



FINAL DECISION

Jemena Gas Networks (NSW) Ltd

Access Arrangement

2020 to 2025

Overview

June 2020

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About our 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 consumers for using these networks.

The National Gas Law (NGL) and National Gas Rules (NGR or Rules) provide the regulatory framework governing gas transmission and distribution networks. Our work under this framework is guided by the National Gas Objective (NGO):¹

“...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.”

Jemena Gas Networks (NSW) Ltd (‘JGN’) owns and operates gas distribution pipelines supplying natural gas to almost 1.4 million homes and businesses across NSW, including greater Sydney, the Hunter, the Illawarra and several other regional areas.

On 28 June 2019, JGN submitted its 2020–25 access arrangement initial proposal for the five-year access arrangement period, which runs from 1 July 2020 to 30 June 2025 (2020–25 period).² Stakeholder submissions (first round submissions) on JGN’s initial proposal closed on 9 August 2019. We received nine submissions.

On 25 November 2019, we published our draft decision for JGN for the 2020–25 period.

On 9 January 2020, JGN submitted its 2020–25 access arrangement revised proposal.³

Stakeholder submissions (second round submissions) on JGN’s revised proposal and our draft decision closed on 17 February 2020. We received eight submissions.

This Overview, together with its attachments and approved access arrangement, constitutes our final decision for JGN for the 2020–25 period.^{4, 5}

¹ NGL, s. 23.

² JGN, *Access arrangement, JGN’s NSW gas distribution network, 1 July 2020 – 30 June 2025*, June 2019.

³ JGN, *Access arrangement, JGN’s NSW gas distribution network, 1 July 2020 – 30 June 2025*, January 2020.

⁴ Under rule 62 of the NGR: (1) after considering the submissions made in response to the access arrangement draft decision within the time allowed in the notice, and any other matters the AER considers relevant, the AER must make an access arrangement final decision; (2) an access arrangement final decision is a decision to approve, or to refuse to approve, an access arrangement proposal; and (3) if the access arrangement proposal has been revised since its original submission, the access arrangement final decision relates to the proposal as revised; and (4) an access arrangement final decision must include a statement of the reasons for the decision.

⁵ For the purpose of rule 62(7) of the NGR, we have disregarded the periods of time in which stakeholder submissions were sought on the proposal and our draft decision.

Note

This Overview forms part of our final decision on the access arrangement that will apply to Jemena Gas Networks (NSW) Ltd ('JGN') for the 2020–25 access arrangement period. It should be read with all other parts of the final decision.

As a number of issues were settled at the draft decision stage or required only minor updates, we have not prepared all attachments. The final decision attachments have been numbered consistently with the equivalent attachments to our draft decision. In these circumstances, our draft decision reasons form part of this final decision.

Our revisions are reflected in the *Approved access arrangement for Jemena Gas Networks (NSW) Ltd 2020–25*, which gives effect to this final decision.⁶ Our decisions under the NGR are: under rule 62, we refuse to approve JGN's access arrangement proposal; under rule 64, we propose to substitute the *Approved access arrangement for Jemena Gas Networks (NSW) Ltd 2020–25*, and we further decide to give effect to that proposal.

In addition to this Overview, our final decision includes the following attachments:

Attachment 1 – Services covered by the access arrangement

Attachment 2 – Capital base

Attachment 3 – Rate of return

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 7 – Corporate income tax

Attachment 11 – Non-tariff components

Attachment 12 – Demand

Attachment 13 – Capital expenditure sharing scheme

⁶ NGR, r. 64(2) provides that the AER's proposal for an access arrangement or revisions is to be formulated with regard to (a) the matters that 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.

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Executive summary

The Australian Energy Regulator (AER) regulates gas transmission and distribution networks in all Australian jurisdictions except Western Australia. As part of this process, a regulated gas network business must periodically apply to us for a ruling on the amount of money it can recover from gas consumers for using its network. We use our insights and expertise to determine how much money the business can recover.

This final decision determines the revenue Jemena Gas Networks (NSW) Ltd ('JGN') can recover from gas consumers for the 2020–25 access arrangement period, which runs from 1 July 2020 to 30 June 2025 (2020–25 period). JGN owns and operates gas distribution pipelines supplying natural gas to almost 1.4 million homes and businesses across NSW, including greater Sydney, the Hunter, the Illawarra and several other regional areas.

Our final decision allows JGN to recover \$2,175.9 million (\$ nominal, smoothed) from gas consumers for the 2020–25 period, who are also likely to benefit from bill reductions.

The revenue we allow forms the distribution network component of retail gas bills. JGN's share of the bill for a typical residential gas consumer in its network area is around 41 per cent in coastal areas and 33 per cent in regional areas.⁷ Other key components of the bill include wholesale, transmission and retail costs. As a consequence of our final decision on JGN's revenues for the 2020–25 period, we estimate that compared to current levels (2019–20), retail gas bills in JGN's network area are expected to reduce by:

- \$55 (8.3 per cent) for an average coastal residential consumer in the first year (2020–21), followed by increases of \$4 (0.7 per cent) on average for the next four years
- \$81 (6.8 per cent) for an average regional residential consumer in the first year (2020–21), followed by increases of \$6 (0.6 per cent) on average for the next four years
- \$289 (6.0 per cent) for an average small business consumer in the first year (2020–21), followed by increases of \$22 (0.5 per cent) on average for the next four years.

JGN's revised proposal builds on its well-informed initial proposal which was underpinned by extensive consumer engagement. The revised proposal also provides additional supporting information which addresses a number of issues raised in our draft decision. Our final decision is \$70.2 million (3.1 per cent) lower than JGN's

⁷ Reflecting higher average annual gas consumption of around 35 GJ for JGN's regional residential gas consumers, as compared to around 15 GJ for its coastal residential gas consumers.

revised proposal.⁸ Key remaining differences are the return on capital, accelerated depreciation on certain new capital assets, and to a lesser extent capital expenditure (capex) for which this decision approves a greater proportion of the amount proposed.⁹

Our final decision is \$18.3 million (0.8 per cent) higher than our draft decision of \$2,157.6 million. We commend JGN for taking the opportunity our draft decision presented by resolving issues with operating expenditure (opex)¹⁰ and the Reference Service Agreement (RSA).¹¹ JGN consulted with stakeholders in making these revisions.

As with our draft decision, the return on capital remains the area of greatest difference (in dollar terms) in our final decision, largely due to continued downward movements in the rate of return since JGN submitted its revised proposal.¹² Our final decision accepts JGN's proposed opex and the majority of its proposed capex on the basis of improved supporting information. We also maintain our draft decision on the issue of accelerated depreciation on certain new capital assets on the basis of insufficient evidence at this point in time that JGN's gas distribution network will not be viable post-2050.

In line with JGN's proposal, our 2020–25 final decision incorporates the impact of our previous remade decision (the 'remittal') on JGN's revenue for the 2015–20 period.¹³ Under that decision, JGN will return \$169.1 million to gas consumers from 1 July 2020, reflecting the difference between what it will recover over the 2015–20 period under interim tariff undertakings and the revenue we approved in our remade decision.¹⁴ The remittal outcome is a key driver of the estimated retail gas bill reduction over the 2020–25 period, particularly in the first year (2020–21).¹⁵

Overall, we are satisfied that our final decision on JGN's 2020–25 access arrangement is in the long term interests of consumers and they will be paying no more than they should for safe and reliable gas services.

In making this decision, we have had regard to a range of sources including JGN's initial and revised proposals, first¹⁶ and second¹⁷ round stakeholder submissions, as

⁸ NGR, r. 74 requires (1) information in the nature of a forecast or estimate must be supported by a statement of the basis of the forecast or estimate, and (2) a forecast or estimate (a) must be arrived at on a reasonable basis, and (b) must represent the best forecast or estimate possible in the circumstances.

⁹ See section 4.4 of this Overview and Attachment 5 for further information on our capex decision.

¹⁰ See section 4.5 of this Overview for further information on our opex decision.

¹¹ See section 6 of this Overview and Attachment 11 for further information on our non-tariff components decision.

¹² See section 4.2 of this Overview and Attachment 3 for further information on our rate of return decision.

¹³ AER, *Final decision, JGN 2015–20 access arrangement*, February 2019.

¹⁴ See section 4.6.1 of this Overview for more information on the 2015–20 remittal decision.

¹⁵ See section 1.1 (Table 1) of this Overview for annual estimated bill impacts of our final decision, and section 3.3 for information on how we propose to smooth the billing impacts of our decision for JGN's consumers over 2020–25.

¹⁶ First round submissions were received from AGL, AusNet Services, Brickworks, CCP19, ECA, ENA, EnergyAustralia, Origin and PIAC: <https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/jemena-gas-networks-nsw-access-arrangement-2020-25/proposal>

well as additional analysis undertaken and published by us. We also engaged directly with JGN to obtain and discuss additional relevant information.

Key themes throughout this review were:

- ensuring consumers pay no more than they need for safe and reliable gas services
- JGN's high-quality consumer engagement approach
- potential future investment uncertainty faced by JGN.

We also acknowledge the more recent COVID-19 pandemic event that occurred in the period after JGN submitted its revised proposal, of which the full effect on JGN is uncertain at this point in time.

Ensuring consumers pay no more for safe and reliable gas services

Ensuring consumers pay no more than they need for safe and reliable gas services is a cornerstone of the access arrangement decision process. In this review, we have assessed whether JGN's proposal for the 2020–25 period represents a reasonable and realistic forecast of how much money it needs for the safe and reliable operation of its NSW gas distribution network.

JGN informs us that energy affordability is a key concern for its gas consumers, as well as a safe and reliable gas service, fairness, and innovation and planning for the future.¹⁸ JGN responded to these concerns by putting forward a proposal that puts downward pressure on gas network charges and consumers' bills in the 2020–25 period. Further, through its proposed price smoothing approach, JGN has sought to subdue the effects of potential upward price pressures on gas consumers should they materialise in other parts of the gas supply chain over the 2020–25 period.

JGN's high-quality approach to consumer engagement

We commend JGN on its high-quality approach to consumer engagement in support of its 2020–25 proposal. Through its proposal, JGN has demonstrated meaningful engagement with gas consumers, founded on multiple residential and business forums hosted in coastal and regional NSW.¹⁹

Based on our assessment of JGN's initial and revised proposals, its constructive engagement with retailers and other interested parties to develop mutually acceptable amendments (to the extent possible) to its RSA, the positive and proactive engagement approach of its staff with us throughout this review, mostly positive stakeholder submissions on JGN's consumer engagement approach, and ongoing

¹⁷ Second round submissions were received from AGL, CCP19, EnergyAustralia, ECA, ENA, Evoenergy, Origin and PIAC: <https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/jemena-gas-networks-nsw-access-arrangement-2020-25/revised-proposal>

¹⁸ JGN, *JGN Access arrangement, JGN's NSW gas distribution network, 1 July 2020 – 30 June 2025*, June 2019.

¹⁹ Including Dubbo, Griffith, Bathurst, Goulburn, Newcastle and Wollongong and various Sydney locations.

support for The Energy Charter,²⁰ we come away from this review with a high degree of confidence that JGN is committed to putting gas consumers at the centre of its business.

Potential future investment uncertainty faced by JGN

We acknowledge that the way in which NSW consumers engage with natural gas may change in the years to come. Particularly where (aspirational or mandated) net-zero carbon emissions reduction policy targets are adopted by jurisdictional governments.

JGN's proposal for accelerated depreciation on certain new capital assets is one of its responses to this challenge, by seeking to recoup the cost of future investments from gas consumers over a shorter time horizon. Another is the research trial it (and many of its industry peers) is conducting to ascertain the future potential of hydrogen as an alternative fuel source to displace a portion of its natural gas load, for which this decision accepts the opening of a speculative capex account allowing JGN to recover this capex in future years if it conforms to the Rules at such time. However, on the basis of insufficient evidence at this point in time that JGN's gas distribution network will not be viable post-2050, our final decision maintains our draft decision to not accept JGN's proposal for accelerated depreciation on certain new capital assets.

Where a network business proposes changes to its revenue building blocks, we seek evidence-based forecasts to assist us with our assessment. Approval of such changes in the absence of clear evidence could have a negative impact on consumer outcomes if the changes do not eventuate. We also seek internally consistent proposals, and note that JGN is forecasting growth for its gas distribution network in the 2020–25 period while at the same time suggesting its network would not be viable in future years. We are also mindful of the effect of our decision-making on consumers who could choose electric appliances over gas appliances if they are concerned about the availability of gas in the long term.

While we do not approve JGN's proposal for accelerated depreciation on this occasion, we remain open to approving proposals for accelerated depreciation in our network decisions where such proposals are based on clear and sufficient evidence.

Effect of COVID-19 on this final decision

Although the full effect of the COVID-19 pandemic on JGN is uncertain at this point in time, we consider that the final decision revenue we have determined for JGN for the 2020–25 period provides it with a reasonable opportunity to recover at least its efficient costs.

We have based our final decision on current information and forecasts that can reasonably be made at the time of our decision. We consider the available information

²⁰ JGN is a signatory to The Energy Charter, which aims to embed customer-centric culture and conduct in energy businesses to create real improvements in price and service delivery. See: www.theenergycharter.com.au

is both sufficient and appropriate for us to make a decision at this point in time that meets the requirements of the NGL and NGR. Our forecasts are based on well-established methodologies and appropriate input data, and are the best forecasts that can reasonably be made in all the circumstances.

We recognise that COVID-19 may have a material impact on JGN's business operations and costs in the 2020–25 period and that there may be a case to re-open elements of our determination in future.

At this stage, feedback from network businesses is mixed and suggests that, while it is too early to determine COVID-19 impacts on businesses' operations, the overall impacts may not be material in terms of costs. The network businesses have begun to gather data to aid any future impact assessment. Until all the data is available, we cannot determine the extent and direction of COVID-19 impacts on network businesses, or whether the impacts are material.

As set out in our 27 March 2020 *Statement of Expectations on energy businesses*, energy is an essential service which has an important role to play in protecting and supporting businesses and the community through the COVID-19 pandemic and our recovery.²¹ Our *Statement* also recognises that COVID-19 may add to the risks and costs facing energy businesses.

Under our regulatory framework, network businesses must be provided with a reasonable opportunity to recover at least their efficient costs. We recognise that some costs are not within a business' control and/or some risks if borne out could lead to a material impact on the revenues we approve. Consequently, the regulatory framework allows for defined events ('pass through events') that allow us to re-open a determination and either increase or decrease revenues. However, none of the network businesses we regulate have a pass through event that allows us to re-open a determination for COVID-19 impacts.

