DRAFT DECISION
Jemena Gas Networks (NSW) Ltd
Access Arrangement

2020 to 2025

Overview

November 2019

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

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AER reference: 63819

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 customers for using these networks.

The National Gas Law and Rules (NGL and NGR) 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 servicing customers across NSW, including greater Sydney, the Hunter, the Illawarra and several other regional areas. On 28 June 2019, JGN submitted its access arrangement proposal for the five-year access arrangement period, which runs from 1 July 2020 to 30 June 2025 (2020–25 period).[2]

This Overview, together with its Attachments, constitutes our draft decision on JGN's 2020–25 access arrangement proposal (2020–25 proposal).

Following the release of this draft decision, JGN will have the opportunity to submit a revised proposal in response to our findings by **13 January 2020**.

Submissions from interested stakeholders, on both our draft decision and JGN's revised proposal, are invited by **17 February 2020**. Subject to stakeholder interest, we will also consider holding a public forum following submission of the revised proposal.

We expect to publish our final decision on 30 April 2020. Key dates and consultation deadlines for the remainder of this review are listed below.

Milestone	Date
AER's draft decision published	25 November 2019
JGN's revised proposal due	13 January 2020
Stakeholder submissions on the draft decision and revised proposal close	17 February 2020
AER's final decision to be published	30 April 2020

1 NGL, s. 23.

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

Invitation for submissions

In response to our draft decision, JGN has the opportunity to submit a revised proposal for its next (2020–25) access arrangement period by **13 January 2020**.

Submissions on our draft decision and JGN's revised proposal are invited from interested stakeholders by **17 February 2020**. We will consider and respond to all submissions received by that date in our final decision.

Submissions should be sent to: JGNGAAR2020-25@aer.gov.au

Alternatively, submissions can be sent to:

Sebastian Roberts
General Manager
Australian Energy Regulator
GPO Box 520
Melbourne VIC 3001

Submissions should be in Microsoft Word or another text readable document format.

We prefer that all submissions be publicly available to facilitate an informed and transparent consultative process.

Submissions will be treated as public documents unless otherwise requested. Parties wishing to submit confidential information should:

(1) clearly identify the information that is the subject of the confidentiality claim

(2) provide a non-confidential version of the submission in a form suitable for publication.

All non-confidential submissions will be placed on our website.[3]

[3] For further information regarding our use and disclosure of information provided to us, see the *ACCC/AER Information Policy* (June 2014), which is available on our website: https://www.aer.gov.au/publications/corporate-documents/accc-and-aer-information-policy-collection-and-disclosure-of-information

Note

This Overview forms part of the AER's draft decision on the access arrangement that will apply to Jemena Gas Networks (NSW) Ltd ('JGN') for the 2020–2025 access arrangement period. It should be read with all other parts of the draft decision.

The draft decision includes the following documents:

Overview

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 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 8 – Efficiency carryover mechanism

Attachment 9 – Reference tariff setting

Attachment 10 – Reference tariff variation mechanism

Attachment 11 – Non-tariff components

Attachment 12 – Demand

Attachment 13 – Capital expenditure sharing scheme

Contents

Shortened forms

Shortened form	Extended form
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Capex	Capital expenditure
CESS	Capital expenditure sharing scheme
CCP/CCP19	Consumer Challenge Panel, sub-panel 19
CPI	Consumer price index
EBSS	Efficiency benefit sharing scheme
ECM	Efficiency carryover mechanism
JGN	Jemena Gas Networks (NSW) Ltd
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
Opex	Operating expenditure
PTRM	Post-tax revenue model
RBA	Reserve Bank of Australia
RFM	Roll forward model
RPP	Revenue and pricing principles
TAB	Tax asset base
UAG	Unaccounted for gas
WACC	Weighted average cost of capital

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, regulated gas network businesses must periodically apply to us for a ruling on the amount of money they can collect from their customers to run their business. We use our insights and expertise to determine how much money the businesses can recover from consumers for using their networks.

We are currently doing this for Jemena Gas Networks (NSW) Ltd ('JGN') 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 servicing customers across NSW, including greater Sydney, the Hunter, the Illawarra and several other regional areas.

This draft decision allows JGN to recover $2,157.6 million ($ nominal, smoothed) from its customers for the 2020–25 period, who are also likely to benefit from bill reductions over the period as set out below.

The revenue we allow forms the distribution network component of retail gas bills. JGN's share of the gas bill for a typical residential customer in its distribution network area is around 41 per cent in coastal areas and 33 per cent in regional areas.[4] Other key components of the gas bill include wholesale, transmission and retail costs.

We estimate that if this draft decision is implemented, average annual bills for residential customers in JGN's distribution network area would reduce by between $34 (coastal areas) and $50 (regional areas) by the end of the 2020–25 period (as at 30 June 2025) as a result of lower distribution network charges.[5] Average annual bills for small business customers would reduce by around $179 over the same period.

In making this draft decision, we note the following key themes:

- 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.

In making this draft decision, we have had regard to a range of sources including JGN's proposal, submissions received, as well as additional analysis undertaken and published by us.

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[4] Reflecting higher average annual gas consumption of around 35 GJ for JGN's regional residential customers as compared to 15 GJ for its coastal residential customers.

[5] Compared to the current level, as at 30 June 2020.

Overall, we are of the opinion that JGN has put forward a well-informed initial proposal, underpinned by extensive consumer engagement, and with few areas of contention remaining between now and our final decision which is due in April 2020. JGN now has an opportunity with its upcoming revised proposal, due early in the new year, to put forward a proposal that is not only capable of acceptance to its stakeholders, but provides sufficient additional information to address the few remaining areas of concern we have with its initial proposal.

Our draft decision represents a reduction of $185.7 million (7.9 per cent) on what JGN proposed. While the return on capital is the area of greatest difference in dollar terms, this is largely due to downward movements in the rate of return since JGN submitted its initial proposal and we do not expect this to be an area of contention going forward.[6] Similarly, for operating expenditure (opex), where the difference between what JGN proposed and our draft decision is relatively small, JGN has the opportunity to resolve this difference by providing us with the information we seek in its revised proposal.[7]

The key area of difference is capital expenditure (capex), in relation to many of its components such as information technology, where we seek further information and justification on JGN's expenditure plans for its growing gas distribution network.[8] The other key areas of contention in this review have been JGN's proposal for accelerated depreciation of certain pipeline assets which we have not approved, and JGN's proposed amendments to its Reference Service Agreement which we consider requires further engagement with retailers in particular.[9]

In line with JGN's proposal, our draft decision also incorporates the impact of our remade decision (the 'remittal') on JGN's revenue for the 2015–20 period, which we finalised earlier this year.[10] Under the remittal decision, JGN will return $169.1 million to its customers 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.[11]

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

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

7 See section 4.6 of this Overview and Attachment 6 for further information on our opex decision.

8 See section 4.5 of this Overview and Attachment 5 for further information on our capex decision.

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

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

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

Ensuring consumers pay no more than they need 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. This involves us assessing whether a business' proposal is a reasonable and realistic forecast of how much money it needs for the safe and reliable operation of the network. To do this for JGN, we have used a range of materials, including JGN's proposal, stakeholders' submissions and our own analysis. Additionally, we have engaged directly with JGN representatives to discuss and seek further information on aspects of its proposal.

Energy affordability remains a key concern for JGN's customers, as well as a safe and reliable gas service, fairness, and innovation and planning for the future.[12] In response to these concerns, JGN has submitted a proposal to us that continues to put downward pressure on gas network charges and customers' bills in the 2020–25 period. JGN's proposal also helps to subdue the effects of any potential upward price pressures that could be experienced in other parts of the gas supply chain over the same period.

While we regard JGN's initial proposal as a step toward achieving positive outcomes for its customers, there is still some disparity between what it has put forward and our draft decision. As noted above, this particularly relates to the return on capital, capex, and, to a lesser extent, opex. In order to accept JGN's proposal, we will need further justification and supporting material with its revised proposal. We will carefully consider all additional material that JGN provides before making our final decision next year.

JGN's high-quality consumer engagement approach

We commend JGN on its consumer engagement approach in developing its 2020–25 proposal. JGN has demonstrated meaningful engagement with its customers, which it facilitated through JGN forums held across several coastal and regional NSW locations with residential and business customers. Based on stakeholders' submissions on JGN's proposal and our interactions with, and observations of, JGN during this review, it is apparent that JGN is committed to putting customers at the centre of its business. This is also reflected in it being a signatory to The Energy Charter.[13]

While some stakeholders have expressed concern over certain aspects of JGN's proposal, such as retailers' comments on JGN's proposed Reference Service Agreement which remains an area of contention in this review, we are encouraged by JGN's proactive actions since lodging its proposal aimed at addressing all outstanding issues through continued engagement, such as deep-dive workshops and bilateral discussions. This bodes well for JGN's upcoming revised proposal.

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

13 For information on 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

Potential future investment uncertainty faced by JGN

Our draft decision also acknowledges that the way in which NSW consumers engage with natural gas may change in the years to come. Particularly where net-zero carbon emissions policy targets — be they aspirational or mandated 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 its customers 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.

We acknowledge that the future is inherently uncertain and risks must be managed. In such times, the challenge of forecasting becomes more acute. Where a network business proposes changes to its revenue building blocks on the basis of forecast changes, we seek evidence-based forecasts to assist us with this challenge. We also seek internally consistent proposals from network businesses, and are compelled to highlight the apparent contradiction in JGN's proposal of a growing distribution network on one hand, and a potentially unviable network in future on the other due to trends in environmental policy (hence its proposal for accelerated depreciation).

We have considered the issues raised by JGN that may affect the economic lives of its pipeline assets, including the forecast short term declining gas usage trend, the Australian Energy Market Operator's (AEMO) forecast gas supply shortfall and the NSW Government's planned 2050 carbon neutral target. We do not consider there is sufficient evidence to conclude that these issues will result in the utilisation of JGN's network significantly declining. In our view, the assumption that these issues have reduced the expected economic life of JGN's assets is speculative at this point in time and has not been adequately established by evidence-based forecasts. While there is still much uncertainty about the viability of hydrogen gas at this stage, we consider the introduction of hydrogen gas could have a substantial positive impact on the future of gas distribution networks

Although our draft decision does not accept all aspects of JGN's proposal on accelerated depreciation (such as pipeline assets), we commend JGN for addressing this non-trivial issue in its consumer engagement and proposal.

What this decision means for consumers

We estimate that if this draft decision is implemented, compared to the current level[14], average annual retail gas bills for JGN's customers by the end of the 2020–25 period[15] would be:[16]

- $34 (or 5.1 per cent) lower for average coastal residential customers
- $50 (or 4.2 per cent) lower for average regional residential customers
- $179 (or 3.7 per cent) lower for average small business customers.

The estimated bill impacts cited above incorporate the 2015–20 remittal outcome for JGN, which returns $169.1 million to JGN's customers in the 2020–25 period. The remittal outcome is a key driver of the estimated bill reduction over the 2020–25 period, particularly in the first year with estimated bill reductions of between 8.2 and 10 per cent for regional and coastal customers in 2020–21, respectively, followed by small increases of up to 1.4 per cent per annum thereafter.[17]

What this decision means for JGN

The total allowed revenue of $2,157.6 million we approve in this 2020–25 draft decision is $185.7 million (7.9 per cent) less than the $2,343.3 million JGN is proposing. This reduction is mainly driven by:

- a rate of return of 4.46 per cent consistent with current market conditions, compared to JGN's proposed 4.96 per cent
- lower operating and capital expenditure
- higher standard asset lives for gas pipeline assets.

Next steps

JGN now has the opportunity to consider our draft decision. It must submit its revised proposal to us by 13 January 2020.

