FINAL DECISION
AusNet Services
Gas access arrangement
2018 to 2022

Overview

November 2017

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Tel: 1300 585 165
Email: AERInquiry@aer.gov.au

Note

This overview forms part of the AER's final decision on the access arrangement for AusNet Services for 2018-22. It should be read with all other parts of the final decision.

The final decision includes this Overview and the following attachments:

Attachment 2 - Capital base

Attachment 5 - Regulatory depreciation

Attachment 8 - Corporate income tax

Attachment 14 - Capital expenditure sharing scheme.

These have been numbered consistently with the equivalent attachments to our longer, draft decision. In these and other elements of our decision, our draft decision reasons form part of this final decision.

Our revisions are reflected in the *Approved access arrangement for AusNet Services 2018-22 (Parts A and B[1])*, which gives effect to this decision.[2]

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1 We have made no revisions to Part C of AusNet's revised proposed access arrangement,

2 Rule 64(2) provides that the AER's proposal for an access arrangement or revisions is to be formulated with regard to (a) the matters the Law requires an access arrangement to include, (b) the service provider's access arrangement proposal, and (c) the AER's reasons for refusing to approve that proposal.

Contents

Shortened forms

Shortened form	Extended form
ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AGN	Australian Gas Networks
ARS	Ancillary reference services
capex	Capital expenditure
CCP11	Consumer Challenge Panel, Sub-panel 11
CESS	Capital Expenditure Sharing Scheme
CPI	Consumer Price Index
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
opex	Operating expenditure
PTRM	Post tax revenue model
RBA	Reserve Bank of Australia
RFM	Roll forward model
SCADA	Supervisory control and data acquisition
WACC	Weighted average cost of capital

About this decision

The Australian Energy Regulator (AER) works to make all Australian energy consumers better off, now and in the future. We regulate energy networks in all jurisdictions except Western Australia. We set the amount of revenue that network businesses can recover from customers for using these networks.

The National Gas Law and Rules (NGL and NGR) provide the regulatory framework governing gas networks. Our work under this framework is guided by the National Gas Objective (NGO):[3]

> …to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

AusNet Gas Services (AusNet) owns and operates a network of pipelines servicing customers in Victoria. These are regulated by the AER under an approved access arrangement.[4] This is our final decision on the access arrangement that will apply to AusNet's gas distribution network from 1 January 2018 to 31 December 2022.

The decisions we make and the actions we take affect a wide range of individuals, businesses and organisations. Effective and meaningful engagement with stakeholders across all our functions is essential to fulfilling our role, and it provides stakeholders with an opportunity to inform and influence what we do. Engaging with those affected by our work helps us make better decisions, provides greater transparency and predictability, and builds trust and confidence in the regulatory regime. This is reflected in our Stakeholder Engagement Framework and in the consultation process set out for our access arrangement reviews in the NGR, which we have followed in this review. Throughout this review we have also had the benefit of advice from our Consumer Challenge Panel (CCP11).

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[3] NGL, s. 23.

[4] The NGL provides for different types of regulation to apply to gas pipelines, based on competition and significance criteria. A 'full regulation' pipeline must periodically submit an access arrangement to the AER, setting out pricing for a reference service sought by a significant part of the market. 'Light regulation' pipelines are not subject to upfront price regulation. The light regulation model is more a negotiate-arbitrate approach, placing greater emphasis on commercial negotiation and information disclosure. The AER plays a role only if dispute resolution mechanisms are triggered.

1 Our final decision

Our final decision allows AusNet to recover $1040.1 million ($ nominal, smoothed[5]) from its customers over the 2018–22 access arrangement period.

Based on our estimates, this final decision will reduce the distribution component of the average annual residential gas bill in 2018 by about $28 (nominal) compared to the current 2017 charges, followed by stable prices for the rest of the 2018–22 access arrangement period. We discuss these estimates more fully in section 1.3. While our decision only affects about a quarter of the average gas bill, stability in network charges can help reduce the impact of increases in some of the other components of gas bills, including wholesale costs. It is likely other components will change more significantly over the access arrangement period. As the ACCC's Interim Report in the 2017-2020 Gas Inquiry notes, high and increasing prices in the wholesale gas market are having significant effects on small businesses and households, particularly lower income households.[6] Modelling by the Australian Energy Market Operator (AEMO) also projects that the delivered wholesale cost of gas in Australia will continue to rise.[7]

In the sections below we discuss some of the key drivers of AusNet's revenue over the next five years, including what has changed since our draft decision in July. Our decision approves expenditure that will allow AusNet to continue to maintain the safety and reliability of its network—something its customers value[8]—while meeting continued demand for new connections.

Our assessment of AusNet's access arrangement commenced in December last year with the submission of AusNet's initial proposal. Throughout this review we have had the benefit of advice from our Consumer Challenge Panel (CCP11), which was supportive of the outcomes in AusNet's revised proposal. AusNet's own stakeholder engagement in the development of its initial and revised proposals has been effective in informing its customers about the regulatory process and its planned responses, including its response to our draft decision and the implications of accepting that draft decision.[9] This helped to give AusNet, and us, confidence that its revised proposal is consistent with the customer preferences put to AusNet, and in particular customer support for a decision that places downward pressure on overall gas costs.[10]

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5 Nominal revenue includes the expected impact of inflation. Smoothed revenue spreads AusNet's total revenue requirement over the five years covered by this decision to provide a stable, predictable price path for AusNet's users over time.

6 ACCC, *Gas Inquiry 2017-2020: Interim Report*, September 2017, p. 42

7 AEMO, *National Gas Forecasting Report for Eastern and Southern Australia*, December 2016, p. 7.

8 AusNet Services -*Appendix 5E - Colmar Brunton -Energy Research Study 4 Report* - 21 June 2016 - Public, p. 43.

9 CCP11, *Final advice - AGN, AusNet and Multinet*, September 2017, p. 5

10 AusNet Services - Revised Access Arrangement Information - 20170811 - Public, p. 4.

Our assessment of AusNet's revised proposal is consistent with our draft decision. We have not received any submissions which impact upon our reasoning as set out in the draft decision. As such, our draft decision reasons form part of this final decision.

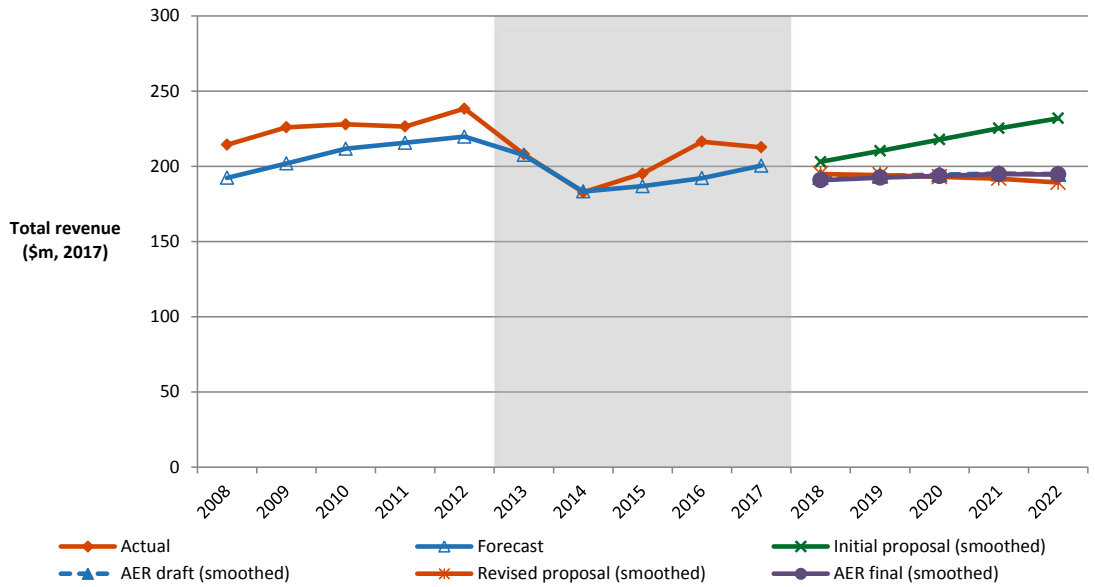
1.1 What is driving AusNet's revenue?

The forecast total revenue requirement we have approved in this decision is about the same—only $3.9 million ($ 2017), or 0.4 per cent, lower—as that used to set AusNet's reference tariffs throughout the 2013–17 period.

AusNet operates under a weighted average price cap. This means the tariffs we determine (including the means of varying the tariffs from year to year) are the binding constraint across an access arrangement period rather than the total revenue requirement set in our decision. Tariffs are derived from the total revenue requirement after consideration of demand for each tariff category. Where actual demand over the access arrangement period varies from the demand forecast in the access arrangement, AusNet's actual revenue will vary from the revenue allowance determined in our decision. In general, if actual demand is above forecast demand, AusNet's actual revenue will be above forecast revenue and vice versa.

Figure 1-1 shows how the revenue approved in this final decision for 2018–22 compares to the revenue forecast for, and recovered during, the current, 2013–17 access arrangement period. It also compares the final revenue approved in this decision to AusNet's initial proposal, our draft decision and its revised proposal.