The NGR enables us to consider applications to vary an applicable gas access arrangement, and set out a process for this dependent on whether the variation is material or non-material. We consider that this existing mechanism should provide reasonable flexibility to address the various potential effects of the COVID-19 pandemic on gas pipeline service providers within an access arrangement period.

²¹ AER, *Statement of Expectations of energy businesses: Protecting consumers and the energy market during COVID-19*, 27 March 2020.

1 Our final decision

Our final decision allows JGN to recover \$2,175.9 million (\$ nominal, smoothed) from gas consumers from 1 July 2020 to 30 June 2025.²²

JGN is regulated using a price cap.²³ Incentives are provided to it to reduce costs, improve service quality and undertake efficient investments.

Gas pipelines that are subject to full regulation, like JGN's, are regulated by us under an approved access arrangement.²⁴ 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 a five-year period. To approve an access arrangement, we make regulatory decisions on the revenue that pipeline operators can recover from users of its reference services.

For this final decision, our assessment is based on the access arrangement revised proposal that JGN submitted to us on 9 January 2020.²⁵ JGN's proposal sets out its view of its expected costs, demand and required revenues for the 2020–25 period.

1.1 How our final decision would affect gas bills

The gas distribution network tariffs that will be set by reference to our final decision are one contributor to the total retail gas bills that consumers pay. Each of the following costs contribute to the retail gas prices charged to consumers by their chosen retailer:

- the cost of purchasing gas (the wholesale energy cost)
- the cost of the pipelines used to transport the gas (the transmission and distribution networks), and other infrastructure such as metering costs
- the retailer's costs and profit margin.

Our final decision for JGN affects the distribution pipelines component of the retail gas bill.

²² Our final decision on JGN's revenue for the 2020–25 period includes the impact of our remade final decision (the 'remittal') on JGN's revenue for the 2015–20 period. See section 4.6.1 of this Overview for more information.

²³ This is a weighted average price cap (WAPC) tariff basket form of price control. This approach is consistent with other gas distributors and JGN's current period access arrangement. See Attachment 10 of our draft decision for additional information: AER, *Jemena Gas Networks (NSW) Ltd Access Arrangement 2020 to 2025: Attachment 10: Reference tariff variation mechanism*, November 2019.

²⁴ 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 us, setting out pricing for a reference service sought by a significant part of the market (NGL s.132). 'Light regulation' pipelines are not subject to upfront price regulation. The light regulation model is a negotiate-arbitrate approach, placing greater emphasis on commercial negotiation and information disclosure. We play a role only if dispute resolution mechanisms are triggered.

²⁵ JGN, *Access arrangement, JGN's NSW gas distribution network, 1 July 2020 – 30 June 2025*, January 2020; NGR, cl. 62(3).

For gas consumers on JGN's network, gas distribution charges account for around:²⁶

- 41 per cent of an average coastal residential consumer's annual gas bill
- 33 per cent of an average regional residential consumer's annual gas bill
- 30 per cent of an average small business consumer's annual gas bill.

We estimate the expected retail gas bill impact by varying distribution charges in accordance with our final decision, while holding all other components constant. This approach isolates the effect of our decision on distribution tariffs only. However, this does not imply that other components of the bill will remain unchanged over the period.

Table 1 shows the estimated average annual impact of our final decision on retail gas bills for consumers on JGN's network compared with JGN's revised proposal. We estimate that compared to current levels (2019–20), retail gas bills in JGN's network are expected to reduce by (\$ nominal):²⁷

- \$55 (8.3 per cent) for an average coastal residential consumer in the first year (2020–21) of the 2020–25 period, followed by increases of \$4 (0.7 per cent) on average for the next four years
- \$81 (6.8 per cent) for an average regional residential consumer in the first year (2020–21) of the 2020–25 period, followed by increases of \$6 (0.6 per cent) on average for the next four years
- \$289 (6.0 per cent) for an average small business consumer in the first year (2020–21) of the 2020–25 period, followed by increases of \$22 (0.5 per cent) on average for the next four years.

²⁶ JGN, *Response to information request IR045*, 21 October 2019, p. 3.

²⁷ JGN's revised proposal presents the bill impact by showing the total cumulative 'savings' to consumers over the 2020–25 period when compared to the 2019–20 annual bill. Our presentation of the bill impact is different to JGN's as we show the expected year-on-year change in the level of annual gas bills over the 2020–25 period (see Table 1). This is consistent with our presentation of bill impacts in previous decisions.

Table 1 AER's estimated impact of our final decision and JGN's revised proposal on average annual gas bills for the 2020–25 period (\$ nominal)

	2019–20	2020–21	2021–22	2022–23	2023–24	2024–25
AER's final decision						
Coastal residential annual bill ^a	669 ^a	613	608	610	620	630
Annual change ^d		-55 (-8.3%)	-5 (-0.8%)	1 (0.2%)	10 (1.7%)	11 (1.7%)
Regional residential annual bill ^b	1,204 ^b	1,122	1,115	1,117	1,132	1,147
Annual change ^d		-81 (-6.8%)	-7 (-0.7%)	2 (0.2%)	15 (1.3%)	15 (1.4%)
Small business annual bill ^c	4,809 ^c	4,520	4,494	4,501	4,554	4,609
Annual change ^d		-289 (-6%)	-26 (-0.6%)	8 (0.2%)	52 (1.2%)	55 (1.2%)
JGN's revised proposal						
Coastal residential annual bill ^a	669 ^a	616	616	614	623	649
Annual change ^d		-53 (-7.9%)	0 (0%)	-2 (-0.3%)	9 (1.5%)	27 (4.3%)
Regional residential annual bill ^b	1,204 ^b	1,126	1,126	1,123	1,136	1,175
Annual change ^d		-78 (-6.5%)	0 (0%)	-3 (-0.3%)	13 (1.2%)	39 (3.4%)
Small business annual bill ^c	4,809 ^c	4,532	4,533	4,522	4,570	4,708
Annual change ^d		-276 (-5.7%)	1 (0%)	-11 (-0.2%)	48 (1.1%)	138 (3%)

Source: AER analysis; JGN, *Response to information request 045*, 21 October 2019, p. 3.

- (a) Annual bill for 2019–20 reflects the average consumption of 15 GJ for JGN's coastal residential consumers.
- (b) Annual bill for 2019–20 reflects the average consumption of 35 GJ for JGN's regional residential consumers.
- (c) Annual bill for 2019–20 reflects the average consumption of 184 GJ for JGN's small business consumers.
- (d) Annual change amounts and percentages are indicative. They are derived by varying the network tariff contribution to the 2019–20 bill amounts in proportion to the change in the tariff path. Actual bill impacts will vary depending on gas consumption and tariff class.

1.2 What is driving revenue

The changing impact of inflation 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, which have been adjusted for the impact of inflation (\$2019–20).²⁸

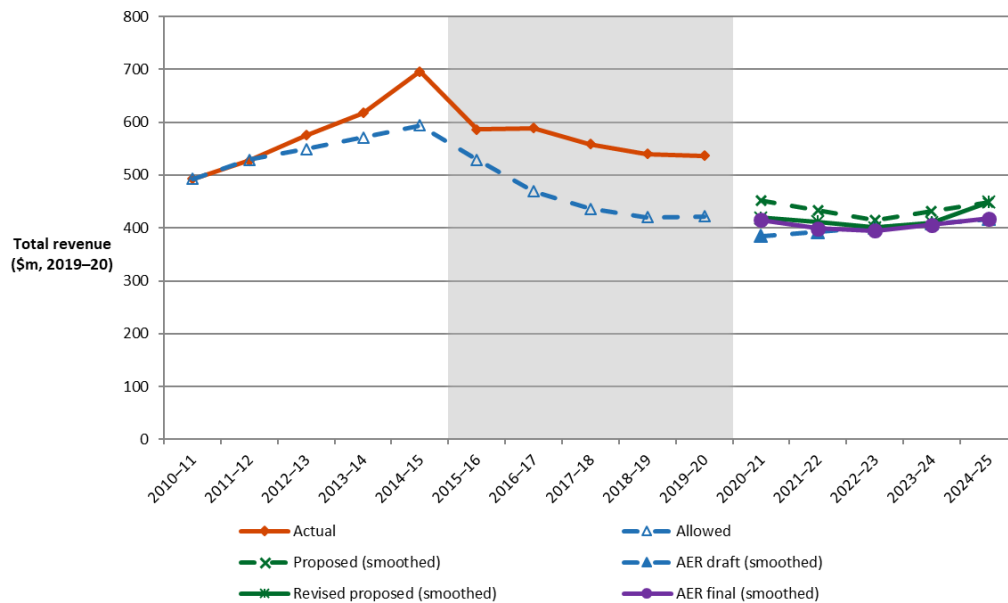
This final decision approves a total revenue allowance for the 2020–25 period that is \$243.2 million (10.7 per cent) lower than we approved in our 2015–20 decision.²⁹

²⁸ That is, 30 June 2020 dollar terms based on JGN's estimated actual revenue for 2019–20.

²⁹ The comparison of total revenues between the 2020–25 and 2015–20 periods is based on smoothed revenues. In nominal dollar terms, our final decision total revenue for the 2020–25 period is \$70.7 million (or 3.1 per cent) lower than the total revenue approved for the 2015–20 period.

Figure 1 shows our final decision for JGN's smoothed revenue for the 2020–25 period, and allowed revenues over the 2010–15 and 2015–20 periods.

Figure 1 Revenue over time (\$ million, 2019–20)



Source: AER analysis.

Figure 2 highlights the key drivers of the change in JGN's allowed revenue from the 2015–20 period compared to what we expect in the 2020–25 period. It shows that our final decision for the 2020–25 period provides for reductions in the building blocks for:

- return on capital – which is \$226.3 million (24.3 per cent) lower than 2015–20, driven by decreases in the nominal weighted average cost of capital (WACC) from 5.40 to 4.49 per cent in the first year of the 2015–20 and 2020–25 periods, respectively³⁰
- revenue adjustments – which is \$180.2 million³¹ lower than 2015–20, primarily reflecting our remade decision (the 'remittal') for JGN for the 2015–20 period³²
- net tax allowance – which is \$33.2 million (79.2 per cent) lower than 2015–20, driven by the lower return on equity and higher value of imputation credits (gamma) as per the 2018 rate of return instrument
- regulatory depreciation – which is \$17.8 million (4.1 per cent) lower than 2015–20, driven by reductions in capex, specifically in gas consumer connections, meter replacement and mains replacement.

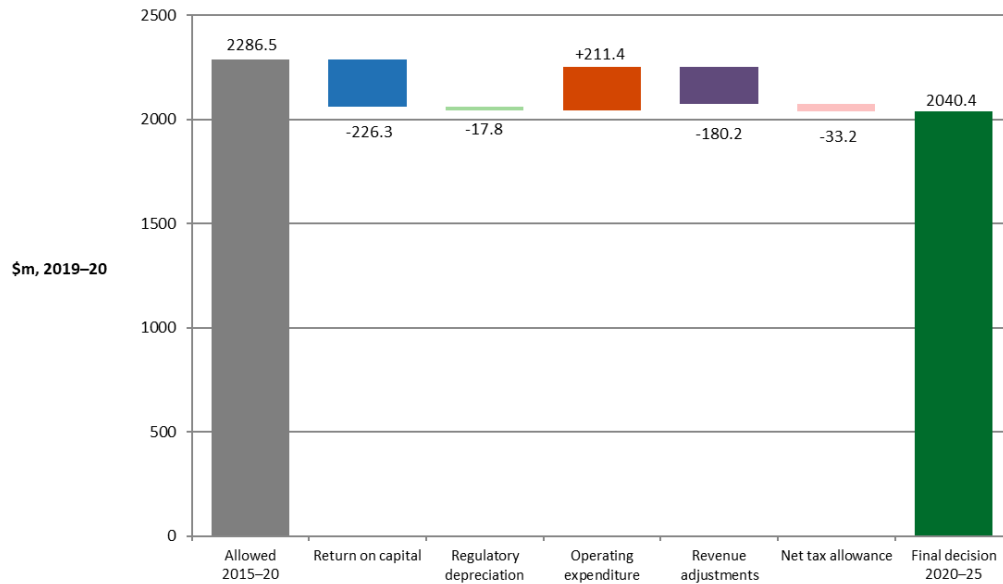
³⁰ We compare first year values because the nominal WACC is annually updated each year to reflect changes in the cost of debt.

³¹ There were zero revenue adjustments in 2015–20 as no incentive schemes or carryover amounts were applied.

³² See section 4.6.1 of this Overview for more information.

Figure 2 also shows that our decision provides for an increase in the opex building block, which is \$211.4 million (24.0 per cent) higher than 2015–20, driven by the expensing of corporate overheads and pigging costs in the 2020–25 period and increases in unaccounted for gas (UAG) relative to the 2015–20 period.

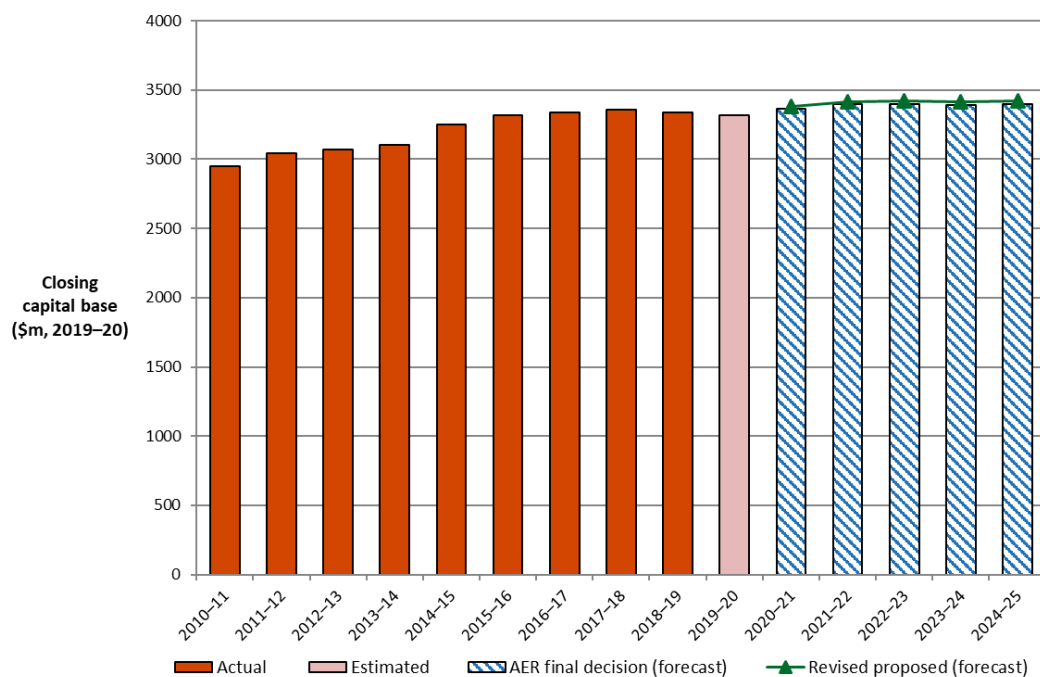
Figure 2 AER’s final decision for the 2020–25 period and JGN’s 2015–20 allowed building block costs (\$ million, 2019–20)



Source: AER analysis.