Interested stakeholders are invited to make submissions on both our draft decision and JGN's revised proposal by 17 February 2020.

We will make our final decision by 30 April 2020.

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14 Current level means as at 30 June 2020.

15 In nominal terms, as at 30 June 2025.

16 We estimate the expected bill impact by varying the distribution network charges in accordance with our decision, while holding all other components constant. This approach isolates the effect of our decision on the core distribution network charges, and does not imply that other components will remain unchanged across the access arrangement period.

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

1 Our draft decision

Our draft decision would allow JGN to recover $2,157.6 million ($ nominal, smoothed) from its customers from 1 July 2020 to 30 June 2025.[18]

JGN is regulated using a price cap.[19] 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.[20] 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, such as JGN, can recover from users of its reference services.

For this draft decision, our assessment is based on the access arrangement proposal that JGN submitted to us on 28 June 2019.[21] JGN's proposal sets out its view of its expected costs, demand and required revenues for the 2020–25 period.

1.1 How our draft decision would affect gas bills

The gas distribution network tariffs that will be set by reference to our final decision next year are one contributor to the total retail gas bills that customers pay. Key contributors to total retail gas bills are:

- 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.

Each of these costs contributes to the retail prices charged to gas customers by their chosen gas retailer.

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18 Our draft 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 for more information.

19 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 for more information.

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

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

Our draft decision on JGN affects the component of the gas bill relating to gas distribution pipelines. For customers on JGN's network, distribution charges account for approximately:[22]

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

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

Table 1 shows the estimated average annual impact of our draft decision, if implemented, for the 2020–25 period on gas bills for customers on JGN's network compared with JGN's proposal ($ nominal).

In terms of average annual customer gas bills in 2024–25 (as at 30 June 2025), we estimate that the impact of this draft decision would be to:[23]

- decrease coastal residential customer gas bills by $34 or 5.1 per cent from the current level,[24] compared to a decrease of around $16 or 2.4 per cent if we were to accept JGN's proposal in full
- decrease regional residential customer gas bills by $50 or 4.2 per cent from the current level,[25] compared to a decrease of around $23 or 1.9 per cent if we were to accept JGN's proposal in full
- decrease small business customer gas bills by $179 or 3.7 per cent from the current level,[26] compared to a decrease of around $82 or 1.7 per cent if we were to accept JGN's proposal in full.

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22 JGN, *Response to information request 045*, 21 October 2019, p. 3.

23 JGN's 2020–25 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. In its submission on JGN's proposal (August 2019, pp.5-6), EnergyAustralia raised concerns that the network bill savings reported in JGN's proposal may overstate the reductions to consumer bills. We note that 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.

24 Current level means as at 30 June 2020.

25 Ibid.

26 Ibid.

Table 1 AER's estimated impact of our draft decision and JGN's 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 draft decision						
Coastal residential annual bill[a]	669[a]	602	609	617	626	634
Annual change[d]		–67 (–10.0%)	8 (1.3%)	8 (1.3%)	8 (1.3%)	9 (1.4%)
Regional residential annual bill[b]	1,204[b]	1,105	1,117	1,128	1,141	1,153
Annual change[d]		–98 (–8.2%)	11 (1%)	12 (1.1%)	12 (1.1%)	13 (1.1%)
Small business annual bill[c]	4,809[c]	4,460	4,500	4,542	4,585	4,630
Annual change[d]		–349 (–7.3%)	40 (0.9%)	42 (0.9%)	43 (1%)	45 (1%)
JGN's proposal						
Coastal residential annual bill[a]	669[a]	638	632	625	639	653
Annual change[d]		–31 (–4.6%)	–7 (–1.0%)	–6 (–1.0%)	14 (2.2%)	14 (2.2%)
Regional residential annual bill[b]	1,204[b]	1,159	1,149	1,140	1,160	1,181
Annual change[d]		–45 (–3.7%)	–10 (–0.8%)	–9 (–0.8%)	20 (1.7%)	21 (1.8%)
Small business annual bill[c]	4,809[c]	4,649	4,615	4,582	4,652	4,727
Annual change[d]		–160 (–3.3%)	–34 (–0.7%)	–33 (–0.7%)	70 (1.5%)	74 (1.6%)

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 customers.

(b) Annual bill for 2019–20 reflects the average consumption of 35 GJ for JGN's regional residential customers.

(c) Annual bill for 2019–20 reflects the average consumption of 184 GJ for JGN's small business customers.

(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?

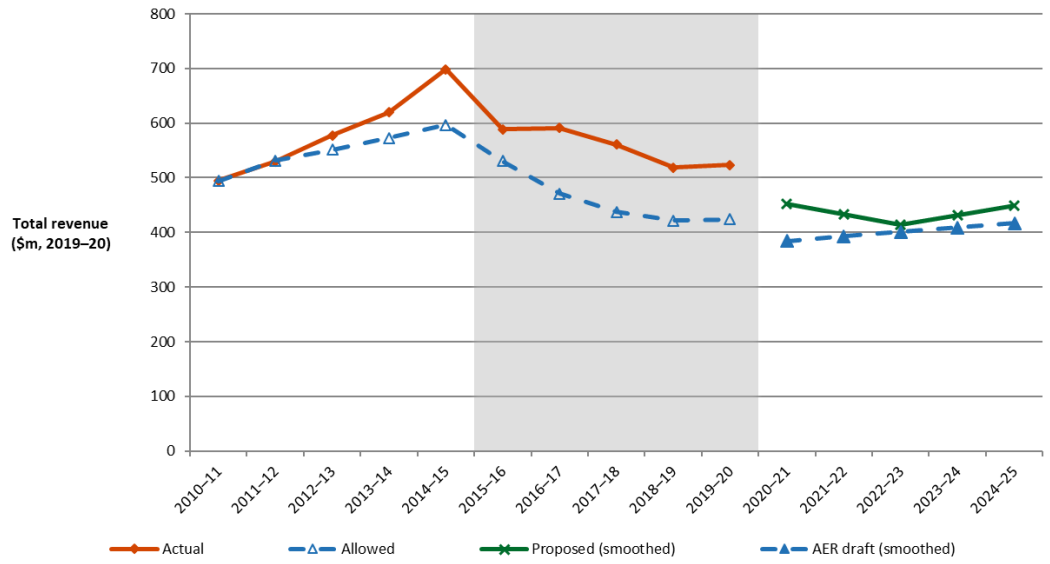
The changing impact of inflation over time makes it difficult to compare revenue from one period to the next on a like-for-like basis. To do this, we use 'real' values based on a common year, which have been adjusted for the impact of inflation ($2019–20).[27]

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

This draft decision approves a total revenue allowance for the 2020–25 period that is $282 million (12.3 per cent) lower than we approved in our 2015–20 decision.[28]

Figure 1 shows our draft decision for JGN's smoothed revenue for the 2020–25 period, and its allowed revenues over the 2010–20 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 2020–25 draft decision provides for reductions in the building blocks for:

- return on capital, which is $232.7 million (24.9 per cent) lower than 2015–20, driven by decreases in the nominal weighted average cost of capital (WACC) from 5.40 to 4.46 per cent in the first year of the 2015–20 and 2020–25 periods, respectively[29]
- revenue adjustments, which is $178.6 million[30] lower than 2015–20, primarily reflecting our remade final decision for JGN for the 2015–20 period (the 'remittal')[31]
- regulatory depreciation, which is $51.9 million (12.0 per cent) lower than 2015–20, driven by reductions in capex for the 2020–25 period, specifically in information

[28] The comparison of total revenues between the 2020–25 and 2015–20 periods is based on smoothed revenues. In nominal dollar terms, our draft decision total revenues for the 2020–25 period is $89 million, or 4.0 per cent, lower than the total revenues approved for the 2015–20 period.

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

[30] There were zero revenue adjustments in 2015-20 as no incentive schemes or carryover amounts were applied in this period.

[31] See section 4.6.1 for more information.

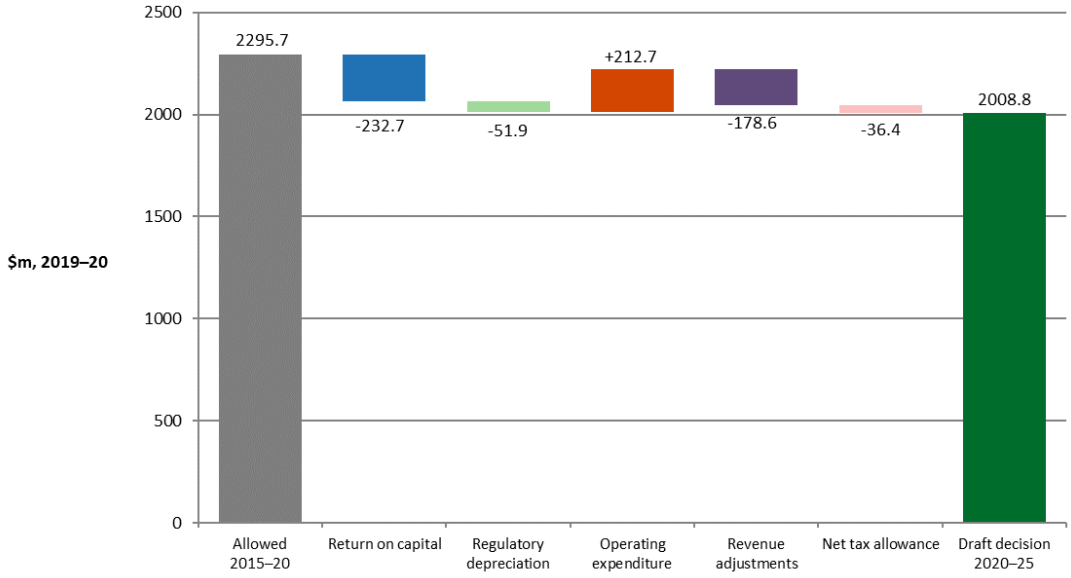
technology, customer connections, augmentation, meter replacement and mains replacement.

- net tax allowance, which is $36.4 million (86.5 per cent) lower than 2015–20, driven by the lower return on equity and higher gamma as per the 2018 rate of return instrument.

Figure 2 also shows that our decision provides for an increase in the building block for:

- opex, which is $212.7 million (24.1 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.

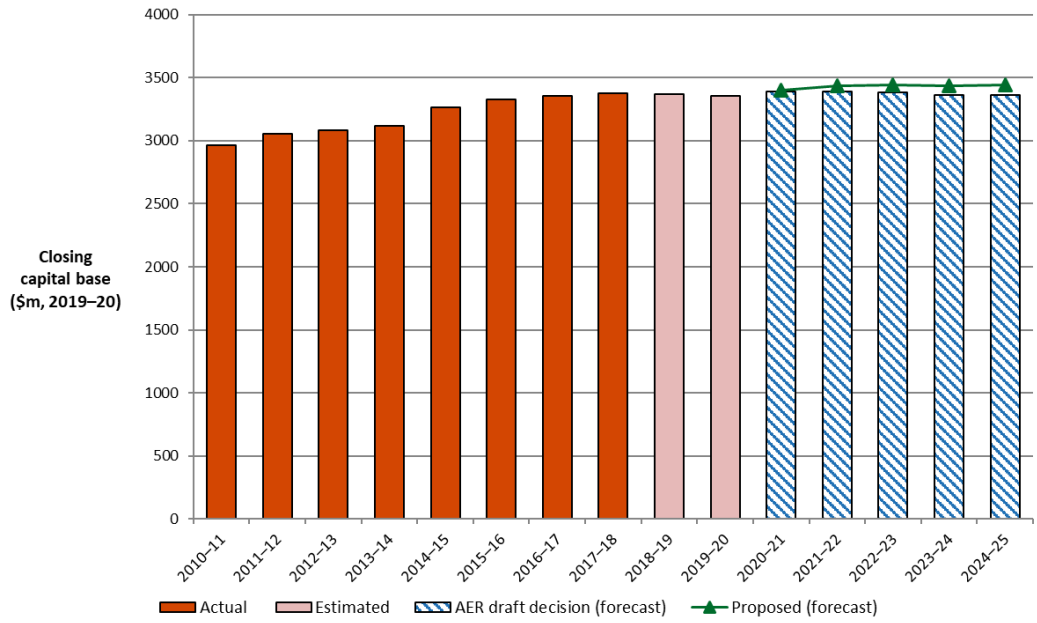
Figure 2 AER's draft decision for the 2020–25 period and JGN's 2015–20 allowed building block costs ($ million, 2019–20)



Source: AER analysis.

