



**FINAL DECISION**  
**Australian Gas Networks**  
**Access Arrangement**  
**2016 to 2021**

**Attachment 2 – Capital base**

May 2016

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## Note

This attachment forms part of the AER's final decision on the access arrangement for Australian Gas Networks South Australian distribution network for 2016–21. It should be read with all other parts of the final decision.

The final 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 - Value of imputation credits

Attachment 5 - Regulatory depreciation

Attachment 6 - Capital expenditure

Attachment 7 - Operating expenditure

Attachment 8 - Corporate income tax

Attachment 9 - Efficiency carryover mechanism

Attachment 10 - Reference tariff setting

Attachment 11 - Reference tariff variation mechanism

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## Shortened forms

Shortened form	Extended form
AA	Access Arrangement
AAI	Access Arrangement Information
AER	Australian Energy Regulator
AGN	Australian Gas Networks
ATO	Australian Tax Office
capex	capital expenditure
CAPM	capital asset pricing model
CCP	Consumer Challenge Panel
CESS	Capital Expenditure Sharing Scheme
CPI	consumer price index
CSIS	Customer Service Incentive Scheme
DRP	debt risk premium
EBSS	Efficiency Benefit Sharing Scheme
ECM	Efficiency Carryover Mechanism
ERP	equity risk premium
Expenditure Guideline	Expenditure Forecast Assessment Guideline
gamma	value of imputation credits
GSL	Guaranteed Service Level
MRP	market risk premium
NECF	National Energy Customer Framework
NERL	National Energy Retail Law
NERR	National Energy Retail Rules
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
NIS	Network Incentive Scheme
NPV	net present value
opex	operating expenditure
PFP	partial factor productivity
PPI	partial performance indicators

Shortened form	Extended form
PTRM	post-tax revenue model
RBA	Reserve Bank of Australia
RFM	roll forward model
RIN	regulatory information notice
RoLR	retailer of last resort
RPP	revenue and pricing principles
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	Service Target Performance Incentive Scheme
TAB	tax asset base
UAFG	unaccounted for gas
WACC	weighted average cost of capital
WPI	Wage Price Index

## 2 Capital base

The capital base roll forward accounts for the value of AGN's regulated assets over the access arrangement period. The opening capital base value for a regulatory year within the access arrangement period is rolled forward by indexing it for inflation, adding any conforming capex, and subtracting depreciation and other possible factors (for example, disposals or customer contributions).<sup>1</sup> Following this process, the AER arrives at a closing value of the capital base at the end of the relevant year. The opening value of the capital base is used to determine the return of capital (regulatory depreciation) and return on capital building block allowances.

We are required to make a decision on AGN's opening capital base as at 1 July 2016 for the 2016–21 access arrangement period. We are also required to make a decision on AGN's projected capital base for the 2016–21 access arrangement period. This attachment presents our final decision on these matters.

### 2.1 Final decision

We determine an opening capital base of \$1385.6 million (\$nominal) as at 1 July 2016 for AGN. This value is \$15.7 million (or 1.1 per cent) lower than AGN's revised proposed value of \$1401.3 million. This is because we have updated the capital base roll forward for the recently available 2015–16 actual inflation input and the conforming capex for 2013–14, 2014–15 and 2015–16.

We determine a closing capital base of \$1901.9 million (\$nominal) as at 30 June 2021. This is \$78.9 million (or 4.0 per cent) lower than AGN's revised proposal of \$1980.8 million. Our final decision on the closing capital base reflects our adjustments to the revised opening capital base as at 1 July 2016 (section 2.4.1), forecast inflation (attachment 3), forecast depreciation (attachment 5) and forecast net capex (attachment 6).

Table 2.1 summarises our final decision on the roll forward of AGN's capital base during the 2011–16 access arrangement period.