Figure 3 shows that JGN's capital base will grow by 2.4 per cent over 2020–25.

Figure 3 Value of JGN’s capital base over time (\$ million, 2019–20)



Source: AER analysis.

1.3 Key differences between our decision and JGN's proposal

JGN proposed total forecast revenue of \$2,246.2 million (\$ nominal) for the 2020–25 period.³³ Our final decision of \$2,175.9 million allows \$70.2 million (3.1 per cent) less revenue than JGN sought to recover through its revised proposal.³⁴

Figure 4 compares the building block revenue from our final decision to JGN's revised proposal for the 2020–25 period, and to approved revenue for the 2015–20 period.

The biggest contributor to the difference between our final decision revenue and JGN's revised proposal is the current rate of return (and, therefore, the return on capital). JGN has applied the 2018 rate of return instrument and, based on the risk free rate and cost of debt at the time of the revised proposal, has included a 4.60 per cent rate of return. However currently the cost of debt is lower than at the time of its revised proposal, leading to a rate of return of 4.49 per cent. Consequently, the allowance for the return on capital building block is \$68.4 million (8.3 per cent) lower than JGN's revised proposal.

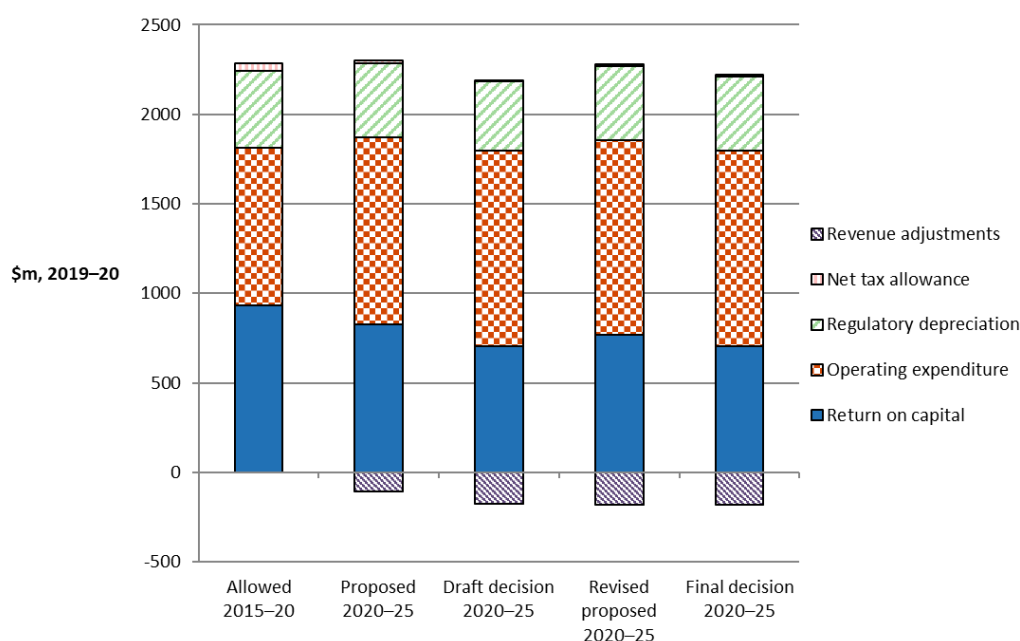
Our final decision capex also differs from JGN's revised proposal. JGN's revised proposal addressed many of the issues raised in our draft decision, leading to a more modest difference between JGN's revised proposal and our final decision. Our substitute net capex forecast of \$865.0 million (excluding capital contributions and disposals) is \$28.1 million (3.1 per cent) lower than JGN's revised proposal, but \$73.9 million (9.3 per cent) higher than our draft decision. This leads to a lower projected capital base, as at 1 July 2025, than JGN's revised proposal which, in turn, also contributes to lower final decision revenues through lower return on capital and regulatory depreciation building blocks.

Our final decision regulatory depreciation allowance is \$0.6 million lower than JGN's revised proposal. Our decision to not approve JGN's proposal for shorter standard asset lives for new expenditure on its pipeline assets reduced the straight-line depreciation on JGN's projected capital base. However, this was largely offset by the reduction in indexation caused by our lower final decision expected inflation rate for the 2020–25 period of 2.27 per cent per annum compared to JGN's revised proposed expected inflation rate of 2.38 per cent per annum. This is because the regulatory depreciation allowance is the net total of the straight-line depreciation less the inflation indexation of the capital base.

³³ JGN, *2020–25 Access Arrangement Proposal – Attachment 12.1 – PTRM*, January 2020.

³⁴ NGR, r. 74 requires (1) information in the nature of a forecast or estimate must be supported by a statement of the basis of the forecast or estimate, and (2) a forecast or estimate (a) must be arrived at on a reasonable basis, and (b) must represent the best forecast or estimate possible in the circumstances.

Figure 4 AER's final decision on components of total revenue (\$ million, 2019–20)



Source: AER analysis.

1.4 JGN's consumer engagement

Consumer engagement helps JGN determine how best to provide services that align with consumers' long term interests. Consumer engagement in this context is about JGN working openly and collaboratively with consumers and providing opportunities for their views and preferences to be heard and to influence JGN's decisions.

In the regulatory process, stronger consumer engagement can help us test network service providers' expenditure proposals, and can raise alternative views on matters such as service priorities, capex and opex proposals, and tariff structures.

To inform its initial proposal, JGN held several engagement sessions with residential and business consumers and other stakeholders over a two-year period, including consumer forums, deliberative forums, study circles, focus groups, data workshops, consumer surveys, as well as consultation on its Draft 2020 Plan. Consumer engagement sessions were held across eight coastal and regional NSW locations.³⁵

Based on this engagement, JGN told us that four key themes emerged: affordability; fairness; a safe and reliable gas service; and innovate and plan for the future.³⁶

³⁵ Including Dubbo, Griffith, Bathurst, Goulburn, Newcastle and Wollongong and various Sydney locations.

³⁶ JGN, *Revised 2020 Plan*, 9 January 2020, p. vi.

JGN submits that its consumer engagement activities continued after submitting its initial proposal, including:³⁷ participating in an AER public forum on JGN's initial proposal;³⁸ holding a 'deep dive' workshop on its proposed change to asset lives for new investment with consumer groups and AER staff;³⁹ and briefing its Customer Council on our draft decision.⁴⁰

The depth and breadth of consumer engagement undertaken by JGN in support of its 2020–25 proposal has been praised by stakeholders throughout this review and recognised with an industry award.⁴¹ Second round submitting stakeholders commended JGN's engagement efforts and suggested opportunities for future improvement.

Our Consumer Challenge Panel (CCP19) submitted:⁴²

"In our previous submission, we stated our overall view is that JGN has shown a genuine commitment to consumer engagement and to stakeholder engagement more broadly...

JGN's stakeholder engagement...since JGN's submission of its regulatory proposal to the AER has been more limited...in regard to accelerated depreciation...JGN may have missed opportunities for further consumer engagement to inform its revised proposal..."

Energy Consumers Australia (ECA) submitted:⁴³

"While there is alignment on most issues, we do not consider that JGN's revised proposal is capable of acceptance by the AER...

We engaged TRAC Partners to undertake a technical review of JGN's initial and revised access arrangement proposals...This assessment has raised the following key issues where further thought and discussion are required: the treatment of uncertainty and accelerated depreciation; consumer engagement; and pricing..."

The Public Interest Advocacy Centre (PIAC) submitted:⁴⁴

"Jemena has proposed that introducing accelerated depreciation for new network investments would reflect the preferences of their consumers as determined through their deliberative forums. While Jemena's engagement was excellent overall, PIAC challenges the accuracy of Jemena's claim in this case, as the issue was not represented to participants in a completely balanced and accurate manner..."

PIAC supports the AER's draft determination and Jemena's revised proposal not to introduce volume boundary metering in this access arrangement."

Comments from retailers on JGN's consumer engagement were generally positive, but unresolved issues remain in relation to JGN's Reference Service Agreement (RSA).

³⁷ JGN, *Revised 2020 Plan*, 9 January 2020, p. 6.

³⁸ We hosted a public forum in Sydney on JGN's initial proposal for the 2020–25 period on 7 August 2019.

³⁹ JGN hosted a 'deep dive' workshop on its proposed change to asset lives for new investment on 14 October 2019 with ECA, PIAC, CCP19 and AER staff.

⁴⁰ JGN briefed its Customer Council on our draft decision on 11 December 2019.

⁴¹ ENA, *ENA annual award winners announced – Media release*, 13 September 2019.

⁴² CCP19, *Submission to the AER on the AER's draft decision and JGN's revised regulatory proposal*, February 2020, pp. 5-6.

⁴³ ECA, *Jemena Gas Networks revised access arrangement proposal 2020–25*, February 2020, p. 1.

⁴⁴ PIAC, *Submission to Jemena Gas Networks revised access arrangement 2020–25*, February 2020, pp. 1-2.

Origin noted:⁴⁵

“Origin acknowledge that JGN has sought to engage with stakeholders with a view to gaining consensus over amendments to its RSA prior to re-submitting it to the AER. While Origin is appreciative of JGN’s engagement, we remain concerned with aspects of the RSA, in particular the process surrounding disconnections and associated allocation of risk and accompanying incentive for JGN to expedite retailer requested disconnections.”

EnergyAustralia noted:⁴⁶

“EnergyAustralia are grateful for JGN’s continued consideration of retailers’ concerns and the resulting changes it has already made to their initial RSA. We are particularly appreciative of the amendment...which has confirmed that charges to retailers will not be applied after the date of disconnection...This is an initiative that JGN have led...We commend this decision...”

EnergyAustralia has concerns that remain with the RSA, which continue to highlight our interpretation that liability is unfairly being imposed on retailers.”

AGL noted:⁴⁷

“While we appreciate JGN’s engagement on the review of the RSA and the revised RSA is greatly improved relative to the current RSA, the lack of performance targets for service orders remains a material concern for AGL.”

⁴⁵ Origin, *RE: AER draft decision and revised regulatory proposal for Jemena Gas Networks (NSW) access arrangement 2020–25*, February 2020, p. 1.

⁴⁶ EnergyAustralia, *Jemena Gas Networks (NSW) - Access arrangement 2020–25*, February 2020, pp. 1-2.

⁴⁷ AGL, *Jemena Gas Networks (NSW) Access arrangement 2020–25*, February 2020, p. 2.

2 Reference services and tariffs

This section summarises our final decision on the services covered by JGN's access arrangement, the reference tariff and variation mechanism, and forecast demand.

2.1 Services covered by the access arrangement

JGN's access arrangement must specify the pipeline services it proposes as reference services, having regard to the reference service factors.⁴⁸ For each reference service, including services ancillary to the reference services, the access arrangement specifies the reference tariff and other terms and conditions on which these services will be provided.⁴⁹

JGN is to provide access to its reference services on the terms set out in its access arrangement, but may negotiate alternative terms and conditions at alternative prices with users. JGN 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.⁵⁰

JGN's proposed reference service for the 2020–25 access arrangement is largely the same as its reference service for the 2015–20 access arrangement, and includes 'haulage'⁵¹ and 'ancillary services'.

Our final decision approves the haulage component of the proposed reference service from JGN's revised proposal as it is consistent with our draft decision.

Our final decision also largely approves the ancillary services component of the proposed reference service from JGN's revised proposal as they are consistent with our draft decision. However, on the basis of new evidence submitted, our final decision is to not accept the bundled disconnection/reconnection service for volume gas consumers, and instead require this service be separated from 2021–22 onwards. Section 2.2 discusses this unbundling in the context of setting and varying JGN's reference tariffs.

Attachment 1 discusses our consideration of the services covered by JGN's access arrangement in more detail, particularly separation of the disconnection/reconnection ancillary service.

⁴⁸ NGR, modified r. 48(1)(c) and r. 47A(15).

⁴⁹ NGR, modified r. 48(1)(e).

⁵⁰ NGL, Chapter 6.

⁵¹ Haulage refers to: receipt of and transportation of gas from an upstream pipeline or other gas facility through the JGN network to each customer's premises for use and consumption within the premises; and providing gas metering equipment at customers' premises and associated services to read the quantity of gas flowing through the gas meters.

2.2 Reference tariff setting and variation mechanism

Our final decision includes decisions on the structure and levels of JGN's reference tariffs (reference tariff setting) and the mechanism by which those tariffs can vary over the access arrangement period (reference tariff variation mechanism).

2.2.1 Reference tariff setting

Reference tariff setting requires JGN to explain how it allocates revenues and costs between reference services and other services, and how it determines different tariffs. This involves setting and applying the formula by which JGN can recover its costs.

Our final decision is to approve JGN's proposed structure of reference tariffs for the 2020–25 period. This includes approving JGN's method of estimating long run marginal cost (LRMC), which JGN must take into account when setting its tariffs.⁵² Consistent with our draft decision, JGN has included a portion of replacement capex and associated opex in its LRMC estimation method.⁵³ We note this does not have a significant impact on the LRMC estimates.

Our final decision also approves the prudent discounts JGN proposes to offer certain gas consumers. We consider they are necessary to respond to competition from other providers of pipeline services or other sources of energy, and to maintain efficient use of the pipeline. Further, JGN has demonstrated that the negotiated revenue from prudent discount services exceeds the estimate of the avoidable costs. Without a prudent discount, a gas consumer is likely to elect to bypass the network, with the consequence that tariffs are likely to be higher for all remaining users on the network than they would have otherwise been. Therefore, we are satisfied that JGN's proposed prudent discounts are consistent with the Rules.⁵⁴

As discussed in section 2.1, we require JGN to separate its bundled disconnection/reconnection ancillary service for volume gas consumers from 2021–22 onwards. The structure of the tariffs for the unbundled services do not change significantly from that year.⁵⁵

During consultation for our final decision, JGN provided approximate price levels for the separated disconnection and reconnection services for year 2 (2021–22). These price levels were based on a bottom-up cost build of the separated services.⁵⁶

⁵² NGR, r. 96(4)(a).