Figure 3 compares our draft decision on JGN's forecast capital base, to JGN's actual and proposed forecast capital base. It shows that JGN's capital base is largely stable over the 2020–25 period.

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



Source: AER analysis.

1.3 Key differences between our draft decision and JGN's proposal

JGN proposes total forecast revenue of $2,343.3 million for the 2020–25 period.[32] Our draft decision of $2,157.6 million allows $185.7 million (7.9 per cent) less revenue than JGN seeks to recover through its 2020–25 proposal.

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

The biggest contributor to the difference between our draft decision revenue and JGN's proposal is the current rate of return (and, therefore, the return on capital). Whilst JGN has applied the 2018 rate of return instrument and proposes a 4.96 per cent rate of return, currently the risk free rate and cost of debt is lower than at the time of its proposal, leading to a rate of return of 4.46 per cent. Consequently, the allowance for the return on capital building block is $133.2 million lower compared to JGN's proposal.

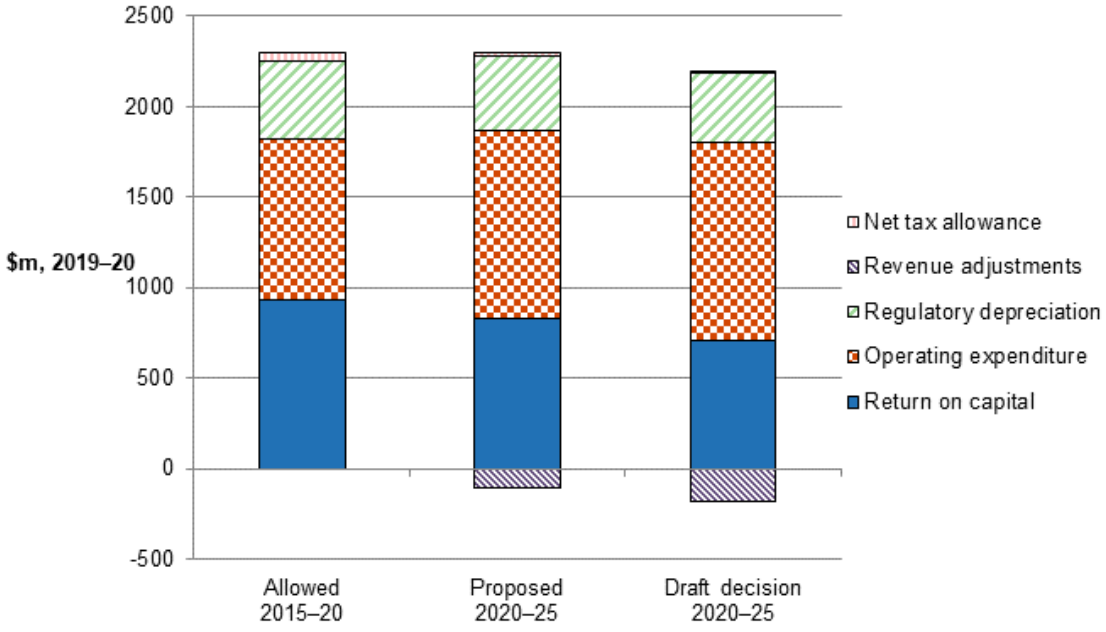
We also consider that JGN has not sufficiently justified the prudency or efficiency of its proposed level of forecast capex. This is due to a combination of insufficient information in JGN's proposal, consultant reviews and our findings. Our substitute net capex forecast of $791.1 million, excluding capital contributions and disposals, is 12.0 per cent lower than JGN's proposal. This leads to a lower projected capital base,

[32] JGN, *Attachment 7.2 - PTRM*, June 2019.

as at 1 July 2025, than JGN's proposal which, in turn, also contributes to lower draft decision revenues through lower return on capital and depreciation building blocks.

Our approach to forecasting opex is largely the same as JGN (applying the 'base–step–trend' approach). However, our alternative opex forecast of $1,096.6 million is 2.1 per cent lower than JGN's amended opex proposal.[33]

Figure 4 AER's draft 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.

[33] After its initial proposal of 28 June 2019, JGN subsequently submitted amended opex proposals on 2 September 2019 and 8 October 2019, which are $1,115.0 million ($2019–20) and $1,120.5 million ($2019–20), respectively. As discussed in Attachment 6 of this decision, we based our alternative estimate on JGN's amended proposal of $1,120.5 million.

JGN's consumer engagement in the preparation of its 2020–25 proposal has been well received by stakeholders. JGN's engagement is bookended by meetings of its Customer Council occurring in September 2017 (to understand and shape the engagement) and May 2019 (to review the updated engagement results).[34] JGN held several engagement sessions with residential and business customers and other stakeholders over the past two years, including customer forums, deliberative forums, study circles, focus groups, data workshops, consumer surveys, as well as consultation on its 2020 Draft Plan. In total, JGN held 43 engagement sessions with customers, across eight coastal and regional NSW locations[35], involving 169 hours of engagement, 333 JGN customers, as well as access to 293 completed online surveys.

For its efforts, in September 2019, Jemena was awarded the Energy Networks Australia (ENA) and Energy Consumers Australia (ECA) 2019 Consumer Engagement Award for its gas networks deliberative forum in NSW, as well as its People's Panel citizens' jury in Victoria.[36]

In its proposal, JGN highlights four key themes that it heard through its engagement with customers:[37]

> "We have heard that affordability is a key issue for our customers and that network businesses have a key role in keeping prices down…
>
> Our customers told us that they value and expect a safe and reliable gas service…
>
> Our customers want us to consider fairness in the context of: our existing and future customers; the service levels that they receive; and the different needs of our diverse customers from across the state…
>
> Our customers told us that they expect us, and other parts of the energy industry, to innovate and plan for the future so that they can continue to use gas in the longer term, as we move to a zero-carbon future."

Our Consumer Challenge Panel (CCP19) submitted the following comments in respect of JGN's consumer engagement in developing its 2020–25 proposal:[38]

> "JGN undertook considerable engagement in advance of its submission of its regulatory proposal to the AER on 28 June 2019.
>
> This stakeholder engagement has included:
>
> - Multiple rounds of deliberative engagement with a broad, representative group of consumers across NSW;
> - Targeted workshops with select groups of consumers – including CALD, over 55s, residential and small business customers;
> - Workshops held entirely in language with both residential and small business customers;

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34 JGN, *JGN 2020–25 Access arrangement proposal, Attachment 2.1 – Overview of our community and stakeholder engagement program,* June 2019, p. 8.

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

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

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

38 CCP19, *Submission to the AER on JGN's regulatory proposal*, August 2019, pp. 5-8.

- Use of Jemena's Customer Council of consumer representatives;
- Public consultation on a Draft Plan;
- Consultation with retailers; and
- Deep dives for consumer representatives on the Draft Plan and on JGN's proposed capital expenditure sharing scheme (CESS)…

Our overall view is that JGN has shown a genuine commitment to consumer engagement and to stakeholder engagement more generally…

We also find it pleasing that the process followed has already enabled differences of view to be discovered and already discussed in JGN's proposal…

JGN's Plan demonstrates how consumer engagement has shaped its proposal."

Energy Consumers Australia (ECA) submitted:[39]

"In our submission to JGN's Draft Plan, we stated that JGN was 'leading the way' in how it engages with consumers. We recognise that its approach to engagement reflects a broader cultural commitment to consider consumers, as we have seen the same dedication applied to its regulated electricity business in its pre-proposal engagement. JGN has taken an innovative approach to listening to the views of its consumers across the state…

JGN has allowed its access arrangement proposal to be influenced by the views gleaned through its direct engagement with consumers, as well as consumer advocate groups and other stakeholders…

JGN has heard from its consumers that affordability is their main concern. In response, it has crafted a proposal and price path that aims to lower costs for consumers and provide a steady network price than can be adjusted to give retailers room to move with the fluctuations in the wholesale gas price…

JGN has proven itself to be a network business with a consumer-focused culture. This is through it signing up to The Energy Charter and actively embedding the principles into its business culture. It is also evidenced in the professional way in which JGN engages with consumer advocates where views on some issues are not always aligned."

The Public Interest Advocacy Group (PIAC) submitted:[40]

"PIAC commends the consumer engagement that Jemena has conducted in the lead up to preparing its initial proposal for the 2020–25 access arrangement...

The discussion of more fundamental topics in a manner that allowed for meaningful and informed input, such as accelerated depreciation, directly with customers through the deliberative forums and with consumer representatives such as PIAC should be commended.

We also note that Jemena has highlighted in its 2020 Plan where and how it has taken stakeholder feedback onboard and made changes to its Plan — demonstrating an open-mindedness and willingness to compromise in the long term interests of consumers.

Not only has this engagement been broad and comprehensive, but it also commenced early…allowing for more fulsome discussion and more meaningful input on all sides."

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[39] ECA, *JGN (NSW) access arrangement 2020–25 proposal, Submission to the AER*, August 2019, pp. 9-10, 20.

[40] PIAC, *Submission to JGN's 2020 plan*, August 2019, p. 4.

Comments from retailers on JGN's consumer engagement were generally positive, but unresolved issues remain in relation to specific aspects of JGN's proposal, such as its reference service agreement. For example:

Origin noted:[41]

> "Origin acknowledge the extensive and comprehensive customer engagement process undertaken by JGN to inform its proposal and the concerted effort to incorporate the long term interest of customers in its forward planning. Origin note also that JGN has been proactive in engaging with retailers in the lead up to this access arrangement and appreciates the opportunity to participate in the early formulation of the proposal."

EnergyAustralia noted:[42]

> "EnergyAustralia applauds the significant efforts JGN has put into consumer engagement. However, we have concerns that the reference service agreement (RSA) is highly unfavourable to retailers, who have the primary relationship with end customers. Several clauses in the RSA appear to be targeted at shifting JGN's liability for ongoing operational issues."

AGL noted:[43]

> "AGL also acknowledges that JGN has significantly improved with its engagement with AGL, as a retailer, prior to the submission of its 2020 Plan to the AER. JGN has held many meetings and discussions with AGL which have been informative. However, the majority of feedback provided by AGL have not been taken into account. AGL continues to have concerns with sections of the RSA which have not been resolved…"

41 Origin, *JGN access arrangement proposal 2020–25,* August 2019, p. 1.

42 EnergyAustralia, *JGN - Access arrangement 2020–25,* August 2019, p. 1.

43 AGL, *JGN Access arrangement 2020–25*, August 2019, p. 2.

2 Reference services and tariffs

This section summarises our 2020–25 draft decision on the services covered by JGN's access arrangement, the reference tariff and reference tariff variation mechanism, and forecast demand.

2.1 Services covered by the access arrangement

The access arrangement must specify the pipeline services JGN proposes to be reference services having regard to the reference service factors.[44] For each reference service, including services ancillary to the reference services, the access arrangement specifies the reference tariff and the other terms and conditions on which these services will be provided.[45]

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.[46]

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:
    - 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
    - providing gas metering equipment at customers' premises and associated services to read the quantity of gas flowing through the gas meters.
- ancillary services.