Figure 1-1 AusNet's past total revenue, proposed total revenue and AER final decision total revenue ($ million, 2017)



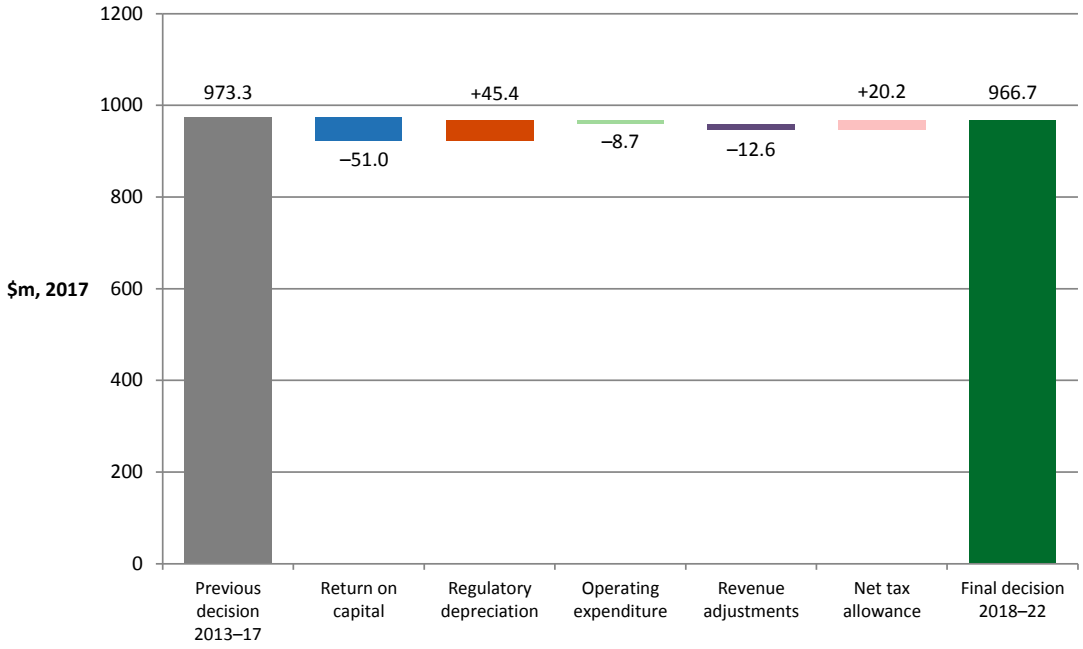
Source: AER analysis.

Note: The impact of inflation—which changes over time—makes it difficult to compare revenue from one period to the next on a like-for-like basis. To do this we use 'real' values based on a common year (in this case 2017), which have been adjusted to remove the impact of inflation.

The key factor in the minimal change in AusNet's forecast revenue from period to period is the reduction in the rate of return AusNet receives on its capital base, from 7.07 per cent in the current period to 5.94 per cent for 2018–22. This reflects improved market conditions since our last decision in 2013.

Figure 1-2 illustrates how this has helped to keep AusNet's forecast revenue requirement, and therefore its prices, stable over time by comparing this final decision for 2018–22 to AusNet's allowed revenue for the current, 2013–17 period, and breaking down the changes in the various components that make up total revenue.

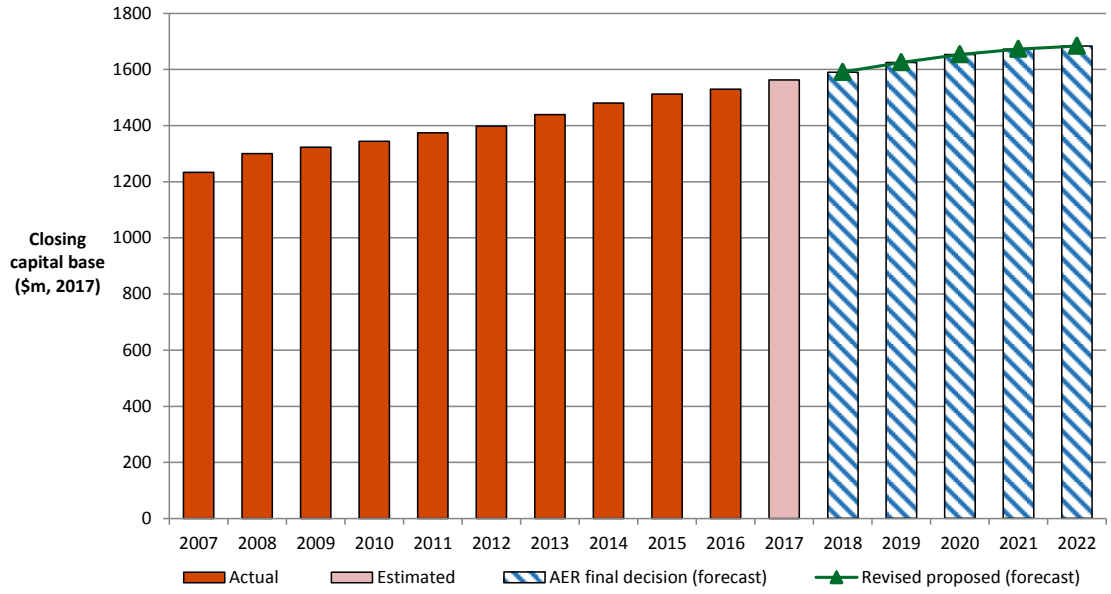
Figure 1-2 Comparison of forecast revenue requirements for 2013–17 and 2018–22 ($ million, 2017)



Source: AER analysis.

The lower return on capital amount reflects the lower rate of return we mentioned above, which will reduce the impact of growth in AusNet's capital base, which increased by 11.8 per cent over the current period (in real terms) as AusNet invested in maintaining its network. This helps to offset the higher regulatory depreciation allowance, which increases as the capital base increases. Based on this decision, we expect growth in the capital base over the next five years to be smaller, around 7.7 per cent. Figure 1-3 shows the growth in AusNet's capital base over time.

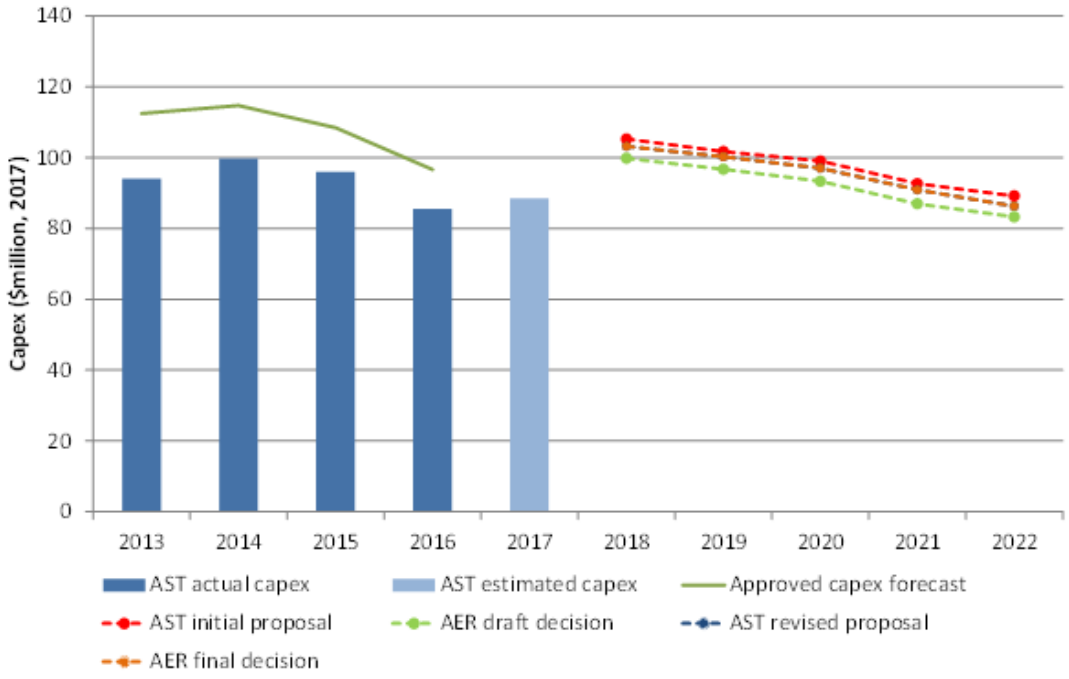
Figure 1-3 Projected growth in AusNet's capital base ($ million, 2017)



Source: AER analysis.

The total forecast capex approved for 2018–22 is in line with AusNet's actual expenditure in the current period (see Figure 1-4) and will allow AusNet to continue to maintain the safety and reliability of its network, including through its ongoing mains replacement program.

Figure 1-4 Final decision compared to AusNet's past capex ($ million, 2017)

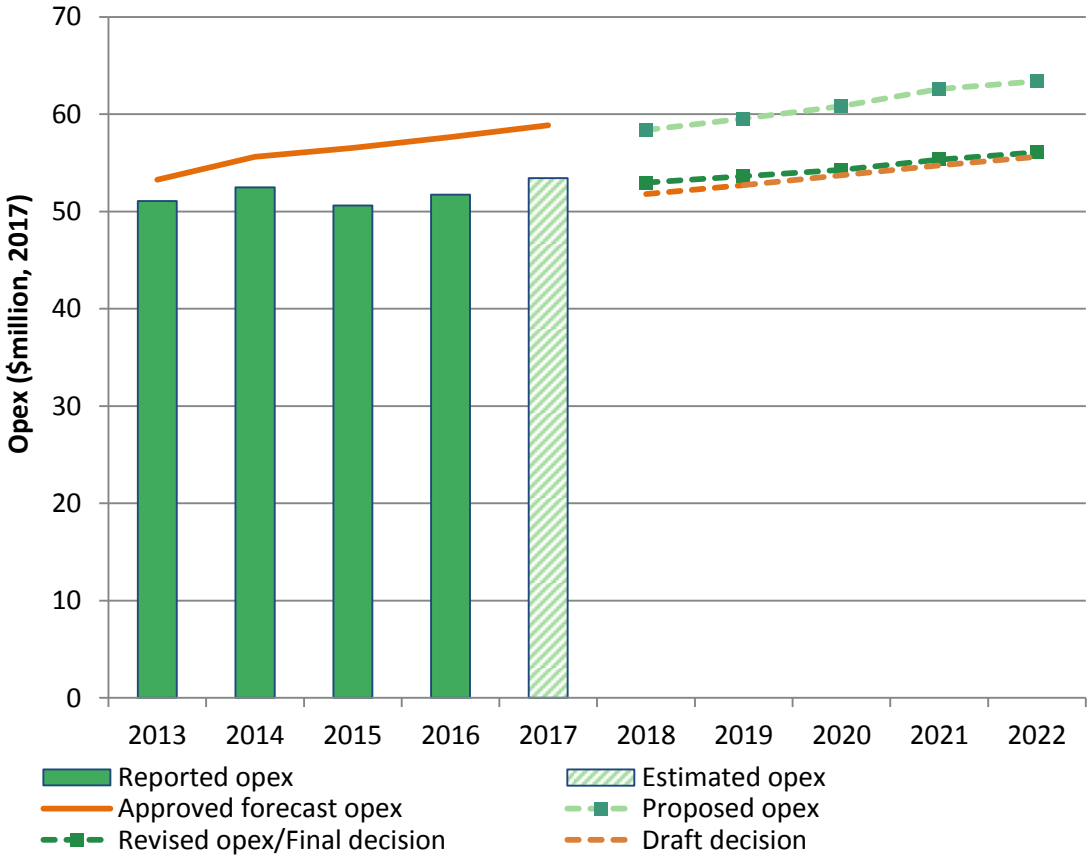


Source: AER analysis.