We have revised the access arrangement having regard to our reasons for refusing to approve AGN's proposal and the further matters identified in the NGR section 64(2). Our revisions are reflected in the *Approved Access Arrangement for Australian Gas Networks' South Australian distribution network for 2016–21*, which gives effect to this decision.

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<sup>1</sup> The term 'rolled forward' means the process of carrying over the value of the capital base from one regulatory year to the next.

**Table 2.1 AER’s final decision on AGN’s capital base roll forward for the 2011–16 access arrangement period (\$million, nominal)**

	2011–12	2012–13	2013–14	2014–15	2015–16
Opening capital base	1023.9	1070.7	1140.0	1230.8	1303.7
Net capex	58.0	83.9	102.9	106.4	123.4
Indexation of capital base	16.2	26.8	33.4	16.3	17.1
Depreciation	–27.5	–41.4	–45.4	–49.9	–51.9
Closing capital base	1070.7	1140.0	1230.8	1303.7	1392.3
Adjustment for difference between estimated and actual capital expenditure in 2010–11 <sup>a</sup>					–6.7
<b>Opening capital base at 1 July 2016</b>					<b>1385.6</b>

Source: AER analysis.

(a) Comprising the difference between the actual and estimated capex for 2010–11 and the return on that difference.

Table 2.2 sets out the projected roll forward of the capital base during the 2016–21 access arrangement period.

**Table 2.2 AER’s final decision on projected capital base roll forward for the 2016–21 access arrangement period (\$million, nominal)**

	2016–17	2017–18	2018–19	2019–20	2020–21
Opening capital base	1385.6	1491.4	1593.6	1699.2	1807.1
Net capex	116.9	116.6	125.2	132.4	118.8
Indexation of capital base	33.1	35.7	38.1	40.6	43.2
Depreciation	–44.3	–50.0	–57.7	–65.1	–67.2
Closing capital base	1491.4	1593.6	1699.2	1807.1	1901.9

Source: AER analysis.

## 2.2 AGN’s revised proposal

AGN’s revised proposal submitted an opening capital base at 1 July 2016 of \$1401.3 million (\$nominal). AGN adopted our draft decision amendments on actual capex for 2010–11, depreciation amounts in the 2011–16 access arrangement period, actual inflation rates and the 2010–11 forecast inflation value. AGN also updated its capital base roll forward for 2014–15 actual capex and a revised estimate of capex for 2015–16. AGN’s revised proposed capital base roll forward during the 2011–16 access arrangement period is shown in Table 2.3.



**Table 2.3 AGN’s revised proposed capital base roll forward during the 2011–16 access arrangement period (\$million, nominal)**

	2011–12	2012–13	2013–14	2014–15	2015–16
Opening capital base	1023.9	1070.7	1140.0	1230.9	1303.1
Net capex	58.0	83.9	102.9	105.8	124.3
Indexation of capital base	16.2	26.8	33.4	16.3	32.6
Depreciation	–27.5	–41.4	–45.4	–49.9	–51.9
Closing capital base	1070.7	1140.0	1230.9	1303.1	1408.1
Adjustment for 2010–11 capex <sup>a</sup>					–6.7
<b>Opening capital base at 1 July 2016</b>					<b>1401.3</b>

Source: AGN, *Revised proposed RFM*, January 2016.

(a) Comprising the difference between the actual and estimated capex for 2010–11 and the return on that difference.

AGN did not adopt our draft decision on the projected closing capital base at 30 June 2021. Instead, AGN's revised proposal submitted a projected closing capital base at 30 June 2021 of \$1980.8 million (\$nominal). This value reflects its revised proposed opening capital base at 1 July 2016, forecast net capex, depreciation and inflation. The projected roll forward of the capital base during the 2016–21 access arrangement period is shown in Table 2.4.