Our draft decision approves the haulage component of the proposed reference service, with the exception of JGN's boundary metering strategy.[47] We consider JGN should continue to offer individual hot water metering to new high rises in the 2020–25 period as part of its reference service.

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

45 NGR, modified rule 48(1)(e).

46 NGL, Chapter 6.

47 The boundary metering strategy involves JGN's proposal to stop offering hot water meters to individual premises in new high rise buildings, from 1 July 2020, where residents are supplied hot water from a centralised hot water system.

Subject to greater clarification about the wasted visit charge,[48] we also approve the ancillary services JGN proposes for the 2020–25 access arrangement as part of its reference service, which are:

- hourly charge — non-standard user initiated requests and queries
- disconnection (and reconnection) — volume customer delivery points
- abolishment
- special meter reads
- expedited reconnections.

2.2 Reference tariff setting and reference tariff variation mechanism

Our draft 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).

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 draft decision is to approve JGN's proposed structure of reference tariffs for the 2020–25 period.

Our draft decision also updates the cost pass through events that will apply to JGN in the 2020–25 period. This aligns the treatment of common risks between JGN and our recent decisions.

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
- 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. Our draft decision is to approve JGN's proposal, with minor changes to the automatic adjustment factor component of

[48] JGN will charge a 'wasted visit charge' to customers who request either the 'Disconnections/Reconnections' and 'Special meter reads' services, but do not provide safe access for JGN to complete the works. We discuss the clarifications we require in Attachment 1 of this draft decision.

the control mechanism formula. We consider that the tariff variation mechanism should not include provision for an automatic adjustment to annual licence fees. We have also revised JGN's proposed initial reference tariffs to reflect changes to the forecast total revenue identified in section 3 of this Overview.

2.3 Forecast demand

Under a weighted average price cap, demand is an important input into the derivation of JGN's reference tariffs. In simple terms, tariffs are determined by dividing cost (as reflected in 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.

Our draft decision principally accepts JGN's demand forecasts for residential, small commercial, and industrial customers, pending further clarifications and updates to the latest source data.[49]

JGN's demand forecasts represent:

- an increase in total residential gas demand of 0.90 per cent per year over the 2020–25 period, which is lower than the 1.34 per cent per year increase for the 2015–20 period. This is due to forecast reductions in consumption per connection of 0.55 per cent per year being offset by net customer growth of 1.45 per cent per year.[50]
- an increase in total small commercial demand of 0.38 per cent per year over the 2020–25 period, which is higher than the 1.12 per cent per year decrease for the 2015–20 period. This is due to a forecast reduction of 0.96 per cent per year in consumption per connection, and an increase of 1.34 per cent per year in commercial net connections.[51]
- a reduction in industrial demand of 2.18 per cent per year for the maximum daily quantity (MDQ) and 2.12 per cent per year for the annual quantity demand (ACQ) over the 2020–25 period, compared to reductions of 3.54 and 2.08 per cent per year, respectively, over the 2015–20 period.

Given the potential impact to customer numbers and the flow-on to price calculations, we seek further clarification from JGN on zero consuming meters.[52]

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[49] Not accepting the volume boundary metering strategy has a slight impact on the customer and demand forecast model for residential connections. The impacts are discussed in Attachments 1 and 12 of this draft decision.

[50] This compares to a reduction in consumption per connection of 1.25 per cent per year and a growth in net customer connections of 2.64 per cent in the current period.

[51] This compares to a reduction in consumption per connection of 2.59 per cent per year and a growth in net customer connections of 1.51 per cent in the current period.

[52] See Attachment 12.

3 Total revenue requirement

The total revenue requirement is a forecast of the efficient cost of providing gas distribution services over the access arrangement 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 draft 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.[53] Tariffs are adjusted each year using 'X factors' — the percentage changes in real weighted average tariffs from year-to-year — as explained further 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. The building block costs, as shown in Figure 5, include:[54]

- return on the projected capital base (or return on capital) — to compensate investors for the opportunity cost of funds invested in the business[55]
- depreciation of the projected capital base (or return of capital) — to return the initial investment to investors over time[56]
- 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.

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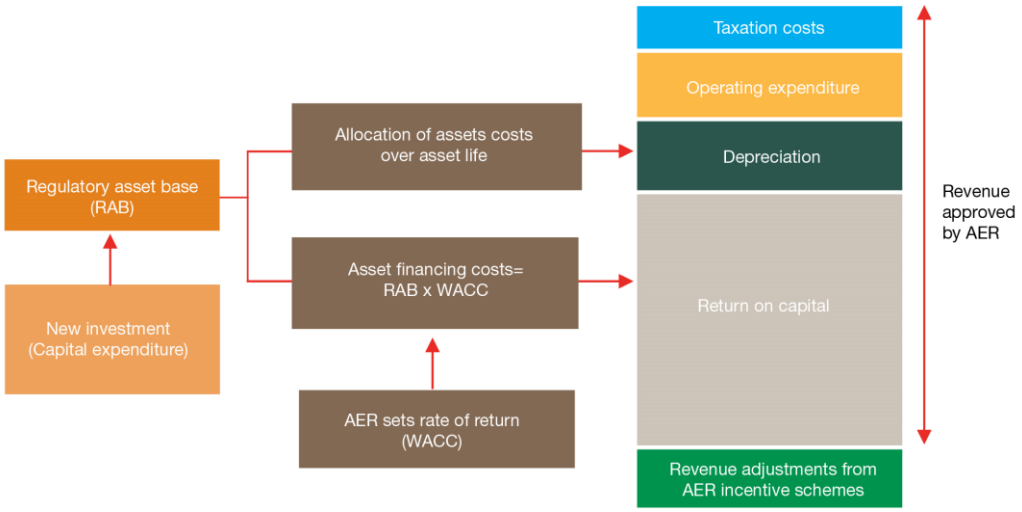
53 Where actual demand across the 2020–25 access arrangement period varies from the demand forecast in the access arrangement, JGN's actual revenue will vary from the revenue allowance determined in our decision. In general, if actual demand is above forecast demand, JGN's actual revenue will be above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

54 NGR, r. 76.

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

56 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 following section summarises our draft decision, by building block, and provides our high level reasons and analysis.

3.2 Draft decision on total revenue

Our draft decision sets out a number of amendments to the building block inputs making up JGN's proposal for a total revenue requirement (smoothed) of $2,343.3 million ($ nominal). We expand on these in section 4.

Based on our assessment of the building block costs,[57] our draft decision determines a lower smoothed total revenue requirement of $2,157.6 million ($ nominal).[58]

It follows that our draft decision requires amendments to the 2020–21 tariffs set out in JGN's proposal, which is for a reduction in real tariffs of 13.3 per cent. We also require consequential amendments to JGN's proposed 2020–25 tariff path, which is for a reduction in real tariffs of 5.0 per cent in 2021–22 and 2022–23, followed by increases in real tariffs of 3.4 per cent in 2023–24 and 2024–25.

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

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

As a result of our lower total revenue requirement, our draft decision is for a larger real decrease in weighted average tariffs of 26.3 per cent in 2020–21, followed by small real increases of 1.3 per cent in each of the remaining years of the 2020–25 period. Section 3.3 expands on our approach to revenue smoothing and tariffs.

Table 2 sets out our draft 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 draft 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	149.5	151.5	152.0	151.7	151.0	755.6
Regulatory depreciation	70.3	79.8	86.4	95.0	79.9	411.4
Operating expenditure	212.4	228.8	239.7	245.0	255.0	1,181.0
Revenue adjustments	–178.0	–9.2	5.3	0.0	–1.2	–183.1
Net tax allowance	0.4	1.1	1.9	2.5	0.2	6.1
Building block revenue – unsmoothed	**254.7**	**452.0**	**485.3**	**494.2**	**484.9**	**2,171.1**
Building block revenue – smoothed	**394.0**	**412.3**	**431.0**	**450.1**	**470.2**	**2,157.6**
X factors[a]	26.26%	–1.25%	–1.25%	–1.25%	–1.25%	n/a
Inflation forecast	2.45%	2.45%	2.45%	2.45%	2.45%	n/a
Nominal price change[b]	–24.45%	3.73%	3.73%	3.73%	3.73%	n/a

Source: AER analysis.

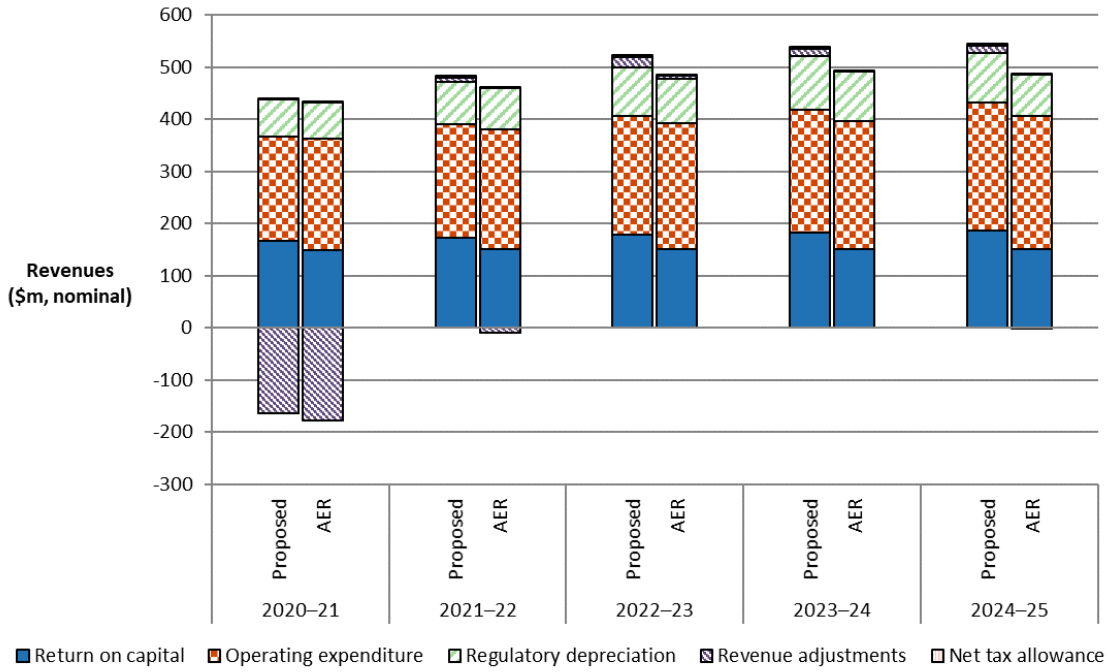
n/a: not applicable.

(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 draft 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 form of control is [(1+CPI)*(1–X factor)] – 1.

Figure 6 shows the effect of our draft 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 decision and JGN's 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 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.[59]

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.[60] 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 the average prices paid by consumers, and therefore the revenues received by the network business, change with the X factor plus actual inflation.[61]

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

[60] See Attachment 10 for information on the mechanics of the tariff variation mechanism.

[61] 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 draft decision includes $169.1 million being returned to customers over the 2020–25 period as a result of the 2015–20 remittal outcome for JGN.

JGN's proposed forecast revenue path provides for decreases over 2020–23, and then increases over 2023–25, resulting in price fluctuations across the 2020–25 period. This results in a 7.1 per cent divergence between smoothed and unsmoothed revenues for 2024–25. For the reasons discussed in Appendix A of this Overview, we have concerns that the size of this difference may not be consistent with minimising the final year revenue divergence and that it is greater than our usual target limit of 3 per cent.