At the same time, the new capital expenditure sharing scheme (CESS) that will apply from 2018 will strengthen AusNet's incentives to find more and more efficient ways to maintain and operate its network.

The CESS will balance incentives under the existing opex efficiency carryover mechanism, which AusNet's performance over the current period suggests it is responding well to. Our final decision on AusNet's forecast opex is a reduction from the forecast used to set AusNet's revenue for 2013–17 (see Figure 1-5), and again will hold AusNet's expenditure at levels that are broadly in line with its actual opex in the current period.

Figure 1-5 Final decision compared to AusNet's past opex ($ million, 2017)



Source: AusNet Services, *Gas access arrangement review 2018–22 regulatory templates*, 16 December 2016; AusNet Services, *Distribution GAAR Revised Proposal PTRM - 20170811 - Public,* 11 August 2017; AER analysis.

Note: Includes debt raising costs. Excludes movements in provisions and unaccounted for gas.

1.2 What's changed since our draft decision and AusNet's revised proposal?

Our draft decision accepted much of AusNet's initial proposal, but reduced AusNet's proposed revenue by 8.7 per cent ($nominal, smoothed). Our decision to apply a value of imputation credits (gamma) of 0.4 in place of AusNet's 0.25 was a key driver of this difference. Where AusNet initially proposed increases to its operating (opex) and capital (capex) expenditure, our draft decision approved forecasts that were closer to its actual expenditure in the current period. AusNet's revised proposal adopted our draft decision, including these changes, in full. Our final decision is to accept AusNet's revised proposal (the components of which are summarised in section 2 of this overview).

A number of inputs to the revenue calculation have been updated (in AusNet's revised proposal and this final decision) with new and more reliable data. These updates, which include a lower opening capital base but higher capex and opex forecasts, are a normal part of the revenue setting process, and are made so that this final decision on AusNet's forecast revenue includes the most recent data available to us. Their combined effect in AusNet's case is that the forecast total revenue requirement approved in this final decision remains in line with our draft decision and AusNet's revised proposal.[11]

1.3 How will our final decision affect gas bills?

We estimate this final decision will reduce the contribution AusNet's distribution charges make to its customers' average annual bill by around $28 (nominal) in 2018 for residential customers, and around $46 for small business customers.

The annual gas bill for customers in Victoria reflects the combined cost of all the gas supply chain components (shown in Figure 1-6), not just those covered by this decision. Changes in gas bills over time reflect movements in one or more of these. Our decision on AusNet's access arrangement will affect the component of the bill related to distribution pipelines. For customers on AusNet's network, this makes up approximately 23 per cent of an average residential customer's annual gas bill, and 9 per cent for an average small business customer.[12]

Table 1-1 shows our estimate of the impact this final decision will have on average annual gas bills for residential and small business customers on AusNet's network over the five years covered by this decision. This is a simple estimate, which we have calculated by varying the distribution charges for an average residential and small business customer on AusNet's network in accordance with this final decision, but

[11] The total revenue figure in this final decision is around 0.5 per cent lower than our draft decision, and only 0.4 per cent lower than AusNet's revised proposal.

[12] Proportions based on average annual distribution charges calculated within the PTRM and average standing residential offers at November 2017 on Switch On comparison tool using average annual consumption from the PTRM for each of AusNet's tariff zones (postcodes 3011, 3249, 3227 and 3260).

holding other components of the bill constant. Our estimates are in nominal terms (taking into account expected future inflation to determine what the nominal price levels will be in future periods) because inflation will factor into the amounts that consumers will be paying.

Table 1-1 Estimated impact of our final decision on average annual gas bills for 2018–22 ($ nominal)

	2017	2018	2019	2020	2021	2022
Residential annual gas bill	1279[a]	1251	1256	1261	1267	1272
Annual change[c]		–28 (–2.2%)	5 (0.4%)	5 (0.4%)	6 (0.4%)	5 (0.4%)
Small business annual gas bill	5566[b]	5520	5528	5537	5546	5555
Annual change[c]		–46 (–0.8%)	8 (0.2%)	9 (0.2%)	9 (0.2%)	9 (0.2%)

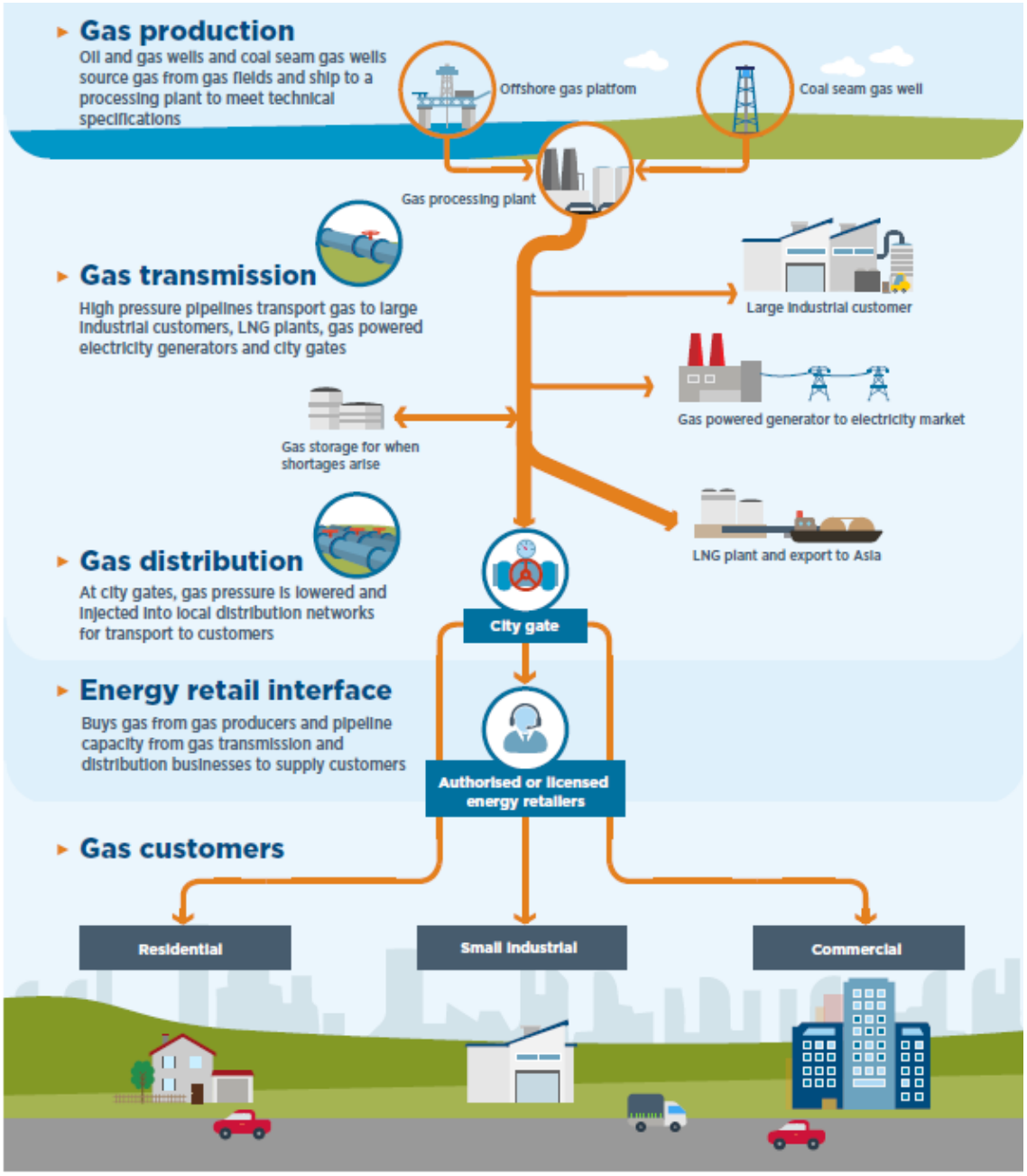
Source: AER analysis, Switch On comparison tool, www.compare.switchon.vic.gov.au.

(a) Based on average standing residential offers at November 2017 on Switch On comparison tool using average annual consumption calculated in the PTRM for each of AusNet's tariff zones (postcodes 3011, 3249, 3227 and 3260).

(b) Based on average standing small business offers at November 2017 on Switch On comparison tool using average annual consumption calculated in the PTRM for each of AusNet's tariff zones (postcodes 3011, 3249, 3227and 3260).

(c) Annual change amounts and percentages are indicative. They are derived by varying the distribution component of 2017 bill amounts by the nominal weighted average expected change in tariffs. Actual bill impacts will vary depending on consumption and tariff class.

Figure 1-6 Gas supply chain



Source: AER, State of the Energy Market May 2017, p. 19.

2 Key components of our final decision

Gas pipelines that are subject to full regulation—like AusNet's—are regulated under an approved access arrangement.[13] This forms the foundation for negotiations between pipeline operators and users.

An access arrangement specifies certain pipeline services (reference services) and the price and non-price terms and conditions on which those reference services will be offered over the next five years (2018–2022).

The prices (reference tariffs) that apply to reference services are based on an approved forecast revenue requirement determined in this decision.

In the sections below we summarise the key components of our final decision on AusNet's access arrangement. Subject to the updates and corrections we mentioned in section 1.2, we have accepted AusNet's revised proposal for the reasons in our draft decision and in this final decision. We have not received any submissions—from AusNet or other stakeholders—which impact on our reasoning in the draft decision. As such, our draft decision reasons form part of this final decision.

2.1 Reference services and tariffs

2.1.1 Services covered by the access arrangement

An access arrangement sets out at least one service likely to be sought by a significant part of the market (reference services). For each reference service, including services ancillary to the reference services, the access arrangement specifies the reference tariff and the other terms and conditions on which these services will be provided.[14]

AusNet is to provide access to its reference services, but may negotiate alternative terms and conditions at alternative prices with users. AusNet may also offer other non-reference services (negotiated services) which are not subject to regulation under the access arrangement. We may be called upon to determine the tariff and other conditions of access to services if an access dispute arises.[15]

Our draft decision approved AusNet's proposal to continue to offer the same reference services and ancillary reference services in 2018–22 as it has in the current 2013–17

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13 The NGL provides for different types of regulation to apply to gas pipelines, based on competition and significance criteria. A 'full regulation' pipeline must periodically submit an access arrangement to the AER, setting out pricing for a reference service sought by a significant part of the market. 'Light regulation' pipelines are not subject to upfront price regulation. The light regulation model is more a negotiate-arbitrate approach, placing greater emphasis on commercial negotiation and information disclosure. The AER plays a role only if dispute resolution mechanisms are triggered.