⁵³ JGN, *Revised 2020 plan*, January 2020, p. 65.

⁵⁴ AER, *Final decision: Jemena Gas Networks (NSW) Ltd access arrangement 2020 to 2025: Confidential attachment: Prudent discounts*, June 2020 (CONFIDENTIAL).

⁵⁵ It goes from \$ per meter disconnection/reconnection to \$ per meter disconnection and \$ per meter reconnection.

⁵⁶ JGN, *Response to AER information request IR058: Ancillary services*, 9 March 2020, p. 5; JGN, *Response to AER information request IR058: Attachment 1: Ancillary cost build*, 9 March 2020 (CONFIDENTIAL).

Based on this information, we therefore require that:

- the sum of the separated disconnection and reconnection fees in year 2 will approximately equal the year 2 bundled disconnection/reconnection charge (which, from year 1 will take into account JGN's bottom-up cost build as well as relevant adjustment factors such as inflation, the X factor, and so on)
- the ratio between the separated disconnection and reconnection fees will be approximately 55:45.

We require JGN to provide reasons should the price levels for the separated disconnection and reconnection charges materially deviate from these conditions in the annual tariff variation notice process (which we discuss in section 2.2.2).

We have revised JGN's proposed initial reference tariffs to reflect changes to JGN's forecast total revenue as identified in section 3. We also received some additional stakeholder feedback regarding JGN's reference tariffs:

- AGL and Origin submitted JGN's abolishment fee is significantly higher than other gas distributors.⁵⁷ We agree with JGN that gas distributors include different activities in ancillary services that may have a similar name, and that AGL and Origin have not compared like-with-like services.⁵⁸
- Origin noted JGN's hourly charge for non-standard user initiated requests and queries (ancillary service) increased from \$100 per hour in 2015–16 to \$153 per hour in 2020–21, in excess of the corresponding rate of inflation or wage growth.⁵⁹ We assessed JGN's cost build-up of this service and consider the change in price over the five-year period is reasonable due to: changes in labour costs (the primary input for the service) for staff undertaking the work and the mix of staff time to complete the activity; and JGN's proposal to expense corporate overheads, which we have accepted.⁶⁰

2.2.2 Reference tariff variation mechanism

The reference tariff variation mechanism:

- permits building block revenues to be recovered smoothly over the access arrangement period, subject to any differences between forecast/actual demand

⁵⁷ AGL, *Submission: Jemena Gas Networks (NSW) access arrangement 2020–25*, 17 February 2020, p. 5; Origin Energy, *Submission: Re: AER draft decision and revised regulatory proposal for Jemena Gas Networks (NSW) access arrangement 2020–20*, 17 February 2020, p. 3.

⁵⁸ JGN, *Response to AER information request IR058: Ancillary Services*, 9 March 2020, p. 6. We also considered the comparability of JGN's abolishment ancillary service in the previous access arrangement (when it was called 'decommissioning and meter removal'). See AER, *Draft decision: Jemena Gas Networks (NSW) Ltd: Access arrangement 2015–20: Attachment 10 – Reference tariff setting*, November 2014, p. 15.

⁵⁹ Origin Energy, *Submission: Re: AER draft decision and revised regulatory proposal for Jemena Gas Networks (NSW) access arrangement 2020–20*, 17 February 2020, p. 3.

⁶⁰ JGN, *Response to AER information request IR058: Ancillary Services*, 9 March 2020, p. 8; JGN, *Response to AER information request IR058: Ancillary Services: Attachment 1: Ancillary cost build*, 9 March 2020 (CONFIDENTIAL).

- accounts for actual inflation
- accommodates other reference tariff adjustments that may be required, such as for an approved cost pass through event
- sets administrative procedures for the approval of any proposed changes to reference tariffs.

JGN proposes to retain its reference tariff variation mechanism for the 2020–25 period with a weighted average price cap control mechanism, which AGL supports as it provides greater annual price certainty than a revenue cap.⁶¹

JGN incorporated the changes we required in the draft decision, except for our requirement to remove Australian Energy Market Operator (AEMO) fees in the licence fee factor.⁶²

Our final decision is to approve JGN's proposal given it has largely incorporated our draft decision. We agree with JGN that, although it currently does not incur AEMO fees, AEMO's evolving role in the gas market means such fees cannot be ruled out in the future.⁶³ Historically, AEMO fees were allocated to market participants and not controllable by JGN.⁶⁴ Hence, based on information provided by JGN in its revised proposal, we consider it is reasonable to include such fees in the licence fee factor should they arise again in the future.

Our final decision is to accept the cost pass through events that JGN included in its revised proposal. JGN adopted our draft decision on pass through events, including amendments to the 'Natural Disaster' event.

For clarity, we also require a minor change to the definition of 'real WACC' in the automatic adjustment factor.⁶⁵ We require the definition of 'real WACC' to refer to the 'real vanilla WACC' for the relevant year. This is consistent with JGN's initial proposal.

2.3 Forecast demand

Demand is an important input into JGN's reference tariffs. JGN applies a weighted average price cap to derive its reference tariffs. In simple terms, tariffs are determined by dividing cost (forecast revenue) by total demand (GJ/day). This means that a decrease in forecast demand has the effect of increasing tariffs, and vice versa. Forecast demand also affects the forecasts of opex and capex (new connections) that form part of our decision on the total revenue requirement.

⁶¹ AGL, *Submission: Jemena Gas Networks (NSW) access arrangement 2020–25*, 17 February 2020, p. 4.

⁶² AER, *Jemena Gas Networks (NSW) Ltd Access Arrangement 2020 to 2025: Attachment 10: Reference tariff variation mechanism*, November 2019, p. 19.

⁶³ JGN, *Revised 2020 plan*, January 2020, p. 62.

⁶⁴ This is in contrast to Energy and Water Ombudsman NSW (EWON) fees, which depended on the number of complaints EWON received regarding JGN.

⁶⁵ JGN, *Access arrangement: JGN's NSW gas distribution network: 1 July 2020 – 30 June 2025*, January 2020, schedule 3, pages 56–57.

Our final decision accepts JGN's revised demand forecasts for residential, small commercial, and industrial gas consumers. In line with our draft decision, JGN updated its volume market forecast with the latest data and provided additional information on zero-consuming meters in its revised proposal.

JGN's revised demand forecasts represent:

- An increase in total residential demand of 0.57 per cent per year over the 2020–25 period, which is lower than the 2.21 per cent per year increase for the 2015–20 period, due to forecast reductions in consumption per connection of 0.75 per cent per year being offset by net gas consumer growth of 1.33 per cent per year.⁶⁶
- An increase in total small commercial demand of 0.29 per cent per year over the 2020–25 period, which is higher than the 0.37 per cent per year decrease for the 2015–20 period, due to a forecast reduction of 1.03 per cent per year in consumption per connection and an increase of 1.34 per cent per year in commercial net connections.⁶⁷
- Reductions in industrial demand of 2.18 per cent per year for maximum daily quantity and 2.12 per cent per year for annual quantity demand over the 2020–25 period, compared to reductions of 3.54 and 2.08 per cent per year, respectively, over the 2015–20 period.⁶⁸

⁶⁶ This compares to a reduction in consumption per connection of 0.64 per cent per year and a growth in net gas consumer connections of 2.80 per cent in the current period.

⁶⁷ This compares to a reduction in consumption per connection of 1.89 per cent per year and a growth in net gas consumer connections of 1.55 per cent in the current period.

⁶⁸ This is unchanged from our draft decision as JGN has chosen not to update this forecast in its revised proposal.

3 Total revenue requirement

The total revenue requirement is a forecast of the efficient cost of providing gas distribution services over the 2020–25 period. We determine annual revenue, and the total revenue requirement, in nominal terms. To do this, we take into account expected future inflation to determine nominal price levels in future periods. Our decision uses 10-year inflation expectations to convert revenues to nominal values.

Tariffs are derived from the total revenue requirement after consideration of demand for each tariff category. Our final decision is that JGN will continue to operate 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 the 2020–25 period, rather than the total revenue requirement set in our decision.⁶⁹ Tariffs are adjusted each year using ‘X factors’ – the percentage changes in real weighted average tariffs from year-to-year – as explained in section 3.3.

3.1 The building block approach

We employ a building block approach to determine JGN’s total revenue requirement. That is, we base the total revenue requirement on our estimate of the efficient costs that JGN is likely to incur in providing its reference services.

Building block costs, as shown in Figure 5, include:⁷⁰

- return on the projected capital base (or return on capital) – to compensate investors for the opportunity cost of funds invested in the business⁷¹
- depreciation of the projected capital base (or return of capital) – to return the initial investment to investors over time⁷²
- forecast opex – the operating, maintenance and other non-capital expenses incurred in the provision of network services
- revenue adjustments – including revenue increments/decrements resulting from the application of incentive schemes
- estimated cost of corporate income tax.

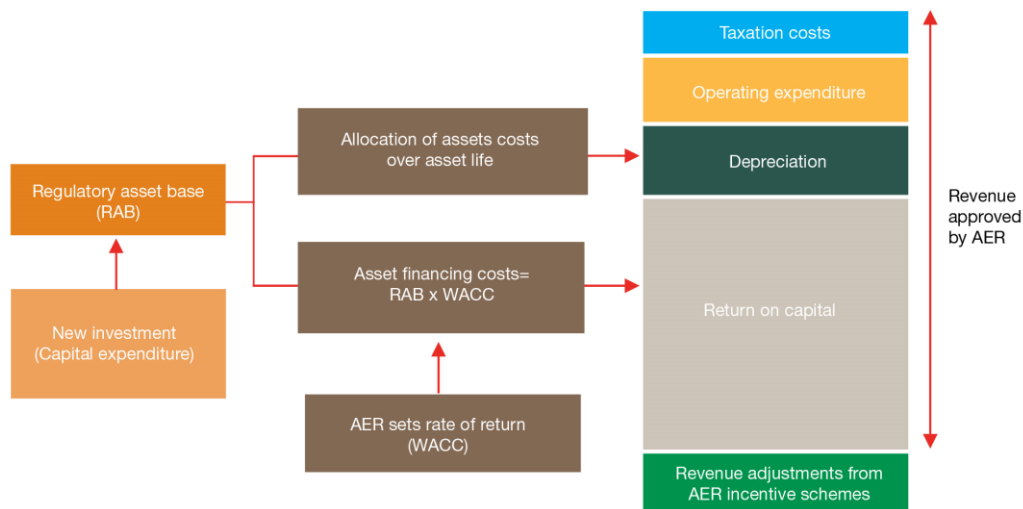
⁶⁹ Where actual demand across the 2020–25 period varies from the demand forecast in the access arrangement, JGN’s actual revenue will vary from the revenue allowance determined in our decision. In general, if actual demand is above forecast demand, JGN’s actual revenue will be above forecast revenue, and vice versa.

⁷⁰ NGR, r. 76.

⁷¹ Note that forecast capex that is approved in our decision affects the projected size of the capital base and, therefore, the revenue generated from the return on capital and depreciation building blocks.

⁷² Ibid.

Figure 5 The building block approach to determining total revenue



We use an incentive approach where, once regulated revenues are set for a five-year period, networks who keep actual costs below the regulatory forecast of costs retain part of the benefit. This incentive framework is a foundation of our regulatory approach and promotes the delivery of the National Gas Objective (NGO). Service providers have an incentive to become more efficient over time, as they retain part of the financial benefit from improved efficiency. Consumers also benefit when efficient costs are revealed and a lower cost benchmark is set in subsequent regulatory periods.

The next section summarises our final decision, by building block, and provides our high level reasons and analysis.⁷³

3.2 Final decision on total revenue

Our final decision sets out a number of amendments to the building block inputs making up JGN's revised proposal total revenue requirement of \$2,246.2 million (\$ nominal, smoothed). We expand on these in section 4.

Based on our assessment of the building block costs,⁷⁴ our final decision determines a lower total revenue requirement of \$2,175.9 million (\$ nominal, smoothed) for JGN.⁷⁵

It follows that our final decision requires amendments to the 2020–21 tariffs set out in JGN's revised proposal, which is for a reduction in real tariffs of 21.3 per cent. We also require consequential amendments to JGN's proposed 2020–25 tariff path, which is for reductions in real tariffs of 2.3 and 3.3 per cent in 2021–22 and 2022–23, respectively;

⁷³ NGR, r. 74 requires (1) information in the nature of a forecast or estimate must be supported by a statement of the basis of the forecast or estimate, and (2) a forecast or estimate (a) must be arrived at on a reasonable basis, and (b) must represent the best forecast or estimate possible in the circumstances.

⁷⁴ Using the building block approach set out in NGR, r. 76.

⁷⁵ This is calculated by smoothing the unsmoothed building block revenue for the 2020–25 period, as set in this decision.

followed by increases in real tariffs of 1.8 and 9.0 per cent for 2023–24 and 2024–25, respectively.

As a result of our lower total revenue requirement for JGN, our final decision is for real decreases in weighted average tariffs of 22.0, 4.5 and 1.5 per cent in the first three years of the period (2020–21 to 2022–23); followed by real increases of 2.4 per cent for both 2023–24 and 2024–25. Section 3.3 expands on our approach.

Table 2 sets out our final decision on JGN's total revenue requirement, by building block, for each year of the 2020–25 period, the total revenue after equalisation (smoothing), and the X factors for use in the tariff variation mechanism.