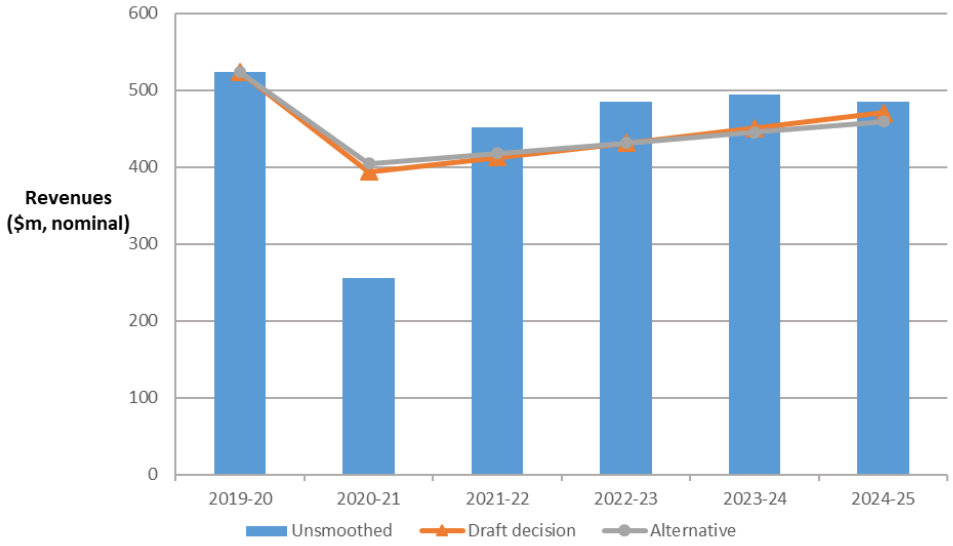
Consistent with JGN's proposal, our draft decision adopts the remittal amount, but returns a larger portion of it to customers in the first year, with the remainder smoothed over the remaining four years of the 2020–25 period. Our smoothing profile results in a 3 per cent difference between smoothed and unsmoothed revenues for 2024–25.

The profile of unsmoothed building block revenues, including the amount being returned to JGN's customers as a result of the remittal decision, has constrained our ability to smooth the revenues without causing significant tariff volatility. Working with these constraints, our draft decision is to give primary weight to smoothing tariffs within the 2020–25 period, while minimising the final year smoothed/unsmoothed revenue divergence. We note that if there are significant changes in costs at the start of the subsequent (2025–30) access arrangement period, this might affect the required tariff change at that time. We are satisfied that our draft decision tariff path reflects our balanced consideration of these competing objectives. We will review this smoothing profile for the final decision, if necessary.

An alternative smoothed revenue path, consisting of an initial reduction to tariffs of 24.5 per cent and zero X factors across 2021–2025, could result in a flatter profile of tariffs across the 2020–25 period. However, this path would result in a final year divergence of 5.3 per cent. We are open to receiving further feedback on this issue for the final decision.

Figure 7 shows the real revenue path adopted in this draft decision, and the alternative revenue path described above. It is important to note that both paths give identical revenues over the 2020–25 period in NPV terms.

Figure 7 AER's draft decision and alternative smoothed revenue paths ($ million, nominal)



Source: AER analysis; JGN, *IR30 – PTRM,* September 2019.

Table 3 presents our draft decision X factors, and compares them to JGN's proposal.

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

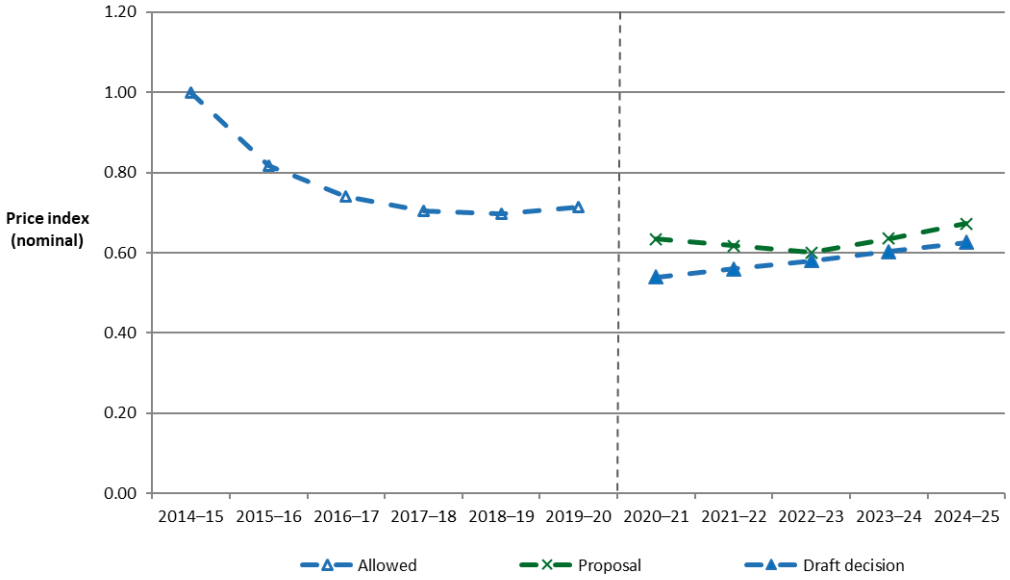
	2020–21	2021–22	2022–23	2023–24	2024–25
AER's draft decision					
X factor[a]	26.26%	–1.25%	–1.25%	–1.25%	–1.25%
Nominal price change	–24.45%	3.73%	3.73%	3.73%	3.73%
JGN's proposal					
X factor[a]	13.28%	5.00%	5.00%	–3.35%	–3.35%
Nominal price change	–11.18%	–2.70%	–2.70%	5.86%	5.86%

Source: JGN, *IR030 – PTRM*, September 2019; AER analysis.

(a) Under the CPI–X form of control, a positive X factor is a decrease in price (and, therefore, in revenue). For example, a positive X factor of 5.00 per cent in 2021–22, as proposed by JGN, means a real price decrease of 5.00 per cent that year. After consideration of inflation, this becomes a nominal price decrease of 2.70 per cent.

Figure 8 shows indicative tariff paths for JGN's reference services across the 2020–25 period. It compares JGN's proposed tariff path with that approved previously for the 2015–20 period, and with this draft decision.[62] This provides a broad, overall indication of the average movement in tariffs across the 2020–25 period.

Figure 8 Indicative reference tariff paths for JGN's reference services from 2015 to 2025 (nominal index)



Source: AER analysis; AER, *Final decision JGN – PTRM*, 28 February 2019, JGN, *IR30 – PTRM,* September 2019.

JGN's proposed tariff path for 2020–25 suggests an initial decrease of 11.2 per cent ($ nominal) in 2020–21, followed by tariffs that decrease by 2.7 per cent for 2021–22 and 2022–23, and then increase by 5.9 per cent for 2023–24 and 2024–25.[63]

Our 2020–25 draft decision provides for lower forecast smoothed revenue than JGN's proposal, in line with our amendments to total unsmoothed revenue. As such, a decrease of 24.5 per cent to tariffs is required at the start of the 2020–25 period, followed by increases of 3.7 per cent in each of the remaining four years of the period (including expected inflation).

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

[63] JGN's proposed nominal tariff path reflects its proposed expected inflation of 2.42 per cent.

4 Key elements of our draft decision on revenue

The components of our draft 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 draft 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 within an access arrangement period, 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 customer contributions). Following this process, we also arrive at a closing value of the capital base at the end of each regulatory year of an access arrangement period.

We are required to make a decision on JGN's opening capital base as at 1 July 2020 for the 2020–25 period, and JGN's projected capital base for the 2020–25 period.

We accept JGN's proposed opening capital base of $3,352.7 million ($ nominal) as at 1 July 2020.[64] In accepting JGN's proposed methodology for calculating the capital base, we have updated the WACC input for 2019–20 in its roll forward model (RFM) to be consistent with the value in the 2015–20 JGN remittal post-tax revenue model (PTRM). This did not have a big impact on JGN's proposed opening capital base.[65]

To determine the opening capital base as at 1 July 2020, we rolled forward the capital base over the 2015–20 period to determine a closing capital base value 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.[66]

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64 JGN, *Attachment 7.3 – RFM*, June 2019.

65 Compared to JGN's proposal, our decision increases the opening capital base as at 1 July 2020 by $6,440.

66 The end of period adjustment will be positive (negative) if actual capex is higher (lower) than the estimate approved at the 2015–20 decision.

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

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

	2015–16	2016–17	2017–18	2018–19[a]	2019–20[b]
Opening capital base	2,980.2	3,091.7	3,162.0	3,240.0	3,294.6
Net capex[c]	203.7	181.9	189.9	181.2	201.1
Indexation of capital base[d]	52.0	47.0	62.2	59.4	76.4
Less: straight-line depreciation[e]	144.2	158.6	174.0	186.1	173.3
Closing capital base	3,091.7	3,162.0	3,240.0	3,294.6	3,398.7
Adjustment for 2014–15 capex[f]					–46.0
Opening capital base as at 1 July 2020					**3,352.7**

Source: AER analysis.

(a) Based on estimated capex. We will update the capital base roll forward for actual capex in the final decision.

(b) Based on estimated capex provided by JGN. We expect to update the capital base roll forward with a revised capex estimate in the final decision, and true-up the capital base for actual capex at the next review.

(c) Net of disposals and capital contributions, and adjusted for actual consumer price index (CPI)

(d) We will update the capital base roll forward for actual CPI for 2019–20 in the final decision.

(e) Adjusted for actual CPI. Based on forecast capex.

(f) This adjustment accounts for the difference between actual 2014–15 capex and the estimate approved in the 2015–20 decision.

We determine a projected closing capital base of $3,793.9 million ($ nominal) as at 30 June 2025. This is $88.8 million lower than JGN's proposed closing capital base of $3,882.7 million.[67] Our draft decision reflects the updated opening capital base as at 1 July 2020, and our draft decision on the expected inflation rate, forecast depreciation and forecast capex (see Attachments 3, 4 and 5, respectively).[68]

[67] JGN, *Attachment 7.2 – PTRM*, June 2019.

[68] Capex enters the capital base net of forecast disposals. It includes equity raising costs (where relevant) and the half-year WACC to account for the timing assumptions in the PTRM. Therefore, our decision on the forecast capital base also reflects our amendments to the rate of return for the 2020–25 period (Attachment 3).

Attachment 2 sets out detailed reasons for our draft 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 draft 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	3,352.7	3,470.9	3,560.0	3,633.4	3,700.4
Net capex[a]	188.5	168.8	159.9	162.0	173.4
Indexation of opening capital base	82.1	85.0	87.2	89.0	90.7
Less: straight-line depreciation	152.4	164.8	173.6	184.0	170.6
Closing capital base	**3,470.9**	**3,560.0**	**3,633.4**	**3,700.4**	**3,793.9**

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 and value of imputation credits

The return each business is to receive on its capital base (the 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.

We estimate the rate of return by combining the returns of two sources of funds for investment: equity and debt. The allowed rate of return provides the business with a return on capital to service the interest rate on its loans and give a return on equity to investors. An accurate estimate of 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 have applied the 2018 rate of return instrument (2018 instrument) and estimate a placeholder allowed rate of return of 4.46 per cent (nominal vanilla), which will be updated for our final decision on the averaging periods.[69] JGN's proposal adopts the 2018 instrument.[70]

[69] See https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/rate-of-return-guideline2018/final-decision. The legislative amendments to replace the (previous) non-binding Rate of Return Guidelines with a binding legislative instrument were passed by the South Australian Parliament in December 2018. See, Statutes Amendment (National Energy Laws) (Binding Rate of Return Instrument) Act 2018 (SA). NGL, Chapter 2, Part 1, division 1A; NEL, Part 3, division 1B.