14 NGR, r. 48.

15 NGL, Chapter 6.

period. This outcome is unchanged in AusNet's revised proposal and approved in this final decision.[16]

2.1.2 Reference tariff setting and the annual tariff variation mechanism

Our decision on AusNet's proposed access arrangement includes decisions on the structure of its reference tariffs and the mechanism by which those tariffs will be determined from year to year (the annual reference tariff variation mechanism).

Our draft decision accepted AusNet's proposed tariff structures. Again, this outcome is unchanged in AusNet's revised proposal and approved in this final decision.[17] CCP11 remains concerned with the complexity of distribution tariffs[18] and has suggested that in future access arrangements for gas distributors we work with interested stakeholders:[19]

- to probe a bit further with the distribution networks whether their more complex price structures are justifiable and effective; and
- to encourage further dialogue primarily between retailers and distributors, but also including consumer engagement, to try and achieve a more agreed approach between the parties.

CCP11 has not suggested, and we have not made, changes to AusNet's tariff structures in this final decision. The tariff structures we have approved are consistent with those that applied in the current period, and we remain satisfied that these are appropriate for 2018–22.

However, we agree with CCP11's suggestion that distributors' tariff structures are an area that would benefit from continued engagement in future gas access arrangement reviews, to ensure the tariff structures proposed as part of those reviews are justifiable, effective and cost-reflective. Cost-reflective distribution tariffs send signals to retailers about the cost of using the distribution network. Retailers can then determine if and how their retail offerings reflect these signals. This helps to support increased retailer innovation and greater tariff choice for end customers.

AusNet's revised proposal also adopts the revisions our draft decision required to its tariff variation mechanism (a weighted average price cap) without further amendment. The exceptions to this were:

- an improved definition of the retailer insolvency cost pass through event

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16 AER, *Approved access arrangement for AusNet Services 2018-22 - Part A*, November 2017, cl. 5.2.1; Schedule 1.

17 AER, *Approved access arrangement for AusNet Services 2018-22 - Part B - reference tariffs and reference tariff policy*, November 2017.

18 CCP11, *Final advice - AGN, AusNet and Multinet*, September 2017, p. 48

19 CCP11, *Final advice - AGN, AusNet and Multinet*, September 2017, p. 52.

- addition of a new clause to clarify the operation of the cost pass through mechanism where a pass through application spans the transition between two access arrangement periods.

For the reasons AusNet has provided[20], we agree that the alternative definition proposed is preferable to that in our draft decision and the additional provision clarifying treatment of cross-period pass through applications is appropriate. Subsequent to our draft decision and AusNet's revised proposal, we identified minor drafting corrections required to clarify the application of a materiality threshold to two pass through events (the Insurer Credit Risk and Terrorism events). Our final decision addresses this by explicitly referencing materiality in both definitions.[21] Our final decision otherwise accepts the tariff variation mechanism in AusNet's revised proposal.[22]

This final decision includes a decision on the reference tariffs that will apply for the first year of AusNet's 2018–22 access arrangement period.[23] We have updated these tariffs to reflect our final decision on AusNet's forecast revenue requirement, which is slightly lower than its revised proposal. For each subsequent year, tariffs will be updated and submitted for our approval in accordance with the annual tariff variation mechanism.

2.1.3 Forecast demand

Our final decision accepts the demand forecasts in AusNet's revised proposal, which anticipate:

- a slight decline in total residential gas demand of around 0.1 per cent per year over the 2018-22 access arrangement period.[24] This compares to a growth of 2.4 per cent per year in the current period.[25] This reduced state of growth is due to a decline in consumption per connection of 0.05 per cent per year being offset by net customer growth of 2.1 per cent per year. [26]
- a growth in total small commercial demand of 0.3 per cent over the 2018-22 access arrangement period.[27] This compares to 1.1 per cent per year in the current period.

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[20] AusNet Services - Revised Access Arrangement Information - 20170811 - Public, pp. 13-14.

[21] AER - Approved access arrangement for AusNet Services 2018-22 - Part A, pp. 21, 27; AusNet Services, Email to AER - Materiality threshold for cost pass through events - potential drafting issue, 24 November 2017.

[22] AER, *Approved access arrangement for AusNet Services 2018-22 - Part B - reference tariffs and reference tariff policy*, November 2017

[23] AER, *Approved access arrangement for AusNet Services 2018-22 - Part B - reference tariffs and reference tariff policy*, November 2017, sections 9, 10.

[24] AER Analysis of the AusNet's usage model. See AusNet Services - *Usage forecasting model update* - 18 August 2017 - Public

[25] Note that figures in the current period include updated values for 2017 in AusNet's revised usage model. AusNet Services - *Usage forecasting model update* - 18 August 2017 - Public

[26] This compares to actual growth of 1.04 per cent for residential consumption per connection and a 2.38 per cent per year growth in customer numbers in the current access arrangement period.

[27] AER Analysis of the AusNet's usage model. See AusNet Services - *Usage forecasting model update* - 18 August 2017 - Public

This reduced growth is driven by a slight growth of 0.3 per cent per year in consumption per connection and an increase in commercial net connections by 1 per cent per year.[28]

- a decrease in industrial demand (AusNet's Tariffs D and M) of 1.3 per cent over the 2018-22 access arrangement period. This compares to a decrease of approximately 2.2 per cent per year in the current period.

Our draft decision largely accepted AusNet's initial demand forecasts, but made an adjustment to remove AusNet's projections of additional demand linked to a proposed increase in opex for marketing, which we did not include in our approved opex forecast. While supportive of this decision, CCP11 recommended we liaise with the AEMO to ensure that our final decision used the latest forecasts available.[29]

We are satisfied that AusNet's revised proposal has done this. AusNet has adopted our draft decision adjustment, and—consistent with the expectations in our draft decision and CCP11's advice—updated its demand forecast to reflect more recent data, including actual customer numbers from 2016 and new information from the Australian Energy Market Operator (AEMO) and Australian Bureau of Statistics (ABS).[30] AusNet also introduced a new factor to its demand forecasts to adjust forecast demand for the impact of appliance switching from electricity to gas, drawing on AEMO's 2016 National Gas Forecasting Report.[31] The combined impact of these adjustments was to reduce forecast consumption by 0.9 per cent, but increase forecast connection numbers by 10.7 per cent.[32]

Our final decision accepts AusNet's implementation of these updates, and the revised demand forecasts in AusNet's revised proposal.

Demand is an important input into the derivation of AusNet's reference tariffs. In simple terms, tariffs are determined by dividing cost (as reflected in forecast revenue) by total demand (GJ/day), so that an increase in forecast demand has the effect of reducing the tariff. In this instance, the slight increase in residential demand has not had a marked impact on tariffs.

Forecast demand also affects the forecasts of operating and capital expenditure (new connections) that form part of our decision on the total revenue requirement. We discuss the impact of AusNet's updated demand forecasts, in particular the increase in forecast connection numbers, on its capex and opex forecasts in sections 2.3.6 and 2.3.7 below.

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28 This compares to actual growth of 1 per cent for commercial consumption per connection and a 1.1 per cent per year growth in net commercial customer numbers in the current access arrangement period.

29 CCP11, *Final advice - AGN, AusNet and Multinet*, September 2017, p. 6.

30 AusNet Services - *Revised Access Arrangement Information* - 20170811 - Public, p. 8 and AusNet Services - *Usage forecasting model update* - 18 August 2017 - Public

31 AusNet Services - *Revised Access Arrangement Information* - 20170811 - Public, pp. 8-9.

32 AusNet Services - *Revised Access Arrangement Information* - 20170811 - Public, p. 9.

2.2 Total revenue requirement

The total revenue approved in this final decision is a forecast of the efficient cost of providing gas distribution services over the access arrangement period. We determine forecast revenue in nominal terms—that is, including inflation—because it will be in nominal amounts that consumers pay. To do this, we take into account expected future inflation to determine what the nominal price levels will be in future periods.[33]

Table 2-1 sets out our final decision on AusNet's total revenue requirement.

Table 2-1 Final decision on smoothed total revenue and X factors for 2018–22 ($ million, nominal)

Building block	2018	2019	2020	2021	2022	Total
Return on capital	92.9	96.8	101.3	105.6	109.4	506.0
Regulatory depreciation	41.6	31.0	33.8	37.2	41.6	185.1
Operating expenditure	54.3	56.3	58.4	61.0	63.3	293.2
Revenue adjustments	3.4	1.7	3.3	0.0	0.7	9.1
Corporate income tax	10.0	6.7	8.4	10.9	11.1	47.1
Building block revenue – unsmoothed (including ARS)	**202.0**	**192.5**	**205.2**	**214.7**	**226.1**	**1040.5**
Less: Ancillary reference services	2.8	2.9	3.0	3.1	3.2	15.0
Building block revenue – unsmoothed (excluding ARS)	199.3	189.6	202.2	211.6	222.9	1025.6
Building block revenue – smoothed (excluding ARS)	192.7	199.2	205.2	211.6	216.4	1025.1
X factor[a]	**11.59%**	**0.50%**	**0.50%**	**0.50%**	**0.50%**	**n/a**
Inflation forecast	2.45%	2.45%	2.45%	2.45%	2.45%	n/a
Nominal price change	–9.4%	1.9%	1.9%	1.9%	1.9%	n/a
Building block revenue – smoothed (including ARS)	**195.5**	**202.1**	**208.2**	**214.7**	**219.6**	**1040.1**

Source: AER analysis.

n/a: not applicable.

(a) Under the CPI–X form of control, a positive X factor is a decrease in price (and therefore in revenue). The X factor for 2018 is indicative only. The draft decision establishes 2018 tariffs directly, rather than referencing a change from 2017 tariffs.

[33] This decision uses 10 year inflation expectations on average to convert revenues to nominal values.

2.2.1 Revenue equalisation (smoothing) and tariffs

AusNet operates under a weighted average price cap. Under the tariff variation mechanism approved in this final decision[34] we determine the weighted average tariff change—or 'X factor'—for each year. We set the X factors in such a way that the sum of the smoothed revenues across the period equals the unsmoothed building block revenue in net present value terms.