Table 2 AER's final decision on JGN's smoothed total revenue and X factors for the 2020–25 period (\$ million, nominal)

Building block	2020–21	2021–22	2022–23	2023–24	2024–25	Total
Return on capital	148.8	150.7	152.0	152.0	151.2	754.7
Regulatory depreciation	74.6	84.2	92.3	103.1	89.9	444.2
Operating expenditure	210.7	224.8	237.5	243.5	253.1	1,169.7
Revenue adjustments	-177.8	-9.0	5.4	0.0	-3.0	-184.5
Net tax allowance	1.3	1.9	2.4	3.1	0.7	9.3
Building block revenue – unsmoothed	257.6	452.6	489.6	501.7	492.0	2,193.4
Building block revenue – smoothed	424.9	417.2	422.4	444.2	467.2	2,175.9
X factors ^a	22.00%	4.50%	1.54%	-2.35%	-2.35%	n/a
Inflation forecast	2.27%	2.27%	2.27%	2.27%	2.27%	n/a
Nominal price change ^b	-20.23%	-2.33%	-0.70%	4.68%	4.68%	n/a

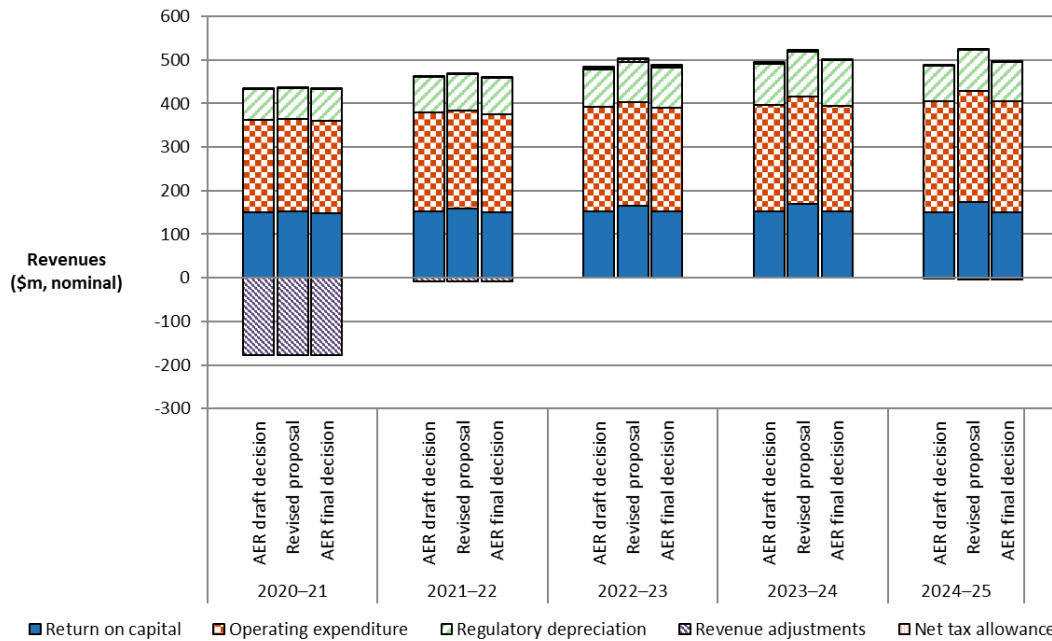
Source: AER analysis.

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 2020–21 is indicative only. The final decision establishes 2020–21 tariffs directly, rather than referencing a change from 2019–20 tariffs.
- (b) The mathematical formula for a nominal price change under the CPI–X reference tariff variation mechanism is $[(1 + \text{CPI}) * (1 - \text{X factor})] - 1$.

Figure 6 shows the effect of our final decision adjustments to JGN's proposed building blocks for the 2020–25 period. It shows reductions to the proposed building blocks for the return on capital, depreciation and tax.

Figure 6 AER's draft and final decisions and JGN's revised proposed building block revenue (unsmoothed) (\$ million, nominal)



Source: AER analysis.

Note: Revenue adjustments includes the efficiency carryover mechanism (ECM) and an amount for JGN's remade final decision (the 'remittal') for the 2015–20 period.

3.3 Revenue equalisation (smoothing) and tariffs

After our assessment of JGN's total building block revenue (unsmoothed), we need to determine the forecast revenue (smoothed) profile across the 2020–25 period.⁷⁶

JGN operates under a weighted average tariff cap as its tariff variation mechanism. This means we must determine the weighted average tariff change each year such that the net present value (NPV) of unsmoothed and smoothed revenue is equal across the 2020–25 period.⁷⁷ This weighted average tariff change is known as the 'X factor'. As part of the annual reference tariff variation process, we combine the X factors we have determined in our decision with actual inflation to create reference tariffs for the coming year. This means that average prices paid by consumers, and therefore the revenues received by the network business, change with the X factor plus actual inflation.⁷⁸

⁷⁶ This process of smoothing revenues is described in the NGR as 'revenue equalisation'. See NGR, r. 92.

⁷⁷ See Attachment 10 of our draft decision for information on the mechanics of the tariff variation mechanism: AER, *Jemena Gas Networks (NSW) Ltd Access Arrangement 2020 to 2025: Attachment 10: Reference tariff variation mechanism*, November 2019.

⁷⁸ Under the CPI–X form of control, a positive X factor represents a decrease in price (and, therefore, in revenue). Conversely, a negative X factor represents an increase in price (and, therefore, in revenue).

Our final decision includes the return of \$169.1 million to gas consumers over the 2020–25 period as a result of our 2015–20 remade decision ('the remittal') for JGN.

JGN's revised proposal adopted our requirement for the final year difference to stay within 3 per cent,⁷⁹ but did not adopt our draft decision approach of stable tariff prices. Instead, JGN proposed a revenue smoothing profile such that network price changes offset forecast price movements in other parts of the supply chain. JGN submitted this would result in stable retail prices, in line with gas consumers' preferences.⁸⁰ The resulting smoothed profile consists of real revenue decreases in years 1 to 3 of the period, a small real increase in year 4, and a real increase of 9 per cent in year 5.

We received several submissions on JGN's revised revenue smoothing profile. CCP19 and ECA acknowledged the benefits of smoothing for final retail bills, however noted concerns about a potential price shock if wholesale prices differ from the forecast JGN relied upon.⁸¹ Origin submitted we should focus on setting smooth network tariffs, as attempting to forecast other aspects of the supply chain introduces unnecessary complexity and uncertainty.⁸² AGL raised concern about the smoothing profile resulting in a 9 per cent real increase in prices in 2024–25.⁸³ CCP19, however, acknowledged that JGN's smoothing profile may be acceptable on the basis that it meets our preferred final year difference of no more than 3 per cent.⁸⁴

For this final decision, we have decided to relax our preferred final year difference limit from 3 per cent to 5 per cent. This is to reflect the large remittal amount JGN is required to return to gas consumers, as well as other aspects of our decision which has made achieving a 3 per cent difference difficult without impacting network tariff stability for the 2020–25 period. We will also continue to focus on smoothing network tariffs as we accept that trying to smooth with regard to retail prices is inherently complex and involves significant forecast uncertainty. Nonetheless, we acknowledge that JGN's revised proposal smoothing approach of spreading the tariff decreases across multiple years can still result in a predictable tariff path.⁸⁵

As a result, our final decision smoothing profile consists of an initial real decrease of 22 per cent in year 1 of the period, further real decreases in years 2 and 3, followed by

⁷⁹ JGN's initial proposal resulted in a 7.1 per cent divergence in smoothed and unsmoothed revenues for 2024–25. This is much higher than our preferred final year difference limit of 3 per cent, which we consider would minimise the likelihood of tariff volatility between the 2020–25 and 2025–30 access arrangement periods.

⁸⁰ JGN, *Revised 2020 plan*, January 2020, pp. 52–56

⁸¹ CCP19, *Submission to the AER on the AER's draft decision and JGN's revised proposal*, February 2020, p. 35; TRAC Partners, *Technical report: Response to JGN revised access arrangement proposal –2020–25*, February 2020, p. 16.

⁸² Origin, *Submission on JGN 2020–25 access arrangement*, February 2020, p. 3.

⁸³ AGL, *Submission on JGN 2020–25 access arrangement*, February 2020, pp. 3–4.

⁸⁴ CCP19, *Submission to the AER on the AER's draft decision and JGN's revised proposal*, February 2020, p. 36.

⁸⁵ In determining the smoothing profile, we have balanced a number of competing objectives: equalising (in NPV terms) unsmoothed and smoothed revenue; providing price signals that reflect the underlying efficient costs; minimising tariff variability in 2019–20 and within the 2020–25 period; and minimising the likelihood of variability in tariffs at the start of the subsequent (2025–30) period.

equal moderate real increases in years 4 and 5. We consider this revenue smoothing profile provides gas consumers with a predictable network tariff path, while still maintaining to some extent JGN's smoothing preference. This results in a final year difference of 5 per cent, which we consider reasonable given the unique circumstances of the remittal amount being returned to JGN's gas consumers over the 2020–25 period.

Table 3 presents our final decision X factors compared to JGN's revised proposal.

Table 3 Weighted average tariff change (X factors) across the 2020–25 period — AER's final decision and JGN's revised proposal (per cent)

	2020–21	2021–22	2022–23	2023–24	2024–25
AER's final decision					
X factor ^a	22.00%	4.50%	1.54%	-2.35%	-2.35%
Nominal price change ^b	-20.23%	-2.33%	-0.70%	4.68%	4.68%
JGN's revised proposal					
X factor ^a	21.25%	2.25%	3.25%	-1.75%	-9.02%
Nominal price change ^c	-19.38%	0.08%	-0.95%	4.17%	11.61%

Source: JGN, *IR053 – PTRM*, February 2020; AER, *Final decision PTRM*, June 2020; AER analysis.

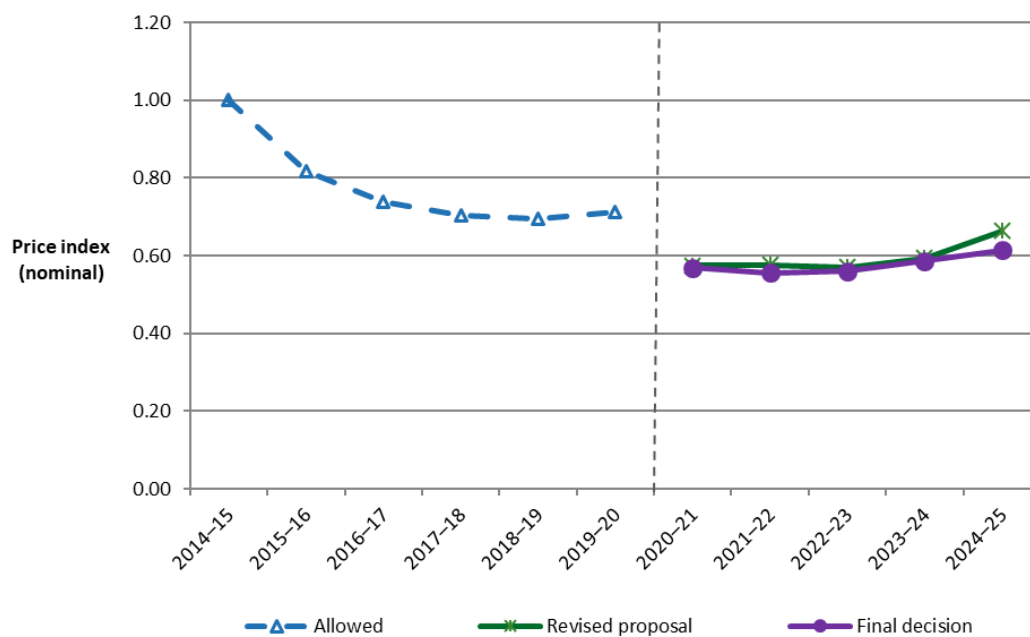
- (a) Under the CPI-X form of control, a positive X factor is a decrease in price (and therefore revenue). For example, a positive X factor of 2.25 per cent in 2021–22, as proposed by JGN, means a real price decrease of 2.25 per cent. After consideration of inflation, this becomes a nominal price increase of 0.08 per cent.
- (b) This reflects our final decision forecast inflation of 2.27 per cent.
- (c) This reflects JGN's revised proposed forecast inflation of 2.38 per cent.

Figure 7 shows indicative tariff paths for JGN's reference services across the 2020–25 period. It compares JGN's revised proposed tariff path with that approved previously for the 2015–20 period, and with this 2020–25 final decision.⁸⁶ This provides a broad, overall indication of the average movement in tariffs across the 2020–25 period.

The primary difference between our final decision and JGN's revised proposed tariff path for the 2020–25 period is in year 2024–25. Our decision avoids JGN's proposed 11.6 per cent increase in 2024–25 tariffs and instead provides for a 4.7 per cent increase.

⁸⁶ The tariff path for 2015–25 uses actual inflation outcomes for 2015–19, and expected inflation for 2019–25.

Figure 7 Indicative reference tariff paths for JGN's reference services from 2015 to 2025 (nominal index)



Source: AER analysis; AER, *Final decision JGN – PTRM*, June 2020, JGN, *IR053 – PTRM*, February 2020.

4 Key elements of our final decision on revenue

The components of our final decision include the building blocks we use to determine the revenue that JGN may recover from its users. The following sections summarise our revenue decision, by building block. The attachments to this final decision provide a more detailed explanation of our analysis and findings.

4.1 Capital base

The capital base roll forward accounts for the value of JGN's regulated assets over the access arrangement period.

The opening value of the capital base is used to determine the return on capital and return of capital (depreciation) building block allowances. To calculate the capital base for a regulatory year, the opening value of the capital base is rolled forward by indexing it for inflation, adding any conforming capex, and subtracting depreciation and other possible factors (such as disposals or consumer contributions). Following this process, we also arrive at a closing value of the capital base at the end of each regulatory year.

We are required to make decisions on JGN's opening capital base as at 1 July 2020, and JGN's projected capital base, for the 2020–25 period. Our final decision approves an opening capital base value of \$3,318.0 million (\$ nominal) as at 1 July 2020 for JGN. This is \$12.9 million (0.4 per cent) lower than JGN's revised proposal of \$3,331.0 million.⁸⁷ Our final decision reflects the update to the roll forward model (RFM) for 2019–20 actual consumer price index (CPI) that is now available. Our final decision is \$34.7 million (1.0 per cent) lower than our draft decision of \$3,352.7 million.

To determine the opening capital base value as at 1 July 2020, we rolled forward the capital base over the 2015–20 period to determine a closing capital base as at 30 June 2020, as per the proposed RFM. This roll forward includes an adjustment at the end of the 2015–20 period to account for the difference between actual 2014–15 capex and the estimate approved in the 2015–20 decision.⁸⁸

Table 4 summarises our final decision on the roll forward of JGN's capital base during the 2015–20 period.

⁸⁷ JGN, *2020–25 Revised Proposal*, January 2020, p. 26, Table 6.4.

⁸⁸ The end of period adjustment will be positive (negative) if actual capex is higher (lower) than the estimate approved at the 2015–20 decision; NGR r.77(2)(a)

Table 4 AER's final decision on JGN's capital base roll forward for the 2015–20 period (\$ million, nominal)

	2015–16	2016–17	2017–18	2018–19	2019–20 ^a
Opening capital base	2,980.2	3,091.7	3,162.0	3,240.0	3,279.4
Net capex ^b	203.7	181.9	189.9	166.2	198.2
Indexation of capital base	52.0	47.0	62.2	59.3	62.2
Less: straight-line depreciation ^c	144.2	158.6	174.0	186.1	172.6
Closing capital base	3,091.7	3,162.0	3,240.0	3,279.4	3,367.2
Adjustment for 2014–15 capex ^d					-45.8
Final year adjustment ^e					-3.4
Opening capital base as at 1 July 2020					3,318.0

Source: AER analysis.