Our calculated 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 to use a 10-year trailing average portfolio return on debt that is rolled forward each year. Our draft decision accepts JGN's proposed risk free rate[71] and debt averaging periods because they satisfied the 2018 instrument.[72]

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

	Previous access arrangement period (2015–20)	JGN's Proposal (2020–25)	AER's draft decision (2020–25)	Allowed return over the access arrangement period
Nominal risk free rate	2.53%	1.96%	0.94%[a]	
Market risk premium	6.5%	6.1%	6.1%	
Equity beta	0.7	0.6	0.6	
Return on equity (nominal post–tax)	7.1%	5.62%	4.60%	Constant (%)
Return on debt (nominal pre–tax)	4.27%[b]	4.52%	4.36%	Updated annually
Gearing	60%	60%	60%	Constant (60%)
Nominal vanilla WACC	5.40% [b]	4.96%	4.46%	Updated annually for return on debt
Expected inflation	2.55%	2.42%	2.45%	Constant (%)

Source: AER analysis.

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

[b] Applies to the first year of the 2015–20 access arrangement period.

Debt and equity raising costs

In addition to providing 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) and equity raising costs in the capex forecast (because these costs are incurred once and would be associated with funding the particular capital investments). JGN's

70 JGN, *2020–25 Access Arrangement Proposal - Attachment 7.7*, June 2019, p. 6.

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

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

proposal adopts our standard approach for estimating equity and debt raising costs.[73] On this basis, we have set total debt raising costs of $5.59 million ($2019–20) and zero equity raising costs for this decision.

Imputation credits

Our draft decision applies an imputation credits ('gamma') value of 0.585, as per the binding 2018 instrument. JGN's proposal adopts the 2018 instrument for gamma.[74]

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:[75]

- depreciation on the projected capital base
- depreciation schedule, which sets out the basis on which the depreciation is calculated.

Attachment 5 outlines our draft decision on JGN's annual regulatory depreciation allowance for the 2020–25 period. It also outlines our consideration of specific matters that affect the estimate of regulatory depreciation, including the:

- standard asset lives for depreciating new assets associated with forecast capex[76]
- year-by-year tracking approach to depreciating assets in the capital base
- proposed accelerated depreciation for existing pigging and inspection costs.

We do not approve JGN's proposal for regulatory depreciation, and instead determine an amount of $411.4 million over the 2020–25 period, as set out in Table 7.[77] This amount is $30.8 million (7.0 per cent) less than JGN's proposal.

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[73] JGN, *2020–25 Access Arrangement Proposal - Attachment 7.7*, June 2019, p. 10; see also CEG, *Debt transaction costs and PTRM timing benefits*, June 2019 (Attachment 6.6 to the JGN proposal).

[74] JGN, *2020–25 Access Arrangement Proposal - Attachment 7.7*, June 2019, p. 6.

[75] NGR, rr. 59, 72, 76, 88, 89.

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

[77] Regulatory depreciation is real straight-line depreciation *less* inflation on the capital base.

Table 7 AER's draft 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	152.4	164.8	173.6	184.0	170.6	845.5
Less: indexation on opening capital base	82.1	85.0	87.2	89.0	90.7	434.1
Regulatory depreciation	**70.3**	**79.8**	**86.4**	**95.0**	**79.9**	**411.4**

Our draft decision is to accept the following aspects of JGN's proposal which are relevant to the calculation of the regulatory depreciation allowance for the 2020–25 period. Specifically, we accept:

- JGN's proposed method to calculate the regulatory depreciation allowance, which is straight-line depreciation less annual inflation indexation on the projected capital base, as set out in JGN's proposed PTRM
- JGN's proposed standard asset life of 15 years (reduced from 20 years) for the 'Meters'[78] and 'Meter reading devices' asset classes
- JGN's proposal to use the year-by-year tracking method to calculate real straight-line depreciation for its existing assets. We have previously considered, and approved, this method in our decisions for other regulated businesses. However, we identified and corrected some errors in JGN's application of the year-by-year tracking method in its depreciation model. Specifically, we:
    - applied the depreciation approach based on actual capex for the 2015–20 period
    - amended the 2018–20 real WACC input to be consistent with the update we made in the RFM for rolling forward the capital base as at 1 July 2020.
- JGN's proposal for accelerated depreciation of the remaining value of existing pigging costs as at 1 July 2020, however we reduced the proposed amount to $14.8 million (from $16.5 million).

The majority of the reduction to JGN's proposal for the regulatory depreciation allowance is due to our draft decision on JGN's proposal for shorter standard asset lives for its pipeline asset classes. This is discussed further below.

Our decision on the proposed forecast capex also made a material contribution to the lower regulatory depreciation allowance. The lower forecast capex reduces the projected capital base over the 2020–25 period, resulting in lower forecast depreciation of the projected capital base. Our draft decision on capex is discussed in section 4.4.

[78] This relates to the 'Contract meters' and 'Tariff meters' asset classes.

We made decisions on other components of JGN's proposal which also affect the regulatory depreciation allowance, including the opening capital base as at 1 July 2020 (see section 4.1) and the expected inflation rate (see section 4.2).

Reduction to standard asset lives

JGN proposed a reduction to the current standard asset lives for several asset classes associated with its pipelines and metering assets. The proposed reductions to the asset lives would only affect the depreciation amount calculated on new capex incurred during the 2020–25 period. We note that these asset classes contain about 81 per cent of the total proposed forecast capex for the 2020–25 period. JGN has kept the depreciation profile of the capital base as at 1 July 2020 unchanged for the purpose of forecasting the depreciation allowance associated with the existing assets in its capital base. That is, JGN has continued to depreciate the existing assets using the approved asset lives for the 2015–20 period.

JGN has undertaken significant customer engagement to inform its 2020–25 proposal. JGN stated that most customer forum participants supported its proposal to shorten the standard asset lives.[79] However, whilst we recognise JGN's customer engagement, we must make our decision on JGN's proposal on the basis of all relevant evidence and submissions. We also assess the appropriateness of the proposal against the requirements of the NGR, taking into account the NGO, and revenue and pricing principles (RPP). JGN's proposal to reduce the standard asset lives rests substantially on forecasts as to likely future outcomes. In this regard, we note that the NGR requires that forecasts must be arrived at a reasonable basis, and must represent the best forecast or estimate possible.[80] Therefore, outcomes from JGN's customer engagement program do not remove our obligation to decide these matters on the basis of evidence, using the best forecasts available to us.

Our draft decision is to accept JGN's proposal for a standard asset life of 15 years (reduced from 20 years) for 'Meters'[81] and 'Meter reading devices' asset classes. We consider JGN's proposal reflects the expected economic life of the assets allocated to these asset classes. Also, the proposed standard asset life is better aligned with those applied by other gas distributors for similar asset classes. Therefore, we are satisfied that the proposed standard asset life for these metering assets would result in a depreciation schedule which would meet the depreciation criteria required by the NGR.

We do not accept JGN's proposal for reductions to the standard asset lives for the 'Trunks'[82], 'HP mains', 'MP mains' and 'MP services' (pipeline) asset classes. We have considered the issues raised by JGN that may affect the economic lives of its pipeline

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79 JGN, *Attachment 7.10 – Proposed changes to asset lives for new investments*, June 2019, pp. 15-17.

80 NGR, r. 74(2).

81 This relates to the 'Contract meters' and 'Tariff meters' asset classes.

82 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 period.

assets, including the forecast short term declining gas usage trend, AEMO's forecast gas supply shortfall and the NSW Government's planned 2050 carbon neutral target. We do not consider there is sufficient evidence to conclude that these issues will result in the utilisation of JGN's network significantly declining. In our view, the assumption that these issues have reduced the expected economic life of JGN's assets is speculative at this point in time and has not been adequately established by evidence-based forecasts. While there is still much uncertainty about the viability of hydrogen gas at this stage, we consider the introduction of hydrogen gas could have a substantial positive impact on the future of gas distribution networks.

Therefore, on balance, we are not satisfied that JGN's proposed standard asset lives for its pipeline asset classes would result in a depreciation schedule which would meet the depreciation criteria required by the NGR. Specifically, we consider that the proposed standard asset lives would result in a depreciation schedule that:[83]

- would not be depreciated over the economic life of JGN's asset classes.[84] This is because the proposed reductions to the standard asset lives do not reflect the expected economic lives of the assets associated with these asset classes. We consider that there is not sufficient evidence that the economic lives of the assets allocated to these asset classes would be significantly shorter than their intended technical lives. Therefore, the depreciation schedule for these asset classes should not be adjusted.[85]
- would not lead to tariffs varying, over time, in a way that promotes efficient growth in the market for reference services.[86] This is because there is insufficient evidence that the proposed shorter standard asset lives would reflect the expected economic lives of these assets. As the proposed reduction to the standard asset lives would accelerate the depreciation of these assets, this will result in network tariffs being set above the efficient cost for providing reference tariffs in the 2020–25 period, potentially resulting in inefficient utilisation, investment and asset management incentives.

Further, we are not satisfied that the proposed reductions to the standard asset lives will promote the long term interests of consumers, as it will result in an inefficient tariff path. We are also not satisfied that the proposed asset life reductions will promote efficient investment in, provision of or use of pipeline services, or that it appropriately addresses the costs and risks of the potential for under- or over-investment or use of pipelines. We therefore do not consider the proposed standard asset lives for these assets will contribute to the achievement of the NGO.

For this 2020–25 draft decision, we have maintained the current standard asset lives as applied for the 2015–20 period for JGN's pipeline asset classes. We consider that

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83 These considerations are connected to our conclusions as to the forecast economic lives of these assets.

84 NGR, r. 89(1)(b).

85 NGR, r. 89(1)(c).

86 NGR, r. 89(1)(a).

our draft decision is consistent with the NGR's depreciation criteria and is in the long term interests of consumers, in accordance with the NGO and RPP.

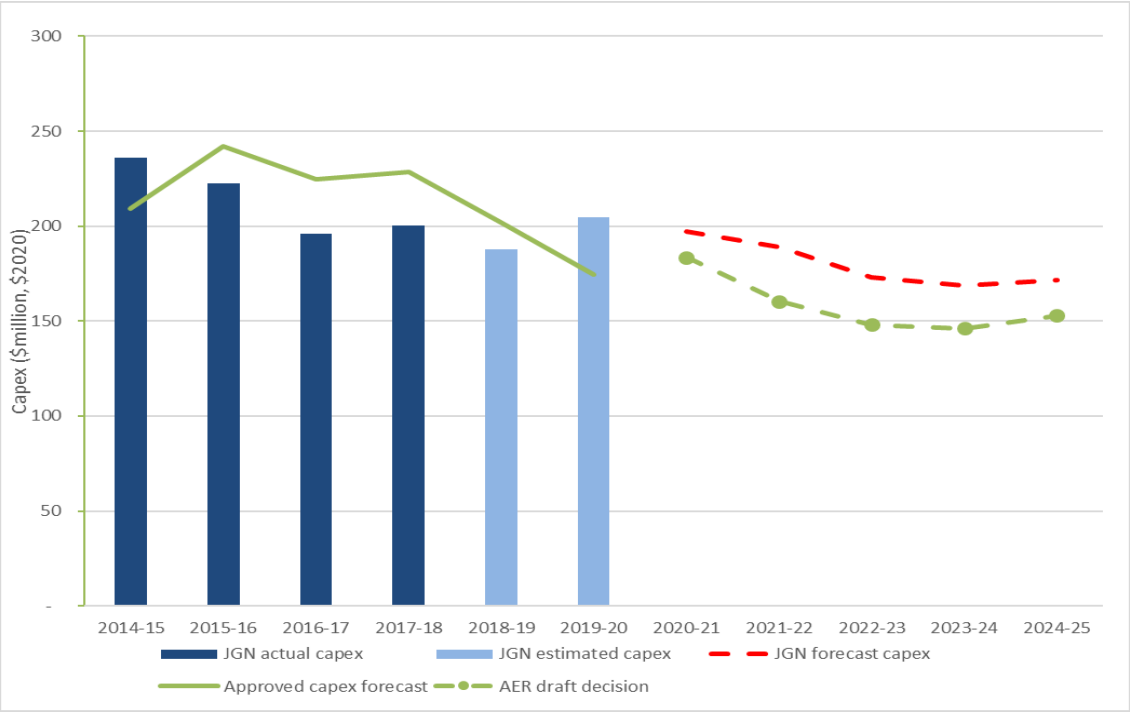
4.4 Capital expenditure

Capital expenditure (capex) refers to the capital costs and expenditure incurred in the provision of pipeline services.[87] 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 draft decision includes an assessment of JGN's actual capex in the 2015–20 period (which forms part of its opening capital base)[88] and its forecast capex for the 2020–25 period (which forms part of its projected capital base).[89]

Figure 9 compares JGN's past and proposed forecast capex, and the forecasts approved by us in our previous 2015–20 decision and this 2020–25 draft decision.