The X factors represent the weighted average real change in tariffs (that is, excluding the impact of inflation). As part of the annual reference tariff variation process, we will combine the X factors we have determined in this decision with actual inflation to create nominal reference tariffs for the coming year.

Our final decision includes a number of updates to the building block inputs making up AusNet's total revenue requirement. These updates have resulted in a slightly higher smoothed total revenue requirement of $1040.1 million ($ nominal), compared to $1036.4 million in AusNet's revised proposal.[35]

As a result (as shown in Table 2-2), we have also updated the 2018 tariffs set out in AusNet's revised proposal and its proposed 2018–22 tariff path. AusNet's revised proposal was for a weighted average decrease of 9.68 per cent in 2018 followed by weighted average decreases in real tariffs of 1.73 per cent per year from 2019 onwards. As a result of our changes to the total revenue requirement, our final decision is for a larger real decrease in weighted average tariffs of 11.59 per cent in 2018, followed by smaller decreases of 0.5 per cent in each of the remaining years of the access arrangement period.

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[34] AER, *Approved access arrangement for AusNet Services 2018-22 - Part B - reference tariffs and reference tariff policy*, November 2017.

[35] This is calculated by smoothing the unsmoothed building block revenue for the 2018–22 access arrangement period as set in this draft decision.

Table 2-2 Comparison of final decision and revised proposal weighted average tariff change (X factors)

	2018	2019	2020	2021	2022
AER final decision					
X factor[a]	11.59%	0.50%	0.50%	0.50%	0.50%
Nominal price change[b]	–9.4%	1.9%	1.9%	1.9%	1.9%
AusNet revised proposal					
X factor[a]	9.68%	1.73%	1.73%	1.73%	1.73%
Nominal price change[b]	–7.5%	0.7%	0.7%	0.7%	0.7%

Source: AER analysis.

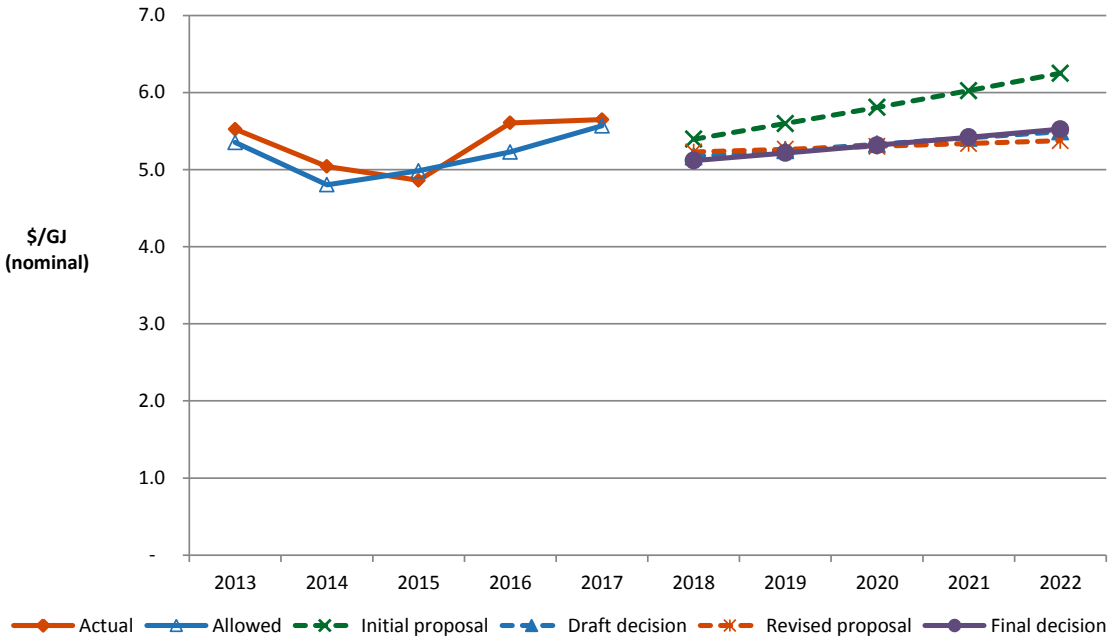
(a) Under the CPI–X form of control, a positive X factor is a decrease in price (and therefore in revenue). For example, an X factor of 11.59per cent in 2018 means a real price decrease of 11.59 per cent that year. After consideration of inflation (assumed at 2.45 per cent) this becomes a nominal price decrease of 9.4 per cent.

(b) For comparison purposes the nominal price changes are derived from the real price changes for AusNet adjusted by AER's final decision forecast inflation of 2.45 per cent.

Figure 2-1 compares the tariff path that flows from this with that approved for the 2013–17 access arrangement.[36] This provides a broad overall indication of the average movement in tariffs across the two access arrangement periods.

[36] The tariff path for 2013–22 uses actual inflation outcomes for the 2013–17 period, and forecast inflation for 2018–22.

Figure 2-1 Indicative tariff paths for AusNet's reference services from 2013 to 2022 ($/GJ)



Source: AER analysis.

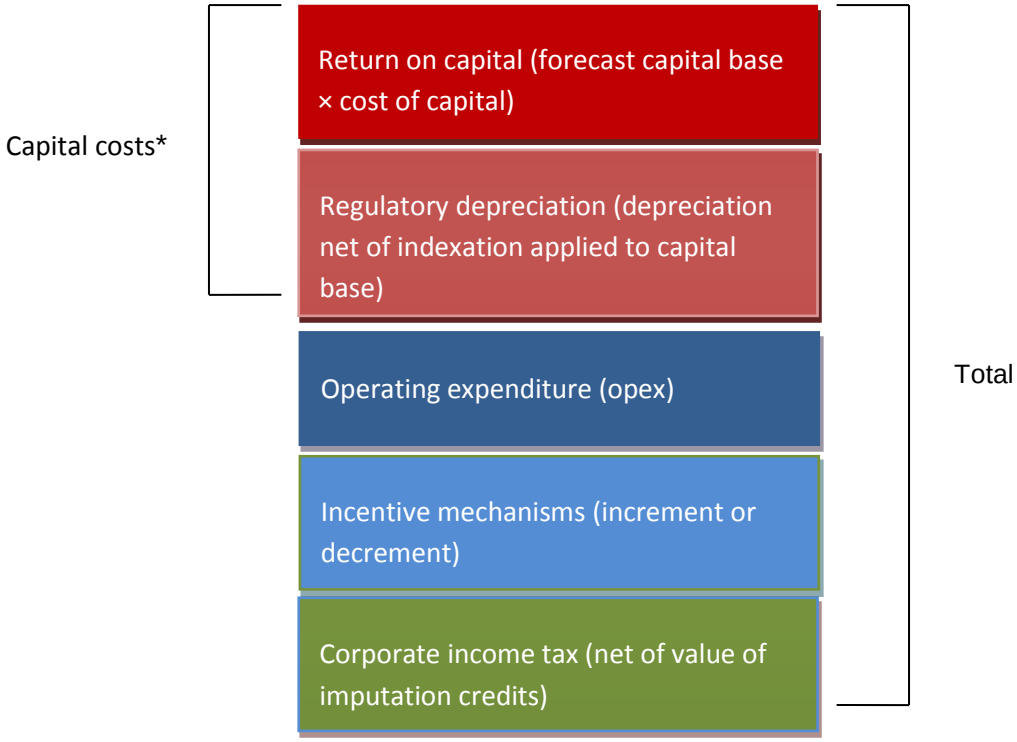
2.3 Key elements of decision on revenue

The total revenue requirement is based on forecasts of the efficient costs that AusNet is likely to incur in providing its reference services. This is commonly referred to as the building block approach. The building blocks, shown in Figure 2-2, include:[37]

- capital costs:
    - return on the projected capital base (return on capital)
    - depreciation of the projected capital base (return of capital)
- forecast opex
- revenue increments or decrements resulting from incentive schemes such as the efficiency carryover mechanism
- the estimated cost of corporate income tax.

[37] NGR, r. 76.

Figure 2-2 The building block approach to determining total revenue



Note: Capital expenditure (capex)—the capital costs incurred in the provision of pipeline services —mostly relates to assets with long lives and these costs are recovered over several access arrangement periods. AusNet recovers the costs of these assets through the return on capital and depreciation building blocks that form part of its total revenue. In this way AusNet recovers the financing cost and depreciation associated with these assets over the expected life of these assets.

AusNet's revised proposal has adopted our draft decision on all key elements of the building block calculation, subject only to the updates we discussed in section 1.2. In the following sections we explain how these updates have impacted the various components of our decision. Submissions have not raised any issues which impact on the reasoning set out in our draft decision. For the reasons set out in our draft decision, we have therefore accepted these elements of AusNet's revised proposal.

2.3.1 Capital base

The capital base roll forward accounts for the value of AusNet's regulated assets over the access arrangement period. The opening value of the capital base is used to determine the return of capital (regulatory depreciation) and return on capital building block allowances.

Our final decision approves an opening capital base value of $1562.7 million ($ nominal) as at 1 January 2018 for AusNet.[38] This includes AusNet's updates to its capex for 2016 (actual) and 2017 (revised estimate). Table 2-3 sets out our final decision on the roll forward of AusNet's capital base during the 2013–17 access arrangement period to determine the opening capital base as at 1 January 2018.

Table 2-3 Capital base roll forward for 2013–17 ($ million, nominal)

	2013	2014	2015	2016	2017
Opening capital base	1275.3	1339.2	1407.4	1471.0	1510.6
Net capex	86.8	94.1	92.6	83.7	86.5
Indexation of capital base	25.6	28.9	32.5	22.1	19.6
Less: straight-line depreciation	48.5	54.8	61.4	66.2	70.5
Closing capital base	1339.2	1407.4	1471.0	1510.6	1546.3
Difference between estimated and actual capex in 2012					12.1
Return on difference for 2012 capex					4.4
Opening capital base as at 1 January 2018					**1562.7**

Source: AER analysis.

We approve a forecast closing capital base value of $1899.2 million ($ nominal) at 31 December 2022. Our final decision on the projected closing capital base reflects our changes to the opening capital base as at 1 January 2018 and forecast depreciation (section 2.3.5).[39] Table 2-4 sets out our final decision on the projected roll forward of the capital base for AusNet over the 2018–22 access arrangement period.