- (a) Based on estimated capex provided by JGN.
- (b) Net of disposals and capital contributions, and adjusted for actual CPI.
- (c) Adjusted for actual CPI. Based on forecast capex.
- (d) This adjustment accounts for the difference between actual 2014–15 capex and the estimate approved in the 2015–20 decision.
- (e) This adjustment relates to the removal of assets from the capital base that are no longer used to provide pipeline services at the end of the 2015–20 access arrangement period.

Our final decision approves a forecast closing capital base value of \$3,803.3 million (\$ nominal) as at 30 June 2025. This is \$47.0 million (1.2 per cent) lower than JGN's revised proposal of \$3,850.4 million. Our final decision reflects our changes to the opening capital base as at 1 July 2020, and our final decisions on expected inflation (Attachment 3), forecast depreciation (Attachment 4) and forecast capex (Attachment 5). Attachment 2 sets out detailed reasons for our final decision on JGN's capital base. Table 5 sets out the projected roll forward of the capital base for the 2020–25 period.

Table 5 AER's final decision on JGN's projected capital base roll forward for the 2020–25 period (\$ million, nominal)

	2020–21	2021–22	2022–23	2023–24	2024–25
Opening capital base	3,318.0	3,439.5	3,551.3	3,638.1	3,710.6
Net capex ^a	196.1	195.9	179.1	175.6	182.7
Indexation of opening capital base	75.5	78.2	80.8	82.7	84.4
Less: straight-line depreciation	150.1	162.4	173.1	185.9	174.3
Closing capital base	3,439.5	3,551.3	3,638.1	3,710.6	3,803.3

Source: AER analysis.

- (a) Net of forecast disposals and capital contributions. In accordance with the timing assumptions of the PTRM, the capex includes a half-year WACC allowance to compensate for the six-month period before capex is added to the capital base for revenue modelling.

4.2 Rate of return, expected inflation & value of imputation credits

The return each business is to receive on its capital base (return on capital) is a key driver of proposed revenues. We calculate the regulated return on capital by applying a rate of return to the value of the capital base.

This means we combine the return from the two sources of funds for investment: equity and debt. This allowed rate of return provides the business with a return on capital to service the interest on its loans and give a return on equity to investors.

The rate of return is necessary to promote efficient prices in the long-term interests of consumers. If the rate of return is set too low, the network business may not be able to attract sufficient funds to be able to make the required investments in the network and reliability may decline. Conversely, if the rate of return is set too high, the network business may seek to spend too much and consumers will pay inefficiently high tariffs.

As required under the NGL, we apply the 2018 rate of return instrument (2018 Instrument) to estimate the rate of return for JGN.⁸⁹

This leads to a rate of return of 4.49 per cent (nominal vanilla) for this final decision. This is 0.03 percentage points higher than our draft placeholder estimate of 4.46 per cent (nominal vanilla).⁹⁰

This rate of return, in Table 6, will apply to the first year of the 2020–25 period. A different rate of return will apply for the remaining regulatory years of the period as we will update the return on debt component of the rate of return each year in accordance with the 2018 instrument, which uses a 10-year trailing average portfolio return on debt that is rolled-forward each year. Hence, only 10 per cent of the return on debt is calculated from the most recent averaging period with 90 per cent from prior periods.

We also note that JGN's proposed risk free rate⁹¹ and debt averaging periods have been (and will be) used to estimate its rate of return because they comply with conditions set out in the 2018 instrument.⁹²

⁸⁹ AER, *Rate of return instrument*, December 2018. See <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/rate-of-return-guideline-2018/final-decision>

⁹⁰ AER, *Draft Decision, JGN Access Arrangement 2020-25*, November 2019, Overview, p. 36.

⁹¹ This is also known as the return on equity averaging period.

⁹² AER, *Rate of return instrument*, December 2018, cl. 7-8, 23-25, 36.

Table 6 AER's final decision on JGN's rate of return (% nominal)

	AER's draft decision (2020–25)	JGN's revised proposal (2020–25)	AER's final decision (2020–25)	Allowed return over the access arrangement period
Nominal risk free rate	0.94% ^a	1.01%	1.03% ^b	
Market risk premium	6.1%	6.1%	6.1%	
Equity beta	0.6	0.6	0.6	
Return on equity (nominal post-tax)	4.60%	4.67%	4.69%	Constant (%)
Return on debt (nominal pre-tax)	4.36%	4.55%	4.35% ^c	Updated annually
Gearing	60%	60%	60%	Constant (60%)
Nominal vanilla WACC	4.46%	4.60%	4.49%	Updated annually for return on debt
Expected inflation	2.45%	2.38%	2.27%	Constant (%)

Source: AER analysis; JGN, *Revised 2020 plan*, January 2020, p. 30-31.

^a Calculated using a placeholder averaging period of 20 business days ending 31 August.

^b Calculated using an averaging period of 56 business days ending 20 March.

^c We use the proposed debt averaging period. The return on debt has been updated for this averaging period.

Expected inflation

Our estimate of expected inflation is 2.27 per cent. It is an estimate of the average annual rate of inflation expected over a 10-year period. We estimate expected inflation over this 10-year term to align with the term of the rate of return.

JGN adopted our inflation approach in its revised proposal, but proposed that we conduct a review into the method for estimating expected inflation and then apply the result of that review to its final decision. JGN also wrote to us on 6 March 2020 indicating that we should reconsider our inflation approach, noting that:⁹³

“...financial markets have been extremely volatile due to the impact of coronavirus on global economic activity and investment.”

For this final decision, we have adopted our existing inflation approach. In applying this method, we have made two adjustments to our usual practice:

- We use inflation forecasts from the most recent Reserve Bank of Australia's (RBA) *Statement on Monetary Policy* (SMP) released on 8 May 2020. The SMP is

⁹³ JGN, *Submission regarding extremely low return on equity from short term market fluctuations*, 6 March 2020, p. 1

released quarterly. Our usual approach is to use the RBA's February SMP for April final decisions for network service providers with regulatory years starting 1 July (that is, the regulatory period is based on financial years). However, we delayed our decision to allow us to use the RBA's May SMP data as we expected it would be a more accurate reflection of the economic circumstances expected for the next access arrangement period.

- We use the RBA's trimmed mean inflation (TMI) forecasts for the first two regulatory years (year-to-June 2021, and year-to-June 2022).⁹⁴ Our usual implementation is to use the (headline) CPI forecasts for these periods. In the current circumstances of COVID-19, we consider that the TMI series better reflects expectations of core inflation as set out in the RBA's May SMP. Further, the TMI smooths the transient volatility in the CPI forecasts in the RBA's May SMP.

We ran a short consultation process on the proposal to delay our final decision and use the May 2020 forecasts. JGN supported the delay and the use of forecasts from the RBA's May SMP, and noted that the outcome of the 2020 inflation review would not apply to JGN.

We have considered JGN's submissions on these matters in this final decision (see Attachment 3).

Debt and equity raising costs

In addition to compensating for the required rate of return on debt and equity, we provide an allowance for the transaction costs associated with raising debt and equity. We include debt raising costs in the opex forecast because these are regular and ongoing costs. We include equity raising costs in the capex forecast because these costs are only incurred once and would be associated with funding the particular capital investments.

Our final decision is to accept JGN's method of an annual rate of 8.46 basis points to estimate total debt raising costs of \$8.61 million (\$2019–20).⁹⁵ We have considered this annual rate and found that our alternative benchmark estimate (7.92 basis points) is not materially different from JGN's revised proposal.⁹⁶ The key difference between our draft decision and JGN's revised proposal was the basis for estimation of the 'arrangement fee'. After consideration of JGN's submission, we accept that the Bloomberg data is the most suitable source of information on the 'arrangement fee' available at present.⁹⁷

⁹⁴ We have consistently used the TMI inflation forecasts from the May 2020 RBA SMP in other related areas of our decision, in particular our opex assessment (see section 4.5 of this Overview for our opex section).

⁹⁵ JGN, *2020–25 Revised Proposal*, January 2020, Attachment 5.3 (opex), p. 8; JGN, *Attachment 12.1 – PTRM* – January 2020.

⁹⁶ See section 4.5 for our final decision on overall opex (which encompasses debt raising costs).

⁹⁷ CEG, *The cost of arranging debt issues: A report for Jemena Gas Networks*, December 2019 (attachment 5.7 to the JGN revised proposal).

JGN's revised proposal calculated equity raising costs using our benchmark approach in the post-tax revenue model (PTRM). Using this approach, JGN forecast zero equity raising costs.⁹⁸ We have updated our estimate for this access arrangement based on the benchmark approach using updated inputs. This results in zero equity raising costs.

Imputation credits

Our final decision applies a value of imputation credits (gamma) of 0.585 as set out in the binding 2018 instrument.⁹⁹ This was the result of extensive analysis and consultation conducted as part of the 2018 rate of return review.¹⁰⁰ JGN's revised proposal has adopted the value of gamma set out in the 2018 instrument.¹⁰¹

Further detail on our final decision in regard to JGN's allowed rate of return, expected inflation, debt and equity raising costs and imputation credits is set out in Attachment 3.

4.3 Regulatory depreciation

We use regulatory depreciation to model the nominal asset values over the 2015–20 period and set the depreciation building block as part of calculating the total revenue for JGN. The depreciation allowance is the net total of real straight-line depreciation (negative) and annual inflation indexation (positive) on the projected capital base.

We are required to make a decision on JGN's proposed: depreciation on the projected capital base; and depreciation schedule, which sets out the basis on which the depreciation is calculated.¹⁰² Attachment 4 outlines our final decision on: JGN's annual regulatory depreciation allowance for the 2020–25 period; and the proposed depreciation schedules, including an assessment of the proposed standard asset lives¹⁰³ used for forecasting depreciation.

Our final decision determines a regulatory depreciation allowance of \$444.2 million (\$ nominal) for JGN for the 2020–25 period. This is \$0.6 million (0.1 per cent) lower than JGN's revised proposal of \$444.8 million. It is also \$32.8 million (8.0 per cent) higher than our draft decision. The key reason for the increase compared to our draft decision is due to our lower final decision expected inflation rate for the 2020–25 period.

The regulatory depreciation allowance is the net total of the straight-line depreciation less the inflation indexation of the capital base. The straight-line depreciation is impacted by our decision on JGN's opening capital base (section 4.1), forecast capital

⁹⁸ JGN, *Revised 2020 plan*, January 2020, p. 32; JGN, *Attachment 12.1 – PTRM* – January 2020.

⁹⁹ AER, *Rate of return instrument*, December 2018, clause 27.

¹⁰⁰ AER, *Rate of return instrument, Explanatory Statement*, December 2018, pp. 307–382.

¹⁰¹ JGN, *Revised 2020 plan*, January 2020, p. 31.

¹⁰² NGR, rr. 59, 72, 76, 88, 89.

¹⁰³ The term 'standard asset life' may also be referred to as 'standard economic life', 'asset life', 'economic asset life' or 'economic life'.

expenditure (capex) (section 4.4) and asset lives. Our final decision straight-line depreciation for JGN is \$22.4 million lower than its revised proposal. This is mainly due to our decision to not accept JGN's proposed lower standard asset lives for new expenditure on its pipeline assets.

The indexation on the capital base is impacted by our decision on JGN's opening capital base (section 4.1), forecast capex (section 4.4) and the expected inflation rate (section 4.2). Our final decision indexation on JGN's projected capital base is \$21.8 million lower than its revised proposal. This is largely because of our lower final decision expected inflation rate for the 2020–25 period of 2.27 per cent per annum compared to JGN's revised proposed expected inflation rate of 2.38 per cent per annum. The decrease in indexation has largely offset the decrease in straight-line depreciation (since indexation is deducted from the straight-line depreciation).

In coming to our decision on JGN's straight-line depreciation:

- We accept JGN's revised proposed straight-line method to calculate regulatory depreciation, which is consistent with our draft decision.
- We accept JGN's revised proposed standard asset lives for the majority of its asset classes. However, we do not accept JGN's proposed reductions to the standard asset lives for new expenditure on 'Trunks',¹⁰⁴ 'HP mains', 'MP mains' and 'MP services' (pipeline) asset classes. Our final decision is to maintain the current standard asset lives for these asset classes, which is consistent with our draft decision.
- We accept JGN's revised proposal to apply the year-by-year tracking approach for implementing straight-line depreciation for its existing assets, consistent with our draft decision.¹⁰⁵ In accepting this approach, we have updated the year-by-year tracking calculations with actual CPI for 2019–20 which is now available.
- We accept JGN's revised proposed residual value of existing pigging and inline inspection costs for accelerated depreciation, consistent with our draft decision. However, we have updated these costs for 2019–20 actual CPI which reduces the residual value of existing pigging and inspection costs to \$13.1 million.¹⁰⁶

The majority of the reduction to JGN's revised proposed straight-line depreciation allowance is due to our final decision to not accept JGN's proposed reductions to the standard asset lives of its new expenditure in pipeline asset classes.

JGN's proposal is based on the concern that its network may not continue to operate in the long term due to statements by the NSW Government proposing to move to net carbon zero by 2050 and lowering greenhouse gases in NSW by 35 per cent by 2030.

¹⁰⁴ This includes the 'Trunk Wilton-Sydney', 'Trunk Sydney-Newcastle' and 'Trunk Wilton-Wollongong' asset classes. We note that JGN has not proposed any forecast capex for these asset classes for the 2020–25 access arrangement period.

¹⁰⁵ This approach (in addition to grouping assets by type via asset classes) tracks the asset classes on a year-by-year basis.

¹⁰⁶ The residual value was \$13.2 million in JGN's revised proposal.

While government mandated carbon emission policies could result in possible stranding of gas pipelines, there is currently limited evidence to suggest that the NSW Government is taking steps to discourage gas usage in NSW under its decarbonisation plans. Further, we consider that the development of hydrogen as a clean energy source could provide opportunities for JGN to extend the life of its network beyond 2050. We note that a large proportion of JGN's forecast capex proposal for the 2020–25 period relates to new gas consumer connections and augmentation of its network, which does not suggest that it is preparing for a persistent and significant decline in demand for its network.

Attachment 4 sets out detailed reasons for our final decision on JGN's regulatory depreciation. Table 7 sets out our final decision on JGN's regulatory depreciation allowance over the 2020–25 period.

Table 7 AER's final decision on JGN's regulatory depreciation allowance for the 2020–25 period (\$ million, nominal)

	2020–21	2021–22	2022–23	2023–24	2024–25	Total
Straight-line depreciation	150.1	162.4	173.1	185.9	174.3	845.7
Less: indexation on opening capital base	75.5	78.2	80.8	82.7	84.4	401.5
Regulatory depreciation	74.6	84.2	92.3	103.1	89.9	444.2

Source: AER analysis.