Figure 9 AER's draft decision compared to JGN's past and proposed capex ($ million, 2019–20)



Source: AER analysis.

[87] NGR, r. 69.
[88] NGR, r. 77.
[89] NGR, r. 78(b)

4.4.1 Conforming capex for the 2015–20 period

JGN expects to spend less than the 2015–20 period net capex allowance overall, but notes over-spends on connections (42.9 per cent), overheads (21.5 per cent) and other capex (2.6 per cent) contemplated in our 2015–20 decision.

We approve $854.6 million ($2019–20) of total net capex for JGN as conforming capex under the NGR.[90] We will review JGN's actual capex for 2018–19 in our 2020–25 final decision, and 2019–20 as part of our review of JGN's 2025–30 access arrangement.

Given the apparent inconsistencies between actual and allowance amounts in the current and previous access arrangement periods, further clarification on capitalised overheads is sought from JGN.

4.4.2 Conforming capex for the 2020–25 period

JGN proposes forecast net capex of $899.5 million ($2019–20) for the 2020–25 period, which is $111.3 million (11.0 per cent) lower than its actual net capex for the 2015–20 period.[91] This comparison is skewed by the transfer of all corporate overheads and pigging costs from capex to opex in the 2020–25 period. If corporate overheads and pigging costs are added back in for a like-for-like comparison, the 2020–25 period is $27.9 million (2.8 per cent) lower than JGN's actual net capex for the 2015–20 period.

Our draft decision for the 2020–25 period approves forecast net capex of $791.1 million ($2019–20), which is $108.4 million (12.0 per cent) less than proposed.

Table 8 compares our 2020–25 draft decision for forecast capex to JGN's proposal. Key differences relate to:

- information technology (IT) — Our draft decision includes $73.3 million for IT capex, which is $33.9 million (31.6 per cent) less than proposed. We require further justification of the IT program to enable us to form the view it is conforming capex.
- connections — Our draft decision includes $363.9 million of connections capex, which is $23.7 million (6.1 per cent) less than proposed. JGN did not adjust historical data to reflect current circumstances and outliers when calculating unit rates for the 2020–25 period, which we have accounted for in our draft decision.
- augmentation — Our draft decision includes $47.6 million for augmentation capex, which is $13.2 million (21.7 per cent) less than proposed. JGN did not adequately demonstrate that its proposed expenditure of $15.2 million relating to the Aerotropolis is conforming capex. Our draft decision allows $2.1 million for JGN to facilitate further planning and design until the project's scope is more certain. We

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

[91] JGN's capex for 2018-19 and 2019-20 is based on an estimate only.

have also excluded $8.8 million of connections capex in relation to this development for the same reason.

- meter replacement – Our draft decision includes $105.7 million for meter replacement capex, which is $12.3 million (10.4 per cent) less than proposed, by extending the life of some meter families.
- mains replacement – Our draft decision includes $36.2 million for mains replacement capex, which is $8.5 million (19.1 per cent) less than proposed, by the deferral of one project.

Table 8 AER's draft decision and JGN's proposal for forecast capex for the 2020–25 period ($ million, 2019–20)

Category	JGN's Proposal	AER's Draft Decision	Difference
Connections	387.5	363.9	23.7
Meter Replacement	118.0	105.7	12.3
Facilities and Pipes	72.2	63.2	9.0
Information Technology (IT)	107.2	73.3	33.9
Augmentation	60.8	47.6	13.2
Mains Replacement	44.8	36.2	8.5
Other	34.3	30.1	4.2
Overheads	88.1	84.0	4.1
Gross total capex	**912.8**	**804.0**	**108.8**
Contribution	13.4	12.9	0.4
Net total capex	**899.5**	**791.1**	**108.4**

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 draft decision is not to accept JGN's amended total opex forecast of $1,120.5 million ($2019–20), including debt raising costs, as submitted to us on 8 October 2019.[92] JGN's proposal initially included forecast total opex of

[92] JGN, *Response to AER information request 44*, 8 October 2019.

$1,045.9 million, including debt raising costs.[93] We are not satisfied JGN's forecast opex meets the opex criteria[94] and the requirements for forecasts and estimates.[95]

We consider that our alternative estimate of total opex of $1,096.6 million, including debt raising costs, meets the opex criteria, subject to it being updated to incorporate:

- the outcome of our review of the additional information we request JGN include in its revised proposal regarding its demand forecasts[96]
- the most up-to-date cost of replacement gas for forecasting the unaccounted for gas (UAG) allowance, which we request JGN include in its revised proposal.[97]

Our alternative estimate of total opex is $23.8 million (2.1 per cent) lower than JGN's amended total opex forecast of $1,120.5 million, including debt raising costs.[98]

Table 9 sets out our draft decision alternative estimate and JGN's amended total opex forecast for the 2020–25 period. Key differences are we have:

- used a more recent inflation forecast from the Reserve Bank of Australia[99]
- forecast lower input price growth rate compared to that proposed by JGN. We have forecast labour price growth using only Deloitte Access Economics' (Deloitte) forecasts.[100] This is a change to our previous approach of averaging the forecasts from Deloitte and the business' consultant (generally BIS Oxford Economics). It reflects our analysis that over the 2007–18 period, Deloitte's real Wage Price Index (WPI) growth forecasts have been more accurate
- forecast lower output growth. We have updated our forecasts of customer numbers and mains length to reflect our draft decision on JGN's forecasts of capex and demand, which we discuss in Attachments 5 and 12, respectively.

93 JGN, *Jemena Gas Networks 2020 Plan*, June 2019, p. 72.
94 NGR, r. 91.
95 NGR, r. 74.
96 See Attachment 12 of this draft decision.
97 See Attachment 6 of this draft decision.
98 JGN, *Response to AER information request 44*, 8 October 2019.
99 Reserve Bank of Australia, *Statement on Monetary Policy—Appendix: Forecast*, August 2019.
100 Deloitte Access Economics, *Labour price growth forecasts prepared for the AER*, 24 June 2019.

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

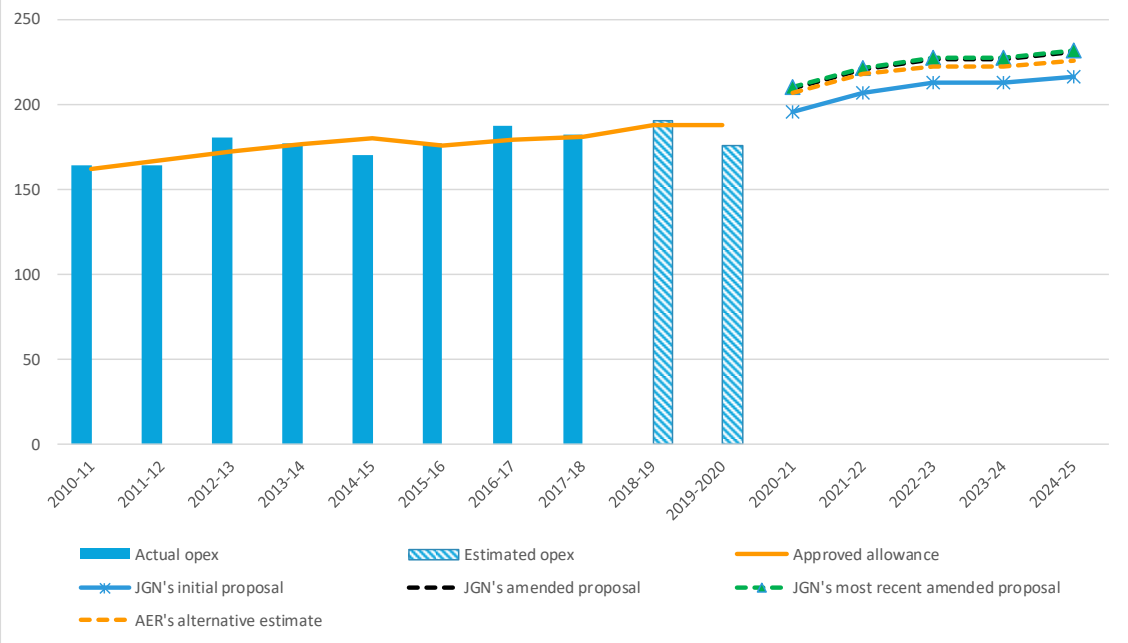
	2020–21	2021–22	2022–23	2023–24	2024–25	Total
AER's draft decision	207.4	218.0	222.9	222.4	225.9	1,096.6
JGN's proposal	210.6	221.9	227.8	228.1	232.1	1,120.5
Difference	-3.2	-3.9	-4.9	-5.7	-6.2	-23.8

Source: JGN, *Response to AER Information request IR044 – opex model,* 8 October 2019; AER analysis.

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

Figure 10 below shows our opex draft decision (discussed further in Attachment 6) and JGN's proposal in the context of its past allowances and actual expenditure.

Figure 10 AER's draft decision compared to JGN's past and proposed opex for the 2020–25 period ($ 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, *Response to AER Information request IR044 – opex model,* 8 October 2019; JGN, *Response to AER Information request IR021 – opex model,* 2 September 2019; 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 draft 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.

JGN appealed our June 2015 decision on its revenue allowance for the 2015–20 period. The Australian Competition Tribunal set aside our decision and directed us to remake it. We published our remade decision in February 2019.[101]

Our remade 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 its customers, 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.

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 draft decision is to approve a carryover amount totalling –$9.9 million ($2019–20) from application of the ECM in the 2015–20 period. Although this amount is $71.7 million less than JGN initially proposed, it is $0.7 million higher than the amount it proposed in the amended ECM model it submitted to us on 8 October 2019 in response to our feedback. Table 10 shows our draft decision on the carryover amounts JGN accrued during the 2015–20 period.

Table 10 AER's draft decision on carryover amounts compared to JGN's proposal for the 2020–25 period ($ million, 2019–20)

	2020–21	2021–22	2022–23	2023–24	2024–25	Total
AER's draft decision	–5.0	–8.7	4.9	–	–1.1	–9.9
JGN's proposed carryover (as at 8 October 2019)	–5.4	–8.9	4.9	–	–1.3	–10.6
Difference	**0.4**	**0.1**	**0.0**	**–**	**0.2**	**0.7**

Source: AER analysis.

Note: Numbers may not add up due to rounding.

[101] AER, *Final decision, JGN 2015–20 access arrangement*, February 2019.