[38] This amount is $1.2 million lower than AusNet's revised proposal. This is because we have adjusted 2016 gross capex values for movements in capitalised provisions and updated the values of 2017 customer contributions consistent with revisions provided by AusNet. Also we have converted the 2017 gross capex and customer contributions values in the RFM to mid-year dollar terms from end-of-year dollar terms, as required by the input sections for the RFM. AusNet's revised proposed RFM—and subsequent revisions—used these values presented in end-of-year dollar terms, which are consistent with its capex model.

[39] The combined effect of these changes is that our final decision on the closing capital base is $3.0 million (or 0.2 per cent) lower than the $1902.2 million ($ nominal) in AusNet's revised proposal.

Table 2-4 Projected capital base roll forward for 2018–22 ($ million, nominal)

	2018	2019	2020	2021	2022
Opening capital base	1562.7	1628.9	1704.9	1777.2	1841.8
Net capex	107.8	107.0	106.1	101.8	99.0
Indexation of capital base	38.3	39.9	41.8	43.5	45.1
Less: straight-line depreciation	79.8	70.9	75.5	80.7	86.7
Closing capital base	**1628.9**	**1704.9**	**1777.2**	**1841.8**	**1899.2**

Source: AER analysis.

For this final decision, we confirm the position taken in our draft decision and AusNet's revised proposal that the capital base as at 1 January 2023 is to be established using the approved depreciation schedules (straight-line) based on forecast capex at the asset class level.[40]

2.3.2 Rate of return (return on capital)

The allowed rate of return provides AusNet an expected return on capital to service the interest on its loans and give a return on equity to investors. The return on capital building block is calculated as a product of the rate of return and the value of the capital base.

In its initial proposal AusNet proposed to depart from the approach set out in our rate of return guideline in its approach to the risk free rate averaging period (by proposing an 8 month averaging period) and estimating the market risk premium parameter. It also proposed to exclusively use data from the RBA to estimate the required return on debt whereas in all recent determinations we have used data from both the RBA and Bloomberg to estimate the required return on debt.

Our draft decision generally implemented the approach outlined in our guideline. However, we made some departures from our guideline in response to decisions of the Tribunal, the Federal Court and the submissions we have received from stakeholders through the various gas and electricity determination processes we have conducted since our guideline was published. These departures relate to the following aspects of our approach:

- equity and debt averaging periods
- transitioning from the on-the-day approach to a trailing average to estimating the return on debt

[40] NGR, r. 90.

- implementing contingency arrangements for estimating debt if there are difficulties in applying an average of the Bloomberg and RBA debt series
- estimating the value of imputation credits.

We determine the rate of return on a basis that is consistent with the estimate of the value of imputation credits used in calculating a tax allowance.[41] Each of these matters is discussed in detail in our draft decision.

In its revised rate of return proposal, AusNet adopted our draft decision. It accepted our market risk premium, equity averaging period and using the debt data source combination we have used in recent determinations (a simple average of debt yields based on data published by the RBA and Bloomberg).

Beyond noting its general concern that this represents 'a cautious regulatory approach that has been regarded as overly conservative by various consumer groups', CCP11 largely supported this outcome.[42]

We accept AusNet's revised rate of return proposal for reasons in our draft decision and in this final decision.[43] As such, our draft decision reasons form part of this final decision. The draft decision also sets out the future debt averaging periods to be used to update the cost of debt over AusNet's access arrangement period and the equity averaging period that has been used to update the cost of equity for its access arrangement period in this final decision.[44] The only changes we have made to our draft decision are to update the inputs and parameters of the rate of return to reflect the averaging periods we adopted in our draft decision (and accepted by AusNet in its revised proposal) and the prevailing market conditions, as close as practically possible to the start of the new access arrangement period.

Having considered the information before us, including the submission CCP11 and the most recent decisions of the Federal Court and Australian Competition Tribunal as discussed in our final decision for APA VTS,[45] we are satisfied that our rate of return and approach to updating this (as we transition to a trailing average cost of debt) contributes to the achievement the allowed rate of return objective and the NGO.[46] That is, we consider our allowed rate of return is commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to AusNet in providing reference services.[47]

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41 NGR 87(4)(b)

42 CCP11, *Final advice to AER following Draft Decision and Revised Proposals from AusNet, AGN and Multinet*, 12 September 2017,, p. 33

43 AER, *Draft Decision AusNet Services Gas Access Arrangement 2018 to 2022 Attachment 3–Rate of Return*, (Confidential appendices O), July 2017.

44 AER, *Draft Decision AusNet Services Gas Access Arrangement 2018 to 2022 Attachment 3–Rate of Return*, (Confidential appendices O), July 2017.

45 AER, *Final Decision - APA VTS Australia Gas access arrangement 2018 to 2022 - Attachment 3 - Rate of return*, November 2017.

46 NER, cl. 6.5.2(b); cl. 6A.6.2(b); NGR, cl. 87(2); NEL, s.16; NGL, s. 28.

47 NER, cl. 6.5.2(c); cl. 6A.6.2(c); NGR, cl. 87(3); NEL, s.16; NGL, s. 28.

As noted above, updates to the return on debt (and overall WACC) will be made annually throughout the access arrangement period as we transition to a trailing average cost of debt and as part of the annual tariff variation process.

For 2018, this final decision applies the following values in the rate of return calculation:

Table 2-5 Final decision on AusNet's rate of return (% nominal)

	Previous allowed return (2013-17)	AusNet's revised proposal (2018-22)[a]	AER final decision (2018)	Allowed return over 2018 regulatory control period
Return on equity (nominal post–tax)	7.94	7.2	7.3	Constant (7.3%)
Return on debt (nominal pre–tax)	6.5	5.10	5.04	Updated annually
Gearing	60	60	60	Constant (60%)
Nominal vanilla WACC	7.07	5.94	5.94	Updated annually for return on debt
Forecast inflation	2.5	2.47	2.45	Constant (%)

Source: AER analysis; AusNet Services, Revised Access Arrangement Information, 11 August 2017. pp. 15–16.

a AusNet accepted our draft decision and did not submit updated indicative rate of return estimates in its revised proposal.

Our return on equity point estimate and the parameter inputs are set out in the table below.

Table 2-6 Final decision on AusNet's return on equity (% nominal)

	AER previous decision (2013–17)	AusNet's revised proposal (2018–22) [a]	AER final decision (2018)
Nominal risk free rate (return on equity only)	3.14%	2.6%	2.73%
Equity risk premium	4.8%	4.55%	4.55%
Market risk premium	6%	6.5%	6.50%
Equity beta	0.8	0.7	0.70
Nominal post–tax return on equity	7.94%	7.2%	7.3%

Source: AER analysis; AusNet Services, Revised Access Arrangement Information, 11 August 2017. pp. 15–16.

[a] AusNet accepted our draft decision and did not submit updated indicative rate of return estimates in its revised proposal.

2.3.3 Forecast inflation

For this final decision we have estimated expected inflation as the geometric average of 10 annual expected inflation rates. We use the RBA's forecasts of inflation for the first two annual rates and the mid-point of the RBA's inflation target band for the remaining eight annual rates. This is the same approach used in our draft decision and is our current approach. AusNet challenged this approach in its initial proposal, but has adopted it for the purposes of its revised proposal.

In its revised proposal AusNet noted that:

> …the regulatory treatment of inflation and the best estimate of expected inflation are currently being reviewed in a separate process. We consider that the inflation review is the most appropriate process to determine which methodology produces the best estimate of expected inflation. We expect the conclusion of the review will be applied in the AER's final decision.[48]

As noted by AusNet, we are currently conducting an industry-wide view of approaches to estimating inflation for our regulatory decisions. In our draft decision we indicated that findings from that review may inform this final decision. However, the finalisation of that review is now expected in December 2017. The finalisation of that review is now expected in December 2017. Therefore, we discussed with AusNet whether we should apply a tariff variation mechanism. Such a mechanism would allow us to adjust the approved revenue in the event that the approach to estimating inflation in our final decision is inconsistent with the inflation review outcome.[49] AusNet advised that it would be comfortable with the outcomes of the inflation review not being adopted in the GAAR final decision, with inflation instead treated consistently with the AER's

[48] AusNet Services - *Revised Access Arrangement Information* - 20170811 – Public, p. 11.

[49] AER, Emails to AusNet - Timing of final decision vs inflation review - 24 and 27 November 2017.

preliminary position paper. We accept that this is the most appropriate approach in the circumstances.[50]

We released our inflation review preliminary position in October, which was that our current approach remains the most appropriate to derive the best estimate of expected inflation.[51] In its submission in response to the preliminary position paper, AusNet indicated that it maintains the position that the breakeven approach is likely to provide a more accurate indication of inflation expectations of investors. On the evidence before us, we consider that our current approach has the greatest strengths and fewest weaknesses and is therefore the best estimate of expected inflation. We assessed all the material before us and engaged all stakeholders in arriving at our preliminary position. The reasons discussed in that paper is relevant to this final decision as well.

2.3.4 Value of imputation credits (gamma)

Under the Australian tax system investors can receive imputation credits for tax paid at the company level. We make an adjustment to our taxation building block (section 2.3.9, below) to account for the value of imputation credits. The higher the value of gamma, the larger the adjustment to the corporate income tax allowance.

Our draft decision did not accept AusNet's proposed gamma value of 0.25, and instead applied a gamma of 0.4. For the purposes of its revised proposal, AusNet has adopted our draft decision on gamma. CCP11 again generally supported this position.[52]

Our final decision, consistent with our draft decision and AusNet's revised proposal, is to apply a gamma value of 0.4. Our reasons for this decision are principally set out in our draft gamma decision for AusNet.[53] However, in this final decision we have also had regard to:

- the recent Australian Competition Tribunal decision for ActewAGL [Gas] Distribution and Jemena Electricity Networks;[54]
- recent submissions on gamma by TransGrid; and updated tax and
- equity ownership data.

Our consideration of TransGrid's recent submissions on gamma, recent legal decisions and the most recent data, are set out in our draft electricity transmission determination for ElectraNet.[55]

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50 AusNet, Emails to AER - Timing of final decision vs inflation review – 27 and 28 November 2017.

51 AER, *Preliminary Position Paper - Regulatory treatment of inflation*, 13 October 2017.

52 CCP11, *Final advice - AGN, AusNet and Multinet*, September 2017, p. 47.

53 AER, *Draft Decision - AusNet Services Gas Access Arrangement 2018 to 2022 - Attachment 4 - Value of imputation credits*, July 2017.