4.4 Capital expenditure

Capital expenditure (capex) refers to the capital costs and expenditure incurred in the provision of pipeline services.¹⁰⁷ This investment mostly relates to assets with long lives. JGN recovers the costs of these assets through the return on capital and depreciation building blocks. In this way, JGN recovers the financing cost and depreciation associated with these assets over the expected life of these assets.

Our final decision includes an assessment of JGN's actual capex in the 2015–20 period (which forms part of its opening capital base),¹⁰⁸ and its forecast capex for the 2020–25 period (which forms part of its projected capital base).¹⁰⁹

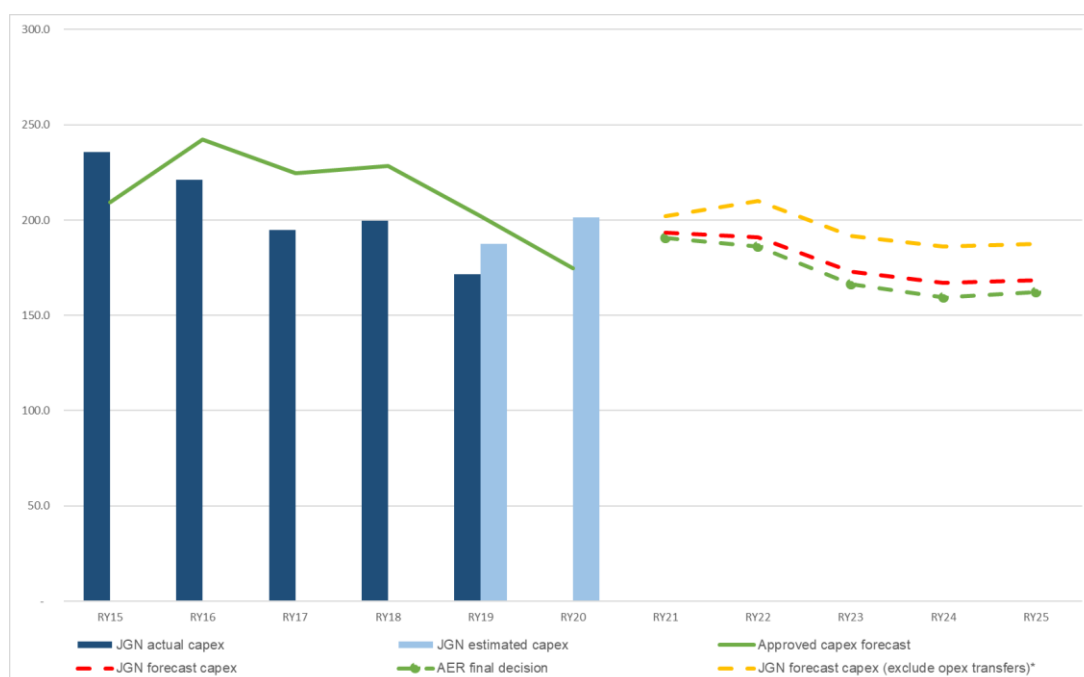
Figure 8 compares JGN's past and proposed forecast capex, and the forecasts approved by us both in our previous 2015–20 decision and this 2020–25 final decision.

¹⁰⁷ NGR, r. 69.

¹⁰⁸ NGR, r. 77.

¹⁰⁹ NGR, r. 78(b)

Figure 8 AER's final decision compared to JGN's past and proposed capex (\$ million, 2019–20)



Source: AER analysis.

4.4.1 Conforming capex for the 2015–20 period

JGN expects to spend less than its 2015–20 period net capex forecast overall (7.7 per cent). However, it expects to spend more than the forecast for connections (42.4 per cent), overheads (19.7 per cent) and other capex (1.9 per cent). We have reviewed JGN's actual capex and consider it is conforming capex under the Rules.¹¹⁰

Specifically, the increase in connections was driven by an unanticipated increase in construction, which led to higher capex than forecast in connections and capitalised overheads.¹¹¹ Consequently, we approve \$1,023.2 million (\$2019–20) of total net capex for JGN.¹¹² We will review JGN's actual capex for 2019–20 as part of our review of JGN's 2025–30 access arrangement.

¹¹⁰ NGR, r. 79(1).

¹¹¹ Connections capex attracts a higher proportion of overheads than many other types of capex. Consequently, a greater proportion of overheads were capitalised because connections activity was higher than expected.

¹¹² NGR, r. 79(1). We have assessed conforming capex for 2014–15, 2015–16, 2016–17, 2017–18 and 2018–19. \$2019–20 is based on data from the roll forward model excluding disposals. We have not assessed 2019–20 as this is an estimated capex.

4.4.2 Conforming capex for the 2020–25 period

Our final decision approves forecast net capex of \$865.0 million (\$2019–20) for the 2020–25 period. This is \$28.1 million (3.1 per cent) lower than JGN's revised proposal of \$893.1 million.¹¹³ This modest reduction reflects the quality of JGN's capex proposal and its willingness to engage with us and its gas consumers to provide information in support of its proposal.

While our final decision approves the majority of JGN's revised capex proposal, there are some parts of JGN's capex that we do not consider to be efficient. Table 8 compares our final decision capex to JGN's revised proposal. Key differences are:

- **Connections** – Our final decision includes \$384.6 million of connections capex, which is \$7.6 million (1.9 per cent) less than proposed. JGN did not adequately demonstrate that its average mains length per dwelling for new estates is efficient. Our alternative forecast was arrived at by substituting a more reasonable estimate of average mains length. This was supported by our independent expert advisor.
- **Meter replacement** – Our final decision includes \$111.3 million for meter replacement capex, which is \$6.3 million (5.4 per cent) less than proposed. While meter test results supported the replacement of a large volume of meters, they also showed that certain meter types were aging slowly, and the volume of replacement would not be as high in the 2020–25 period. Our alternative estimate of efficient capex included a lower volume based on this assessment, which is consistent with advice from our independent expert advisor.
- **Facilities and pipes** – Our final decision includes \$95.5 million for facilities and pipes capex, which is \$24.1 million (33.7 per cent) higher than proposed. The increase is the result of a re-classification of some capex from augmentation to facilities and pipes to better align with our current definition of augmentation and renewal.
- **Augmentation** – Our final decision includes \$34.6 million for augmentation capex, which is \$27.5 million (44.3 per cent) less than proposed. As noted above, this is largely due to \$24.1 million being reallocated to facilities and pipes capex. JGN's proposed augmentation capex is much closer to our final decision compared to our draft decision, largely because JGN revised the scope of its Aerotropolis project which we now consider to be conforming capex.
- **Mains replacement** – Our final decision includes \$36.1 million for mains replacement capex, which is \$8.5 million (19.1 per cent) less than proposed. JGN

¹¹³ JGN's revised proposal forecast net capex of \$893.1 million (\$2019–20) for the 2020–25 period is \$96.0 million (9.7 per cent) lower than its actual net capex for the 2015–20 period (noting JGN's capex for 2019–20 is based on an estimate only). JGN allocated all corporate overheads and pigging costs to opex in the 2020–25 period. This is different to its approach in the 2015–20 period and has distorted the comparison. When a like-for-like comparison of past and forecast capex is conducted (by adding back corporate overheads and pigging costs), JGN's forecast net capex for the 2020–25 period is \$12.6 million (1.3 per cent) lower than its actual net capex for the 2015–20 period.

proposed a replacement project in the last year of the 2020–25 period, but did not adequately demonstrate that this project is efficient at a portfolio level.

- Speculative investment – Our final decision accepts the opening of a speculative capex account for the Western Sydney Green Gas Trial. This account does not impact 2020–25 period revenues. JGN may collect this capex in future access arrangement periods if the capex becomes conforming. In opening this account, JGN accepts the risk that this capex may not become conforming in the future.

Table 8 AER’s final decision and JGN’s revised proposal for forecast capex for the 2020–25 period (\$ million, 2019–20)

Category	JGN’s revised proposal	AER’s final decision	Difference
Connections	392.2	384.6	7.6
Meter Replacement	117.6	111.3	6.3
Facilities and Pipes(a)	71.5	95.5	-24.1
Information Technology (IT)	101.2	100.9	0.3
Augmentation(a)	62.0	34.6	27.5
Mains Replacement	44.6	36.1	8.5
Other	31.2	30.1	1.1
Overheads	85.9	84.9	1.0
Gross total capex	906.2	877.9	28.3
Contribution	13.1	13.0	0.1
Net total capex	893.1	865.0	28.1

Source: AER analysis. Totals may not sum due to rounding.

4.5 Operating expenditure

Operating expenditure (opex) is the operating, maintenance and other non-capital expenses, incurred in the provision of pipeline services. Our final decision is to accept JGN’s revised proposal total opex forecast of \$1,091.7 million (\$2019–20), including debt raising costs.¹¹⁴ We are satisfied JGN’s opex forecast meets the opex criteria¹¹⁵ and the requirements for forecasts and estimates.¹¹⁶

Our alternative total opex estimate of \$1,087.5 million (\$2019–20) is not materially different (\$4.3 million, or 0.4 per cent, lower) to JGN’s revised proposal. JGN’s revised proposal largely adopts our draft decision on opex. Contrary to our draft decision, JGN

¹¹⁴ JGN, Revised proposal PTRM, January 2020.

¹¹⁵ NGR, r. 91.

¹¹⁶ NGR, r. 74.

proposes an average of labour price growth forecasts from both BIS Oxford Economics (BIS) and Deloitte.¹¹⁷ Our draft decision used only Deloitte forecasts.¹¹⁸ We have reconsidered our approach to forecasting labour price growth and are now satisfied that an average of the forecasts from Deloitte and BIS reflects the best estimate of labour price growth. Further, the economic literature generally supports using an average of the available forecasts. We outline these reasons in greater detail in our final decision for SA Power Networks.¹¹⁹

Table 9 sets out our final decision alternative estimate and JGN's total opex forecast for the 2020–25 period.

Table 9 AER's alternative estimate and JGN's proposed total opex for the 2020–25 period (\$ million, 2019–20)

	2020–21	2021–22	2022–23	2023–24	2024–25	Total
JGN's revised proposal	206.0	214.9	222.0	222.6	226.2	1,091.7
AER's alternative estimate	205.3	214.1	221.2	221.7	225.2	1,087.5
Difference	-0.7	-0.8	-0.8	-0.9	-1.1	-4.3

Source: JGN, *Revised proposal PTRM*, January 2020; AER analysis.

Note: Includes debt raising costs. Numbers may not add up due to rounding.

The difference between our alternative estimate and JGN's revised proposal opex forecast is because we have:

- used a more recent inflation forecast from the RBA¹²⁰
- used a more recent growth forecast from Deloitte, which we averaged with BIS forecasts submitted by JGN, to forecast labour price growth¹²¹
- forecast lower debt raising costs.

Figure 9 presents JGN's revised proposal total opex forecast for 2020–25 and compares it to its past opex allowances and actual expenditure. It shows an increase in the opex for the 2020–25 period compared to the 2015–20 period, driven by the expensing of corporate overheads and pigging costs in the 2020–25 period and increases in UAG relative to the 2015–20 period.

¹¹⁷ JGN, *Revised 2020 plan*, January 2020, p. 20.

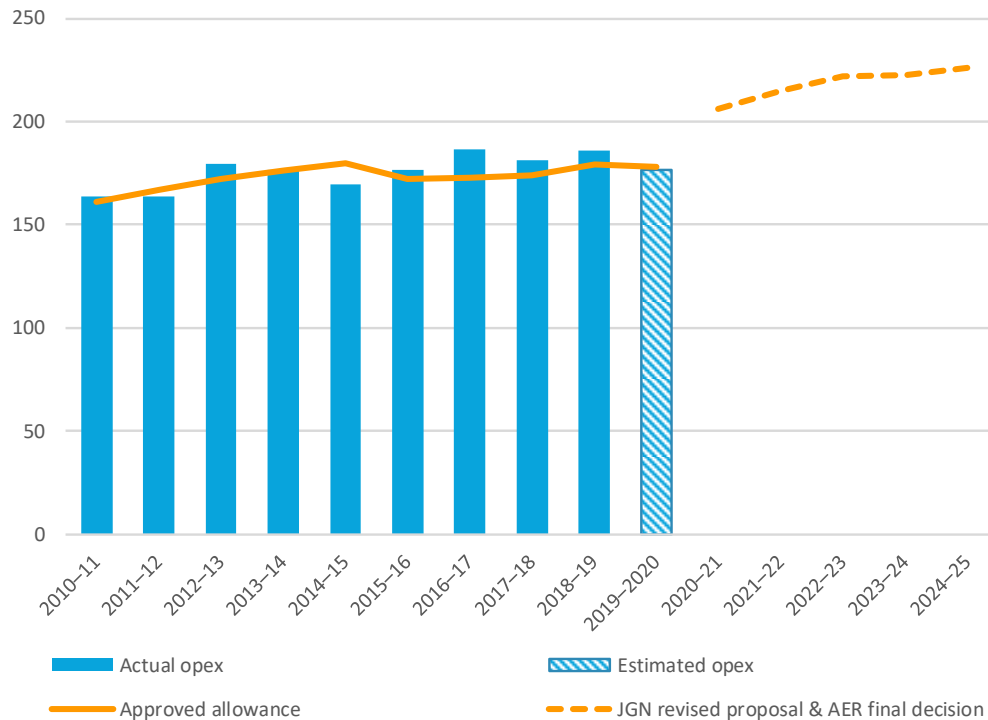
¹¹⁸ AER, *JGN access arrangement 2020 to 2025, Draft decision*, Attachment 6, November 2019, pp. 29–30.

¹¹⁹ AER, *SA Power Networks distribution determination 2020 to 2025, Final decision*, Attachment 6, June 2020.

¹²⁰ Reserve Bank of Australia, *Statement on Monetary Policy—Appendix: Forecasts*, May 2020. Our usual implementation is to use the (headline) CPI forecast for the year ending June 2020. In the current COVID-19 circumstances, we consider that the trimmed mean forecast better reflects core expectations of inflation as set out in the RBA's May 2020 *Statement on Monetary Policy*. Further, the trimmed mean smooths the transient volatility in the CPI forecasts in the May 2020 *Statement on Monetary Policy*.

¹²¹ Deloitte Access Economics, *Labour price growth forecasts prepared for the AER*, 20 March 2020.