**Table 2.4 AGN’s revised proposed projected capital base roll forward during the 2016–21 access arrangement period (\$million, nominal)**

	2016–17	2017–18	2018–19	2019–20	2020–21
Opening capital base	1401.3	1514.4	1640.9	1753.4	1886.7
Net capex	129.5	146.5	137.9	163.8	124.3
Indexation of capital base	28.2	30.4	33.0	35.2	37.9
Depreciation	–44.6	–50.4	–58.4	–65.8	–68.1
Closing capital base	1514.4	1640.9	1753.4	1886.7	1980.8

Source: AGN, *Revised proposed PTRM*, January 2016.

## 2.3 AER's assessment approach

We have not changed our assessment approach for the capital base from our draft decision. Section 2.3 of our draft decision details that approach.<sup>2</sup>

We received one submission from the CCP raising concerns over the rate of increase in the value of AGN's capital base over the 10-year period spanning the current and previous access arrangements.<sup>3</sup> The increase in AGN's capital base is mostly driven by an increase in capex. We have carefully reviewed the cost drivers of AGN's forecast capex in terms of prudence and efficiency. We have not accepted AGN's forecast capex in its entirety and our assessment is detailed in attachment 6.

## 2.4 Reasons for final decision

We determine AGN's opening capital base at 1 July 2016 to be \$1385.6 million (\$nominal). This value is \$15.7 million or 1.1 per cent lower than AGN's revised proposed value of \$1401.3 million. This difference is due to our update of the inputs in the capital base roll forward for 2015–16 actual inflation and conforming capex for 2013–14, 2014–15 and 2015–16.

We do not approve AGN's projected closing capital base of \$1980.8 million (\$nominal) as at 30 June 2021. We instead determine a closing capital base of \$1901.9 million (\$nominal) as at 30 June 2021, a reduction of \$78.9 million or 4.0 per cent from the revised proposed value. The main reasons for the reduction are our adjustments to its opening capital base as at 1 July 2016 (section 2.4.1), forecast inflation (attachment 3), forecast depreciation (attachment 5) and forecast net capex (attachment 6).

We are satisfied each of these amendments is necessary having regard to the requirements of the NGR. The reasons for our decision are discussed below.

### 2.4.1 Roll forward of capital base during the 2011–16 access arrangement period

We determine AGN's opening capital base as at 1 July 2016 to be \$1385.6 million (\$nominal). This amount is \$15.7 million (or 1.1 per cent) lower than AGN's revised value of \$1401.3 million. This is because:

- we have updated the inflation input for 2015–16 using the actual March 2016 consumer price index (CPI) published by the Australian Bureau of Statistics.<sup>4</sup>
- we have adjusted the revised proposed conforming capex inputs for 2013–14, 2014–15 and 2015–16.

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<sup>2</sup> AER, *Draft decision Australian Gas Networks access arrangement - Attachment 2 - Capital base*, November 2015, pp. 2–9 - 2–13.

<sup>3</sup> CCP, *Advice to AER from Consumer Challenge Panel sub-panel 8 regarding the AER draft decision and Australian Gas Networks' (SA) revised access arrangement 2016–2021 proposal*, March 2016, p. 4.

<sup>4</sup> The March quarter CPI is used as a proxy for the June financial year in the 2011–16 access arrangement period.

In our draft decision we accepted AGN's proposed methodology for calculating the opening capital base at 1 July 2016. However, we made a number of amendments to correct for input errors.<sup>5</sup> AGN's revised proposal adopted our draft decision amendments. AGN also updated its capital base roll forward for 2014–15 actual capex in its revised proposal.

## **Conforming capital expenditure in the 2011–16 access arrangement period**

In determining the opening capital base as at 1 July 2016, we assessed whether AGN's proposed capex amounts for the 2011–16 access arrangement are properly accounted for in the capital base roll forward. Our assessment of conforming capex is set out in capex attachment 6.