54 Australian Competition Tribunal, *Application by ActewAGL Distribution [2017] ACompT 2,* 17 October 2017.

55 AER, *Draft Decision - ElectraNet transmission determination 2018 to 2023 - Attachment 4 - Value of imputation credits*, October 2017.

2.3.5 Regulatory depreciation (return of capital)

Our decision on AusNet's total revenue includes an allowance for the depreciation of the projected capital base (the 'return of capital'). Regulatory depreciation is used to model the nominal asset values over the 2018–22 access arrangement period and the depreciation allowance in the total revenue requirement.[56]

Our final decision approves forecast regulatory depreciation of $185.1 million ($ nominal) for AusNet over the 2018–22 access arrangement period, as set out in Table 2-7.[57]

Table 2-7 Regulatory depreciation allowance 2018–22 ($ million, nominal)

	2018	2019	2020	2021	2022	Total
Straight-line depreciation	79.8	70.9	75.5	80.7	86.7	393.8
Less: indexation on capital base	38.3	39.9	41.8	43.5	45.1	208.6
Regulatory depreciation	**41.6**	**31.0**	**33.8**	**37.2**	**41.6**	**185.1**

Source: AER analysis.

2.3.6 Capital expenditure

Capital expenditure (capex) refers to the capital costs and expenditure incurred in the provision of pipeline services.[58] This investment mostly relates to assets with long lives, and these costs are recovered over several access arrangement periods. AusNet recovers the costs of these assets through the return on capital and depreciation building blocks that form part of its total revenue. In this way AusNet recovers the financing cost and depreciation associated with these assets over the expected life of these assets.

Our decision on AusNet's revenue includes an assessment of AusNet's actual capex in the current period, which is added to its opening capital base for 2018.[59] It also includes an assessment of AusNet's forecast capex for the 2018–22 access arrangement period, which is used to project the closing capital base in 2022.[60]

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56 Regulatory depreciation allowance is the net total of the straight-line depreciation (negative) and the annual inflation indexation (positive) on the projected capital base.

57 This is an increase of $1.5 million (or 0.8 per cent) from the $183.6 million ($ nominal) in AusNet's revised proposal, reflecting our amendments to AusNet's opening capital base as at 1 January 2018 (section 2.3.1) and our update to the value of expected inflation for the 2018–22 access arrangement period (section 2.3.3).

58 NGR, r. 69.

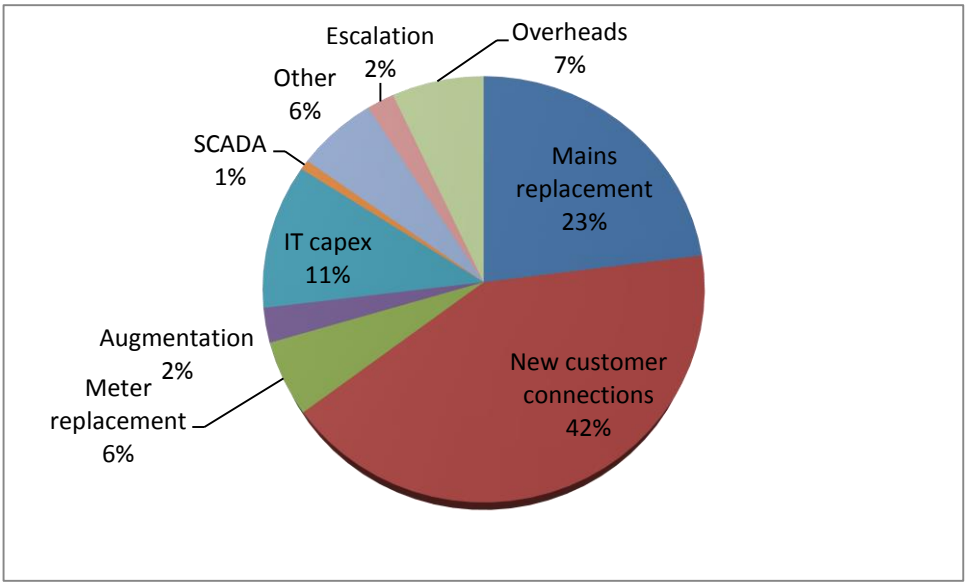
59 NGR, r. 77.

60 NGR, r. 78(b)

Over the current period AusNet has spent 12 per cent less than that contemplated in our final decision on the 2013–17 access arrangement.[61] Our final decision accepts AusNet's actual capex of $463.2 million ($2017) in the 2013–17 access arrangement period.[62]

Our final decision also approves AusNet's revised proposal for total forecast capex of $477.5 million ($2017). The composition of this forecast is shown in Figure 2-3. As in the current period, capex for new connections (growth) and mains replacement will continue to be key drivers of expenditure in 2018–22.

Figure 2-3 Composition of gross forecast capex for 2018–22 ($2017)



Source: AER analysis

Our draft decision accepted most of AusNet's forecast capex, and approved total forecast capex of $460.0 million. Our reduction to the scale of AusNet's proposed mains replacement expenditure was the key driver of the 5.7 per cent difference between our draft decision and AusNet's initial proposal. In its revised proposal AusNet noted that even with these reductions it "remains confident that sufficient funding will be provided to allow completion of the [low pressure] mains replacement by the end of the subsequent access arrangement period in 2027".[63]

AusNet's revised proposal has largely adopted our draft decision on its forecast capex. However, the updated residential demand forecasts in AusNet's revised proposal, which we have approved, suggest a higher number of customers connecting to AusNet's network than contemplated in our draft decision capex forecast. This

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61 AER - *Access arrangement final decision - SP AusNet - Part 1* - March 2013

62 This figure includes estimated capex for 2017. We will assess AusNet's actual capex for 2017 as part of our next review of its access arrangement.

63 AusNet Services - *Revised Access Arrangement Information* - 20170811 - Public, p. 4.

changes the efficient level of capex required to meet demand, an increase of $18 million to AusNet's total capex forecast ($2017), which we have accepted is consistent with the updated demand forecasts.

Table 2-8 shows the composition of capex approved in this final decision for AusNet's current (2013–17) and forecast (2018–22) access arrangement periods.

Table 2-8 Approved capex by category for 2013–17 and 2018–22 ($ million, 2017) ($million, 2017)

Category	2013–17	2018–22	Difference ($millions)
Mains replacement	117.2	114.5	-2.7
New customer connections	184.3	208.1	23.8
Meter replacement	24.6	28.3	3.6
Augmentation	14.5	13.1	-1.4
IT capex	49.2	54.9	5.7
Other (incl. SCADA)	80.6	34.0	-46.5
Escalation	- [a]	10.5	-
Overheads	56.3	34.6	-21.7
GROSS TOTAL CAPITAL EXPENDITURE	526.8	498.1	-28.8
Customer contributions	63.6	20.6	-43.0
NET TOTAL CAPITAL EXPENDITURE	463.2	477.5	14.3

Source: AusNet Services - *Distribution GAAR Revised Proposal Capex Model* - 20170811 - Public; AER analysis.

Note: a. Figures for 2013–17 already include escalation.

2.3.7 Operating expenditure

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

Our final decision approves AusNet's total forecast opex of $272.3 million ($2017) (see Table 2-9). [64] AusNet's revised proposal has adopted our draft decision forecast, subject to adjustments for updated throughput and forecast customer numbers. Those

[64] Includes debt raising costs.

updates increased AusNet's total opex forecast by $3.7 million (or 1.4 per cent) compared to our draft decision.

Table 2-9 Total opex for 2018–22 ($million, 2017)

	2018	2019	2020	2021	2022	Total
AusNet's revised proposal	53.0	53.6	54.3	55.3	56.1	272.3
AER final decision	53.0	53.6	54.3	55.3	56.1	272.3
Difference	–	–	–	–	–	–

Source: AusNet Services, *Distribution GAAR Revised Proposal PTRM - 20170811 - Public,* 11 August 2017; AER analysis.

Note: Includes debt raising costs.

Our draft decision reduced AusNet's proposed opex forecast by 11.9 per cent. The biggest difference was our decision not to include AusNet's proposed increase in marketing expenditure. We also made a number of adjustments to the rate at which AusNet's opex is projected to change (increase) over the next five years. While it accepted both of these changes, in its revised proposal AusNet suggested we consider two possible variations to our approach.

Output growth

First, AusNet suggested that we consider a different approach to forecasting output growth to that we approved on the basis of its initial proposal. It now prefers the approach taken by Multinet Gas, which is based solely on customer numbers and network length rather than throughput.[65]

We agree that gas distributors are likely to face the same opex cost drivers. Ideally we would use a consistent approach to forecast output growth in our alternative estimate of opex. However, as we stated in our draft decision, we do not currently have the necessary dataset to undertake the modelling needed to determine a standard industry output specification for gas distribution. For electricity distribution and transmission networks, we have a consistent dataset that we use to undertake our annual benchmarking. We have collected this data only after an industry-wide consultation process. We also consulted with industry and other stakeholders on the output specification. We have yet to undertake this process with the gas distribution industry, and consequently do not consider we are currently in a position to establish a standard industry output specification for gas distribution.

[65] AusNet Services - *Revised Access Arrangement Information* - 20170811 - Public, pp. 12-13.

That is why we adopted the approach that we did to assess forecast output growth in our draft decision.[66] Under this approach we assessed the reasonableness of each gas distributor's output growth forecast against a reasonable range. Our acceptance of a distributor's output growth forecast was not an endorsement of the approach they adopted. For example, in our draft decision for Multinet, while we were satisfied with Multinet's output growth forecast, net of productivity growth, we expressed concerns with the method Multinet used.[67] Consequently, it would not be appropriate to adopt Multinet's approach for all gas distributors. Multinet's approach may not produce a reasonable output growth forecast for different distributors facing different output growth conditions.

Treatment of marketing expenditure

In our draft decision we took the view that marketing—as a business as usual expense—was something AusNet should look to manage within its existing opex forecast where it was prudent and efficient to do so.

While AusNet has adopted the revisions in our draft decision to remove the increase in opex for marketing expenditure from its forecast, both AusNet and CCP11 have suggested there would be value in further engagement with us and other stakeholders on this topic.