4.7 Corporate income tax

Our decision on JGN's total revenue includes the estimated cost of corporate income tax for the 2020–25 period.[102] JGN's 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.[103] This allows JGN to recover the estimated cost of corporate income tax during the 2020–25 period.

We accept JGN's proposed approach to calculate its forecast corporate income tax allowance. JGN's proposed approach is based on our PTRM for electricity service providers and consistent with the findings from our regulatory tax approach review.[104]

While we accept JGN's approach, we have not accepted its proposed amount of corporate income tax; this difference arises from our amendments to other aspects of its proposal. We determine an estimated cost of corporate income tax of $6.1 million ($ nominal) for JGN in the 2020–25 period, which is $11.1 million (64.4 per cent) less than proposed. The majority of this reduction is due to our amendments to JGN's proposed return on capital and regulatory depreciation. These building blocks affect total revenues which, in turn, impact the tax calculation.

We accept JGN's implementation of our tax review findings.[105] Specifically, we accept JGN's proposal to apply the diminishing value (DV) method for tax depreciation to all new depreciable assets except for forecast capex associated with buildings, leasehold improvements and in-house software.

We also accept JGN's proposal for standard tax asset lives for all of its existing asset classes as they are broadly consistent with the tax asset lives prescribed by the Australian Tax Office's (ATO) taxation ruling 2019/5.[106]

Further, we accept JGN's proposal for standard tax asset lives of 40 years for the 'Buildings' and 'Leasehold improvements' asset classes, and 5 years for the 'Software – Inhouse' asset class, as they are consistent with the tax law.[107]

We reduced JGN's proposed opening tax asset base (TAB) value, as at 1 July 2020, by $0.4 million. While we accept JGN's approach for establishing the opening TAB, we corrected some Consumer Price Index (CPI) adjustment errors in the TAB roll-forward.

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102 NGR, r. 76(c).

103 JGN, *Attachment 7.2 - PTRM*, June 2019.

104 AER, *Final report: Review of regulatory tax approach*, December 2018

105 AER, *Final report: Review of regulatory tax approach*, December 2018

106 ATO, *Taxation Ruling TR2019/5 – Income tax: effective life of depreciating assets (applicable from 1 July 2019),* p.180.

107 ITAA, sections 43.15, 43.140, 43.210; ITAA, section 40.95(7).

Table 11 sets out our draft 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 draft decision on JGN's corporate income tax.

Table 11 AER's draft 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	0.9	2.7	4.6	6.0	0.6	14.8
Less: value of imputation credits	0.5	1.6	2.7	3.5	0.3	8.7
Net corporate income tax	**0.4**	**1.1**	**1.9**	**2.5**	**0.2**	**6.1**

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 customers in future access arrangement periods through the ECM and CESS.

This draft decision determines that two incentive schemes will apply to JGN for the 2020–25 period, as presented below.

5.1 Efficiency carryover mechanism

As noted in section 4.6.2, 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 draft decision is to approve the application of an ECM to JGN in the 2020–25 period. We have made minor amendments to JGN's proposed ECM in this draft decision to be consistent with version 2 of the efficiency benefit sharing scheme (EBSS) for electricity service providers and other gas distribution businesses.[108]

Attachment 8 sets out our ECM draft decision in detail, including our revisions to JGN's proposed ECM.

5.2 Capital expenditure sharing scheme

The capital expenditure sharing scheme (CESS) rewards efficiency gains and penalises efficiency losses, each measured by reference to the difference between forecast and actual capex.

JGN propose to introduce a CESS to cover the 2020–25 period.[109] This incentive scheme currently does not exist for JGN.

Our draft decision approves the application of a CESS that excludes connections capex in the 2020–25 period.[110] We also require amendments to JGN's access arrangement to fine tune its CESS so that it provides genuine incentives and captures the environment it is operating in.

Attachment 12 provides further information on our CESS draft decision for JGN.

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[108] AER, *Efficiency benefit sharing scheme for electricity network service providers*, November 2013.

[109] JGN, *2020-25 Access Arrangement Proposal, Attachment 7.11, Incentive schemes*, June 2019.

[110] The operation of the CESS is set out in JGN's *Access arrangement, JGN's NSW gas distribution network, 1 July 2020 – 30 June 2025*, Section 13, p. 26 and Schedule 9, p. 79.

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 — a process or mechanism for establishing an order of priority between prospective users of spare and/or developable capacity
- extension and expansion requirements — the method for determining whether an extension or expansion is a part of the covered pipeline and the effect this will have on tariffs
- capacity trading requirements — the arrangements for users to assign contracted capacity and change delivery and receipt points
- change of receipt or delivery point by the user — the process or mechanism for changing a user's receipt or delivery point
- a review submission date and a revision commencement date — in this case, those dates being 30 June 2024 and 1 July 2025, respectively, as proposed by JGN.

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

Our draft decision is to approve some, but not all, of the amendments that JGN has proposed to its Reference Service Agreement. We approve JGN's proposed amendments to its Reference Service Agreement aimed at accommodating its 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.

While some of the proposed amendments are aimed at simplifying the document (such as replacing some provisions with cross-references to equivalent provisions in the NGR), some of the other proposed amendments are more contentious (such as network disconnection of customers) as evidenced in stakeholder submissions; from gas retailers, in particular. We are aware that since submitting its 2020–25 proposal, JGN has been engaging directly with stakeholders with a view to resolving many of the issues raised in submissions; potentially in an updated version of its Reference Service Agreement as part of its revised proposal that supersedes its initial proposal. We will give further consideration to any outstanding issues prior to making our final decision.

Further, in its submission on JGN's proposal, ENA considers that as network disconnections "…is a complex issue involving industry participants in numerous jurisdictions, it does not seem appropriate for this issue to be resolved through an individual access arrangement process for one gas network. The broader industry – including networks and retailers – should be engaged to develop an appropriate

solution to this issue, including the underlying issue of customers refusing to pay for energy."[111] We are interested in stakeholders' views on such an approach.

[111] ENA, *ENA supports broad industry consultation on unsuccessful network disconnection requests*, October 2019.

A Revenue 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 access arrangement period.[112]

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.[113] This weighted average tariff change is known as the 'X factor'.[114]

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 the average prices paid by consumers, and therefore the revenues received by the network business, change with the X factor plus actual inflation.[115]

Our draft decision includes $169.1 million ($2019–20) being returned to customers over the 2020–25 period as a result of the remittal decision for JGN for the 2015–20 period. This amount is treated as a negative revenue adjustment in establishing total revenue for 2020–21, which results in a significant reduction in total revenue for that year. We smooth this out as part of setting the forecast revenues over the 2020–25 period.

JGN's proposed forecast revenue path provides for decreases over 2020–23 and then increases over 2023–25, resulting in price fluctuations across the 2020–25 period. JGN's proposed path results in a 7.1 per cent divergence between smoothed and unsmoothed revenues for 2024–25. For the reasons discussed below, we have concerns that the size of this difference may not be consistent with minimising the final year divergence and that it is greater than our usual target limit of 3 per cent.

Consistent with JGN's proposal, our draft decision adopts the remittal amount to be returned to customers over the 2020–25 period. However, we have decided a larger portion should be returned to customers in the first year and the remainder gradually smoothed over the remaining four years of the 2020–25 period. To this end, we first set the forecast revenue (smoothed) for 2020–21 at $394.0 million ($ nominal). This is higher than the 2020–21 total revenue (unsmoothed) of $254.7 million we determined. It is also $129.1 million lower than the forecast revenue for 2019–20 and reflects a reduction in tariffs of 24.5 per cent. To smooth the tariff movements from 2021–22 to

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

113 See Attachment 10 for information on the mechanics of the tariff variation mechanism.

114 The X factors represent the weighted average real change in tariffs.

115 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).

2024–25, we applied a constant X factor of –1.25 per cent for each of the four years. This approach smooths the tariffs, allowing for a more gradual and predictable price path over the 2020–25 period, such that the tariffs increase at 1.25 per cent above the rate of expected inflation. Our draft decision smoothing profile results in a 3 per cent difference between smoothed and unsmoothed revenues for 2024–25 — in line with our usual target limit.

In choosing the smoothing profile for this draft decision, 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
- minimising the likelihood of variability in tariffs at the start of the subsequent (2025–30) period.

Each of these points is discussed in turn.

First, we are satisfied that our draft decision tariff path for JGN for the 2020–25 period achieves revenue equalisation, as required by the NGR.[116]

Second, but closely related to the first point, our smoothing allows closer alignment of tariffs and costs. This aids the achievement of the NGO and the revenue and pricing principles, including through providing a price signal that facilitates efficient use of natural gas services.[117]

Third, in setting the tariff path, we aim to minimise tariff volatility in 2019–20 and within the 2020–25 period. As discussed above, due to our remittal decision, there is a need to reduce forecast revenue in the 2020–25 period. Hence, there is a difference between 2019–20 and 2020–21 tariffs. Our chosen tariff path reflects this and provides for a step down in tariffs for 2020–21, while also reflecting the consideration we must give to other competing objectives. For instance, setting a flat tariff path from 2019–20 would better minimise volatility within the 2020–25 period, but not achieve revenue equalisation.

Fourth, in setting the tariff path, we also aim to minimise the likelihood of tariff volatility between this access arrangement period and the next. We do not know with certainty what JGN's efficient costs will be in 2025–26 (the first year of the 2025–30 period) or across the 2025–30 period more generally. The unsmoothed building block cost for 2024–25 (the last year of the 2020–25 period) is the best available proxy. Hence, this objective requires minimising the divergence between smoothed and unsmoothed revenues for the last year of the 2020–25 period. If we assume no significant changes

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[116] NGR, r. 92(2). The revenue equalisation occurs in NPV terms, discounting the yearly cash flows at the rate of return to reflect the time value of money.

[117] NGL, rr. 23, 24.

in forecast costs from 2024–25 to 2025–26, this final year divergence gives us an estimate of the size of the tariff change at the start of the 2025–30 period.

For this draft decision, the final year divergence is at the limit of our preferred target band of 3 per cent. The profile of unsmoothed building block revenues, including the revenue adjustment resulting from JGN's remittal decision, has constrained our ability to smooth the revenues without causing significant tariff volatility. Working with these constraints, our draft decision is to give primary weight to smoothing tariffs within the 2020–25 period, while minimising the final year divergence of smoothed revenue and unsmoothed revenue to the extent possible. We note that if there are significant changes in costs at the start of the 2025–30 period, this might increase or decrease the required tariff change at that time. We are satisfied that our draft decision tariff path reflects our balanced consideration of these competing objectives. We will review this smoothing profile for the final decision, if necessary.

An alternative smoothed revenue path, consisting of an initial reduction to tariffs of 24.5 per cent and zero X factors across 2021–2025, could result in a flatter profile of tariffs across the 2020–25 period. The initial reduction to tariffs in 2020–21 is still substantial but marginally less than the reduction adopted in the draft decision. However, this path would result in a final year divergence of 5.3 per cent. Given the circumstances affecting the revenue smoothing for JGN, it may be preferable to allow the final year difference to diverge more than usual. We are therefore open to receiving further feedback on this issue for the final decision.

B List of submissions

This draft decision has been made with regard to submissions received from the following stakeholders on JGN's 2020–25 access arrangement proposal.

Stakeholder	Date
AGL	13 August 2019
AusNet Services	9 August 2019
Brickworks	9 August 2019
Consumer Challenge Panel (CCP19)	9 August 2019
Energy Networks Australia (ENA)	9 August & 14 October 2019 (supplementary submission)
EnergyAustralia	9 August 2019
Energy Consumers Australia (ECA)	15 August 2019
Origin	9 August 2019
Public Interest Advocacy Centre (PIAC)	9 August 2019