For this final decision, we updated AGN's revised proposed capex for the 2011–16 access arrangement period. This is because AGN informed us that it had made a transcription error when its revised proposed RFM was updated for 2014–15 actual capex. AGN also made further updates to its revised proposed conforming capex for 2013–14, 2014–15 and 2015–16 to reflect the reclassification of the valve corrosion projects from capex to opex. As discussed in attachment 6, we accept these updates made by AGN. We have therefore included these updated capex in the capital base roll forward which is consistent with the requirements of the NGR.<sup>6</sup>

We note that the capex for 2015–16 is an estimate. We will assess whether the 2015–16 actual capex is conforming as part of the next access arrangement review.

## **2.4.2 Projected capital base during the 2016–21 access arrangement period**

We do not approve AGN's projected capital base at 30 June 2021 in its revised proposal. Instead, we forecast AGN's projected capital base at 30 June 2021 to be \$1901.9 million (\$nominal), a reduction of \$78.9 million or 4.0 per cent from AGN's revised proposal. This results from our final decision on the inputs to the determination of the projected capital base. We have amended the inputs in the following ways:

- reduced AGN's revised proposed opening capital base as at 1 July 2016 by \$15.7 million (\$nominal) or 1.1 per cent to reflect the changes required in this attachment
- reduced AGN's revised proposed forecast net capex for the 2016–21 access arrangement period by \$92.1 million (\$nominal) or 13.1 per cent. Our assessment of the revised proposed forecast capex is set out in attachment 6.

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<sup>5</sup> AER, *Draft decision, Australian Gas Networks Access Arrangement 2016–21, Attachment 2 – Capital base*, November, 2015, pp. 2–14 – 2–15.

<sup>6</sup> NGR, r. 77(2)(b).

- reduced AGN's revised proposed forecast straight-line depreciation for the 2016–21 access arrangement period by \$3.0 million (\$nominal) or 1.0 per cent. Our assessment of the revised proposed forecast depreciation is set out in attachment 5.
- increased AGN's revised proposed forecast inflation to 2.39 per cent per annum for the 2016–21 access arrangement period from 2.01 per cent per annum. Our assessment of the revised proposed forecast inflation is set out in attachment 3. This results in an increase to the indexation of the capital base component over the 2016–21 access arrangement period by \$26.0 million (\$nominal) or 15.8 per cent.

### 2.4.3 Capital base at the commencement of the 2021–26 access arrangement period

The capital base at the commencement of the 2021–26 access arrangement period will be subject to adjustments consistent with the NGR.<sup>7</sup> These adjustments include (but are not limited to) actual inflation, approved depreciation and the difference between estimated and actual capex for 2015–16, including an adjustment to remove any benefit or penalty associated with the difference between the estimated and actual capex.<sup>8</sup>

We note AGN's revised proposal adopted our draft decision on the use of forecast depreciation (as approved in this final decision for the 2016–21 access arrangement period) for establishing the opening capital base at 1 July 2021.<sup>9</sup> This approach is consistent with the approach outlined in the AER's *Access arrangement guideline*<sup>10</sup>. We therefore maintain our draft decision position on this issue for this final decision.

In its initial proposal, AGN made its proposed depreciation approach for establishing the opening capital base as at 1 July 2021 contingent on our acceptance of the proposed Capital Expenditure Sharing Scheme (CESS). In the draft decision, we did not accept AGN's contingent proposal, nor did we approve AGN's proposal to introduce a CESS for the 2016–21 access arrangement period. AGN's revised proposal adopted our draft decision to use forecast depreciation to establish its opening capital base as at 1 July 2021 and did not make a further submission on this matter.

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<sup>7</sup> NGR, r. 77(2).

<sup>8</sup> NGR, r. 77(2)(a).

<sup>9</sup> AGN, *Revised Access Arrangement Information for AGN's SA Natural Gas Distribution Network - January 2016 - Attachment 9.2 Regulatory Asset Base*, p. 6.

<sup>10</sup> AER, *Final access arrangement guideline*, March 2009, pp. 61–62.