Figure 9 Forecast and actual opex, 2010–11 to 2024–25 (\$ million, 2019–20)



Source: JGN, *Proposed reset RIN*, 30 June 2019; AER, *AER Final Decision - JGN NSW GAAR 2015-20 - Revenue forecast model - RFM PTRM*, June 2015; AER, *JGN PTRM – after appeal*, June 2011; JGN, *Revised proposal PTRM*, January 2020; AER analysis.

Note: Includes debt raising costs and unaccounted for gas.

4.6 Revenue adjustments

We have applied two revenue adjustments to JGN's revenue for the 2020–25 period as a result of outcomes relating to the 2015–20 period, as presented below.

4.6.1 Remade final decision for the 2015–20 period

Our final decision on JGN's revenue for the 2020–25 period includes the impact of our remade decision (the 'remittal') on JGN's revenue for the 2015–20 period.¹²²

JGN appealed our June 2015 decision on its revenue for the 2015–20 period. The Australian Competition Tribunal set aside our decision and directed us to remake it, specifically requiring that we remake our decision in relation to JGN's market expansion capex forecast and the rate of return on debt with respect to the trailing average approach. On 31 October 2018, and following a series of consultations with its stakeholders, JGN submitted a new proposal to us to resolve all outstanding issues

¹²² NGR, Part 11, Schedule 1 describes the transitional provisions regarding cross period smoothing for JGN.

relating to the decision the Tribunal asked us to remake. JGN's proposal was \$17.6 million (\$ nominal) higher than our 2015 final decision, but lower than the \$100 million in dispute. We accepted JGN's proposal in our January 2019 remade draft decision, which was supported by ECA and PIAC, and published a remade final decision (unchanged from draft) in February 2019.¹²³

Our remade final decision for the 2015–20 period will impact JGN's network tariffs for the 2020–25 period. This will have the result that, from 1 July 2020, JGN will return \$169.1 million (\$2019–20) to gas consumers, reflecting the difference between what it will recover over the 2015–20 period under interim tariff undertakings and the revenue we approved in our remade final decision.

4.6.2 Efficiency carryover mechanism for the 2015–20 period

An efficiency carryover mechanism (ECM) is intended to provide a continuous incentive for service providers to pursue efficiency improvements in opex, and provide for a fair sharing of these between service providers and network users.

Our final decision is to approve carryover amounts totalling –\$11.2 million (\$2019–20) from application of the ECM in the 2015–20 period. Table 10 sets out our final decision on the carryover amounts JGN accrued during the 2015–20 period (to be recovered over the next access arrangement period).¹²⁴

Table 10 AER's final decision on carryover amounts (\$ million, 2019–20)

	2020–21	2021–22	2022–23	2023–24	2024–25	Total
JGN's revised proposal	-4.9	-8.6	5.0	-	-2.7	-11.2
AER's final decision	-4.9	-8.6	5.0	-	-2.7	-11.2
Difference	0.0	0.0	-0.0	-	0.0	0.0

Source: JGN, *Revised proposal PTRM*, January 2020; AER analysis.

Note: Numbers may not add up due to rounding.

We have updated the carryover amounts determined in our draft decision to reflect:

- actual opex for 2018–19 (rather than the estimate we used in our draft decision)
- reflect the RBA's latest forecast of inflation in the year to June 2020¹²⁵
- JGN's corrected movements in provisions for 2017–18.

¹²³ AER, *Final decision, JGN 2015–20 access arrangement*, February 2019.

¹²⁴ NGR, r. 76(d)

¹²⁵ Reserve Bank of Australia, *Statement on Monetary Policy—Appendix: Forecasts*, May 2020. Our usual implementation is to use the (headline) CPI forecast for the year ending June 2020. In the current COVID-19 circumstances, we consider that the trimmed mean forecast better reflects core expectations of inflation as set out in the RBA's May 2020 *Statement on Monetary Policy*. Further, the trimmed mean smooths the transient volatility in the CPI forecasts in the May 2020 *Statement on Monetary Policy*.

This is consistent with the amount JGN included in its revised proposal. The only difference is we have used a more recent RBA inflation forecast for 2019–20.

4.7 Corporate income tax

Our final decision on JGN's total revenue includes the estimated cost of corporate income tax for the 2020–25 period.¹²⁶ JGN's revised proposal adopts the post-tax framework to derive its revenue requirement for the 2020–25 period, whereby a corporate income tax allowance is calculated as part of the building blocks assessment.¹²⁷ This allows JGN to recover the estimated cost of corporate income tax during the 2020–25 period.

Our final decision on JGN's estimated cost of corporate income tax is \$9.3 million (\$ nominal) over the 2020–25 period. This is \$0.4 million (4.7 per cent) higher than JGN's revised proposal of \$8.9 million.

The estimated corporate income tax is impacted by our decision on various building block components. The higher corporate income tax is mainly driven by a lower tax depreciation which resulted from the reduction we made to the forecast capex. All things being equal, the lower tax depreciation means a higher estimated taxable income, and therefore also a higher corporate income tax allowance for JGN in the 2020–25 period.

Our final decision determines an opening tax asset base (TAB) value of \$1,228.1 million (\$ nominal) as at 1 July 2020. This is \$0.4 million higher than JGN's revised proposal of \$1,227.7 million. The difference is due to our update to the 2019–20 actual inflation input in JGN's revised proposal RFM which consequently updated the capex being rolled into the TAB.

Our final decision confirms our acceptance of JGN's approach to forecast its cost of corporate income tax for the 2020–25 access arrangement, which includes continuing with the use of the diminishing value method of tax depreciation applied in its previous access arrangements. We also accept JGN's revised proposal standard tax asset lives for all of its asset classes.

¹²⁶ NGR, r. 76(c).

¹²⁷ JGN, 2020–25 Access Arrangement Proposal – Attachment 12.1 – PTRM, January 2020.

Table 11 sets out our final decision on the estimated cost of corporate income tax for JGN over the 2020–25 period. Attachment 7 sets out the detailed reasons for our final decision on JGN’s corporate income tax.

Table 11 AER’s final decision on JGN’s cost of corporate income tax for the 2020–25 period (\$million, nominal)

	2020–21	2021–22	2022–23	2023–24	2024–25	Total
Tax payable	3.0	4.5	5.8	7.4	1.7	22.5
Less: value of imputation credits	1.8	2.6	3.4	4.3	1.0	13.1
Net corporate income tax allowance	1.3	1.9	2.4	3.1	0.7	9.3

Source: AER analysis.

5 Incentive schemes to apply for 2020–25

Our incentives 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. If network businesses reduce their costs to below our forecast of efficient costs, the savings are shared with their consumers in future access arrangement periods through the efficiency carryover mechanism (ECM) and capital expenditure sharing scheme (CESS). This final decision determines that the ECM and CESS will apply to JGN for the 2020–25 period.

5.1 Efficiency carryover mechanism

As noted in section 4.6.2, an ECM is intended to provide a continuous incentive for service providers to pursue efficiency improvements in opex, and provide for a fair sharing of these between service providers and network users. Our final decision is to approve the application of an ECM to JGN in the 2020–25 period. JGN’s revised proposal adopts the revisions we set out in our draft decision.¹²⁸

For the avoidance of doubt, and consistent with our standard approach, when we apply the ECM to JGN in the 2020–25 period, we will also adjust actual opex to reverse any movements in provisions. We have set out in Table 12 the forecast opex we will use to calculate efficiency gains and losses for the 2020–25 period, including the categories of expenditure we will exclude.¹²⁹

Table 12 AER’s final decision on JGN’s forecast opex for the ECM for the 2020–25 period (\$ million, 2019–20)

	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24	2024–25
Total forecast opex	173.8	178.9	178.1	206.0	214.9	222.0	222.6	226.2
Less UAG costs	-17.3	-17.3	-17.4	-28.7	-27.3	-29.0	-29.5	-29.1
Less licence fee costs	-4.3	-4.3	-4.3	-4.7	-4.7	-4.7	-4.7	-4.7
Less debt raising costs	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Less carbon costs	-0.0	-0.0	-0.0	-	-	-	-	-
Forecast opex for the ECM	150.5	155.5	154.6	170.9	181.2	186.6	186.7	190.7

Source: AER, *JGN 2015–20 Final decision, PTRM*, June 2015; AER, *JGN 2020–25 Final decision, PTRM*, June 2020.

¹²⁸ JGN, *Revised 2020 plan*, January 2020, pp. 47–48.

¹²⁹ Table 12 in this document replaces the table in clause 12.1(i) of the proposed access arrangement that JGN submitted with its revised proposal. The ECM requires forecast and actual opex for 2017–18 and 2019–20 to calculate the efficiency gain for 2020–21. Further, to ensure it is clear how the forecast opex amounts for ECM purposes have been determined, we consider the table should include total forecast opex and explicitly show the forecast opex amounts for each of the opex categories that will be excluded from the ECM.

However, we reject JGN's proposal that the ECM be a fixed principle.¹³⁰ We consider that the Rules already allow for the inclusions of increments or decrements from the application of incentive schemes in previous access arrangement periods. There is no need to include the ECM as a fixed principle to facilitate the inclusion of increments or decrements in revenues in subsequent access arrangement periods.

We advised JGN of this view, and JGN responded that it considered the ECM should be a fixed principle to ensure it has certainty that it will operate as intended.¹³¹ However, the incentive to reduce opex, and the sharing of efficiency gains and losses, is not solely a function of the ECM. It is also influenced by the broader regulatory framework, such as how revealed opex influences subsequent opex allowances. Consequently, making the ECM a fixed principle will not give certainty that the ECM will operate as intended. Calculating increments and decrements according to the formulae in the ECM, without having regard to the context in which the scheme operates, would increase the risk that the mechanism would not operate as intended.

5.2 Capital expenditure sharing scheme

JGN propose to introduce a CESS to cover the 2020–25 period. The CESS rewards efficiency gains and penalises efficiency losses, by comparing JGN's actual and forecast capex over the access arrangement period. This incentive scheme currently does not exist for JGN.

Our final decision approves the application of a CESS that excludes connections capex in the 2020–25 period. We have also removed clauses from the access arrangement that seek to make the application of the CESS deterministic, including a fixed principle and a table including the capex forecast. We have made some other amendments to the calculation of formulas to ensure the CESS reflects genuine benefits and captures the operating environment. Attachment 14 provides further information on our CESS decision for JGN.

¹³⁰ Clause 12.2 of the proposed access arrangement that JGN submitted with its revised proposal states that the proposed ECM is a fixed principle. That clause is to be deleted from JGN's access arrangement.

¹³¹ AER, Information request IR059, 6 March; JGN, Response to information request IR059, 13 March 2020.

6 Non-tariff components

The non-tariff components of an access arrangement include: the terms and conditions for the supply of reference services; queuing requirements;¹³² extension and expansion requirements;¹³³ capacity trading requirements;¹³⁴ change of receipt or delivery point by the user;¹³⁵ and review submission and revision commencement dates.¹³⁶

Our final decision approves JGN's proposed amendments to its Reference Service Agreement (RSA) in its 2020–25 access arrangement.¹³⁷ Our final decision also confirms the amendments we approved at the draft decision stage to accommodate JGN's proposed amendments for queuing requirements, extension and expansion requirements, capacity trading requirements, change of receipt or delivery point by the user, and review submission and revision commencement dates.¹³⁸

Following receipt of JGN's revised proposal RSA, on 3 February 2020 we hosted a meeting of first round submitting stakeholders who had made specific comments on JGN's initially proposed RSA.¹³⁹ At the meeting, it was identified that the more contentious matters of gas quality specification (particularly in respect of gas procured from the Short Term Trading Market (STTM)) and retailer-requested disconnections by JGN were potential candidates for broader industry-wide level discussion.

The RSA remains subject to a continuous improvement process, whereby it is formally reviewed and amended, at each access arrangement review. This does not prevent JGN from continuing its discussions with individual parties to work through their specific issues and circumstances. We encourage JGN and stakeholders to continue to engage on gas quality specification and retailer-requested disconnection issues after our decision, potentially at an industry working group level. For example, this work could be coordinated by Energy Networks Australia (ENA), or prioritised and advanced by one of the Australian Energy Market Operator's (AEMO) industry working groups.

Our expectation is for JGN to continue to work with retailers following our final decision, particularly in relation to performance standards applicable to JGN in light of

¹³² 'Queuing requirements' refer to the process or mechanism for establishing an order of priority between prospective users of spare and/or developable capacity.

¹³³ 'Extension and expansion requirements' refer to the method for determining whether an extension or expansion is a part of the covered pipeline and the effect this will have on tariffs.

¹³⁴ 'Capacity trading requirements' refer to the arrangements for users to assign contracted capacity and change delivery and receipt points.

¹³⁵ 'Change of receipt or delivery point by the user' refers to the process or mechanism for changing a user's receipt or delivery point.

¹³⁶ JGN proposes a 'review submission date' of 30 June 2024 and a 'revision commencement date' of 1 July 2025.

¹³⁷ JGN, *Reference Service Agreement, JGN's NSW gas distribution network, 1 July 2020 – 30 June 2025*, January 2020.

¹³⁸ JGN, *Reference Service Agreement, JGN's NSW gas distribution network, 1 July 2020 – 30 June 2025*, June 2019.

¹³⁹ We invited JGN, AGL, EnergyAustralia, Origin, Energy Networks Australia, Brickworks and CCP19 to the meeting.

strong views expressed in retailer submissions to help them to better manage their businesses and gas consumers' expectations. JGN appears open to this in its proposal:¹⁴⁰

“...we consider that any KPI [key performance indicators] regime should be developed in the wider market, rather than being seen as part of the RSA – for example, the Energy Charter provides an opportunity to work on industry-level performance measures.”

Attachment 11 sets out our final decision on the non-tariff components in further detail.

¹⁴⁰ JGN, *Attachment 15.3 – Response to the AER's draft decision – Revisions to 2020 RSA*, January 2020, pp. 5-6.

A Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Capex	Capital expenditure
CESS	Capital expenditure sharing scheme
CCP or CCP19	Consumer Challenge Panel, sub-panel 19
CPI	Consumer price index
ECM	Efficiency carryover mechanism
JGN	Jemena Gas Networks (NSW) Ltd
LRMC	Long Run Marginal Cost
NGL	National Gas Law
NGO	National Gas Objective
NGR or Rules	National Gas Rules
NPV	Net present value
Opex	Operating expenditure
PTRM	Post-tax revenue model
RBA	Reserve Bank of Australia
RFM	Roll forward model
RSA	Reference Service Agreement
SMP	Statement on Monetary Policy
TAB	Tax asset base
TMI	Trimmed mean inflation
UAG	Unaccounted for gas
WACC	Weighted average cost of capital