AusNet suggested that marketing expenditure drawn from its opex forecast absent a step change would be 'unfunded', and expose it to potential penalties under the efficiency carryover mechanism. Perhaps in contrast, CCP11 has expressed concern that including (whether explicitly or implicitly) an allowance for marketing expenditure in regulated revenues may not encourage prudent and efficient expenditure. It suggested excluding marketing expenditure from the efficiency carryover mechanism.

In our draft decision we discussed the potentially different incentives to increase or decrease expenditure on marketing than for other types of opex.[68] However, we remain of the view that excluding marketing expenditure from the EBSS would not address this. We will continue to monitor this issue. If we consider that this incentive imbalance is resulting in inefficient levels of total opex we will reconsider whether alternative incentive arrangement are required for marketing expenditure.

2.3.8 Efficiency carryover mechanism

The opex efficiency carryover mechanism in AusNet's access arrangement provides an additional incentive for AusNet to pursue efficiency improvements in its opex over

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66 AER - *Draft decision - AusNet Services gas access arrangement 2018-22 - Attachment 7 - Operating expenditure* - July 2017, p. 7-24.

67 AER, *Draft decision - Multinet Gas Access arrangement 2018 to 2022, Attachment 7 - Operating expenditure*, July 2017, pp. 24–25.

68 AER, *Draft decision - AusNet Services Gas access arrangement 2018 to 2022, Attachment 7 - Operating expenditure*, July 2017, p. 29.

an access arrangement period. It does this by allowing AusNet to retain efficiency savings achieved within a particular period for a longer period of time.

Our draft decision approved a positive carryover amount of $8.6 million ($2017) from the application of the efficiency carryover mechanism in the 2013–17 access arrangement period. AusNet's revised proposal adopted the carryover amounts approved in our draft decision.[69] Our final decision confirms those amounts, and a total efficiency carryover amount of $8.6 million ($2017).[70]

Table 2-10 shows our final decision on AusNet's proposed carryover amounts.

Table 2-10 Carryover amounts under the opex efficiency carryover mechanism ($million, $2017)

	2018	2019	2020	2021	2022	Total
AusNet Services' revised carryover	3.3	1.6	3.0	–	0.6	8.6
Final decision	3.3	1.6	3.0	–	0.6	8.6
Difference	–	–	–	–	–	–

Note: Numbers may not add up due to rounding.

AusNet's revised proposal adopted the changes made in our draft decision to the efficiency carryover mechanism that will apply for the 2018–22 access arrangement period. We have accepted AusNet's implementation of these changes and its revised proposal on the forecast expenditure amounts that will be used as the basis for measuring efficiencies under the efficiency carryover mechanism for 2018-22.[71]

2.3.9 Corporate income tax

AusNet has adopted the post-tax framework to derive its revenue requirement for the 2018–22 access arrangement period.[72] When determining the total revenue for AusNet, we therefore include an estimate of AusNet's cost of corporate income tax.

Our final decision on the estimated cost of corporate income tax is $47.1 million ($ nominal) for AusNet over the 2018–22 access arrangement period, as shown in Table 2-11.[73]

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69 AusNet Services - *Distribution GAAR Revised Proposal PTRM* - 20170811 - Public

70 AER, Final decision post tax revenue model, November 2017.

71 AusNet Services - *2018-22 Access arrangement - Part B - reference tariffs and reference tariff policy - clean* - 20170811 - Public, cl. 6.4.2(k).

72 AusNet Services - *Distribution GAAR Revised Proposal PTRM* - 20170811 - Public.

73 This is an increase of $1.0 million ($ nominal) or 2.2 per cent from the $46.1 million ($ nominal) in AusNet's revised proposal. The increase reflects our amendments to AusNet's revised proposed inputs for forecasting the cost of corporate income tax, including the opening tax asset base at 1 January 2018 and remaining tax asset lives. Our final decision adjustments to the return on capital (section 2.3.2) and regulatory depreciation (section 2.3.5) also affect revenues, which in turn impacts the tax calculation.

Table 2-11 Corporate tax allowance 2018–22 ($million, nominal)

	2018	2019	2020	2021	2022	Total
Tax payable	16.6	11.2	14.1	18.2	18.5	78.5
Less: value of imputation credits	6.7	4.5	5.6	7.3	7.4	31.4
Net corporate income tax allowance	**10.0**	**6.7**	**8.4**	**10.9**	**11.1**	**47.1**

Source: AER analysis.

2.4 New capital expenditure sharing scheme

This final decision approves the application of a new incentive mechanism to AusNet's capital expenditure: a contingent capital expenditure sharing scheme (CESS).

The final form of the CESS that will apply to AusNet for the 2018-22 access arrangement period is set out in the approved access arrangement released with this decision[74], and explained in attachment 14.

In its final advice to us on this review, CCP11 supported our decision to apply the new CESS to AGN and AusNet. It also commended the level of collaboration between us and the businesses to develop a robust measure of network health, and endorsed the adoption of those measures. However, CCP11 raised continued concerns—not specific to AusNet—about the adequacy of provisions to manage the risk that the CESS would reward a business for inefficient deferral of capital works from one period to the next.[75]

In this final decision we have explicitly detailed the operation of the CESS, including the methodology we will use to:

- calculate efficiency gains and losses
- account for the benefits and costs already accrued
- calculate the CESS reward or penalty (contingent on network health)
- undertake a final year adjustment to CESS rewards or penalties at the following access arrangement, and
- adjust CESS payments when capex has been deferred to the following access arrangement period.

Recognising the concerns that stakeholders—including CCP11—have raised throughout this process, the CESS has been designed so that any reward to AusNet under the CESS will be contingent on AusNet maintaining current service standards,

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74 AER, *Approved access arrangement for AusNet Services 2018-22 - Part B - reference tariffs and reference tariff policy*, November 2017, cl. 6.4.3.

75 CCP11, *Final advice - AGN, AusNet and Multinet*, September 2017, p. 25.

measured through a new network health index. If service standards decline, then AusNet will receive a reduced CESS reward or no reward at all.

Importantly, we consider the capex deferral mechanism in the approved CESS will operate to identify capex deferrals—for example where actual volumes of capex for mains replacement are lower than anticipated in our approved capex forecast—and potentially adjust CESS payments where such deferrals are not appropriately recognised as capex efficiencies.

2.5 Non-tariff components

The non-tariff components of an access arrangement include:

- the terms and conditions for the supply of reference services
- extension and expansion requirements—the method for determining whether an extension or expansion is a part of the covered pipeline and the effect this will have on tariffs
- capacity trading requirements—the arrangements for users to assign contracted capacity and change delivery and receipt points
- provisions for receipt and delivery point changes, and
- a review submission date and a revision commencement date.[76]

AusNet's revised proposal adopted our draft decision on these elements of its access arrangement without further amendment. Our final decision accepts these elements of the revised proposal in full.

Prior to the draft decision AusNet advised it would be prepared to change its review submission date from 1 January 2022 to 1 December 2021. While AusNet's revised proposal maintained the later of these dates, AusNet has subsequently confirmed it is happy to adopt 1 December 2021 as the review submission date.

[76] Although not required in the present case, all transmission pipelines and some distribution pipelines are also required to set out how any spare or developable capacity will be allocated among prospective users ('queuing requirements') - see NGR, r. 103.

A The National Gas Objective

The NGL requires us to make this decision in a manner that contributes, or is likely to contribute, to achieving the NGO.[77] The focus of the NGO is on promoting efficient investment in, and operation and use of, natural gas services (rather than assets) in the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.[78] This is not delivered by any one of the NGO's factors in isolation, but rather by balancing them in reaching a regulatory decision.[79]

In general, we consider that the long-term interests of consumers are best served where consumers receive a reasonable level of safe and reliable service, which they value, at least cost in the long run.[80] A decision that places too much emphasis on short term considerations may not lead to the best overall outcomes for consumers once the longer term implications of that decision are taken into account. [81]

There may be a range of economically efficient decisions that we could make in a revenue decision, each with different implications for the long term interests of consumers.[82] A particular economically efficient outcome may not be in the long term interests of consumers, depending on how prices are structured and risks allocated within the market.[83] There are also a range of outcomes that are unlikely to advance the NGO, or advance the NGO to the degree that others would. For example:

- the long term interests of consumers will not be advanced if our decisions encourage over-investment which results in prices so high that consumers are unwilling or unable to efficiently use the network.[84] This could have significant longer term pricing implications for those consumers who continue to use network services.
- equally, the long-term interests of consumers will not be advanced if we allowed revenues to result in prices so low that investors do not invest to sufficiently maintain the appropriate quality and level of service.[85] This could create longer term problems in the network, and could have adverse consequences for safety, security and reliability of the network.

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77 NGL, s. 28(1)

78 This is also the view of the Australian Energy Markets Commission (the AEMC). See, for example, the AEMC, *'Applying the Energy Objectives: A guide for stakeholders'*, 1 December 2016, p. 5.

79 Hansard, *SA House of Assembly,* 26 September 2013, p. 7173. See also the AEMC, *'Applying the Energy Objectives: A guide for stakeholders'*, 1 December 2016, p. 7-8.

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

81 See, for example, the AEMC, *'Applying the Energy Objectives: A guide for stakeholders'*, 1 December 2016, p. 6-7.

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

83 See, for example, the AEMC, *'Applying the Energy Objectives: A guide for stakeholders'*, 1 December 2016, p. 5.

84 NGL, s. 24(7).

85 NGL, s. 24(6).

The legislative framework recognises the complexity of this task by providing us with significant discretion in many aspects of the decision-making process to make judgements on these matters.

A.1 Achieving the NGO to the greatest degree

Our decisions on gas access arrangements are complex. In most cases, the provisions of the NGR 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, part 9 of the NGR requires us to consider forecasts, which are predictions about unknown future circumstances. Very often, there will be more than one plausible forecast, and much debate amongst stakeholders about relevant costs. For certain components of our decision there may therefore be several plausible answers or several plausible point estimates.

When the 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 NGO. In these cases, our role is to make an overall decision that we are satisfied contributes to the achievement of the NGO to the greatest degree.

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, we have selected what we are satisfied would result in an overall decision that contributes to the achievement of the NGO to the greatest degree.

A.2 Interrelationships between the different components of our decision

Examining individual components of our decision in isolation ignores the importance of the interrelationships between components of the overall decision, and would not contribute to the achievement of the NGO. We consider these interrelationships as part of our analysis of the various components of our decision. Examples include:

- 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.
- 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.
- trade-offs between different components of revenue. For example, undertaking a particular capex project may affect the need for opex or vice versa.