision. [See also section 1.5 of the transmission determination]

In accordance with clause 6A.14.1(6) of the NER the AER has approved AusNet Services' proposed negotiating framework. This is set out in Attachment 14 of this final decision. [See also section 2 of the transmission determination]

In accordance with clause 6A.14.1(7) of the NER the AER has specified the negotiated transmission services criteria for AusNet Services. This is set out in Attachment 14 of this final decision. [See also section 3 of the transmission determination]

In accordance with clause 6A.14.1(8) of the NER the AER has approved AusNet Services' proposed pricing methodology. This is set out in Attachment 12 of this final decision. [See also section 4 of the transmission determination]

In accordance with clause 6A.14.1(9) of the NER the AER has approved the following nominated pass through events to apply to AusNet Services for the 2017–22 regulatory control period in accordance with clause 6A.6.9:

- terrorism event
- insurance cap event
- natural disaster event
- insurer's credit risk event.

These events have the definitions set out in Attachment 13 of this final decision. [See also section 5 of the transmission determination]

B List of submissions

We received six submissions in response to the AER's draft decision and AusNet Services' revised revenue proposal. These are listed below.

Submission from	Date received
Ararat Wind Farm	15 September 2016
Consumer Challenge Panel	21 September 2016
Energy Safe Victoria	13 October 2016
AusNet Services	19 October 2016
Consumer Challenge Panel	19 October 2016
AusNet Services	20 December 2016