



FINAL DECISION
Australian Gas Networks (SA)
Access Arrangement

2021 to 2026

Attachment 5
Capital expenditure

April 2021

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Note

This attachment forms part of the AER's final decision on the access arrangement that will apply to Australian Gas Networks (SA) ('AGN') for the 2021–26 access arrangement period. It should be read with all other parts of the final decision.

The final decision includes the following documents:

Overview

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 11 – Non-tariff components

Attachment 12 – Demand

Attachment 13 – Capital expenditure sharing scheme

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5 Capital expenditure

Capital expenditure (capex) refers to the capital costs and expenditure incurred in the provision of pipeline services.¹ This investment mostly relates to assets with long lives and the costs are typically recovered over several access arrangement periods.

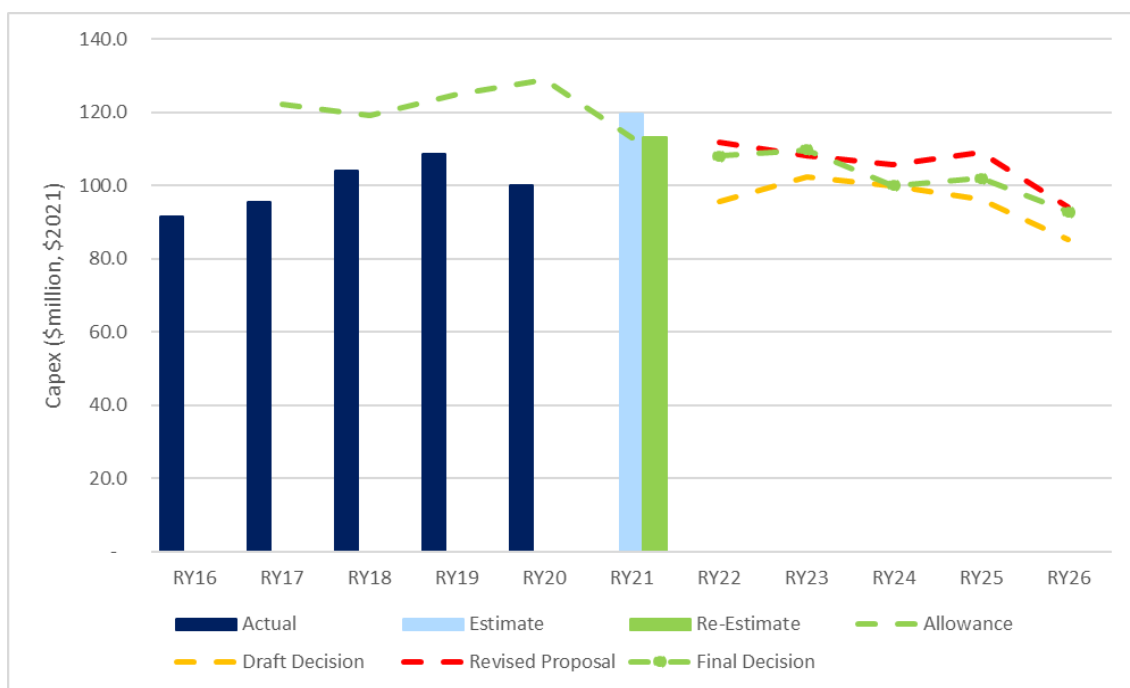
This Attachment sets out our final decision on AGN’s forecast capex for the 2021–26 access arrangement period. It includes our final decision on conforming capex for the 2016–21 period, which forms part of AGN’s opening capital base.² All dollar amounts are stated in real \$2020–21, unless otherwise specified.

5.1 Final decision

We approve AGN’s revised proposal of \$499.4 million (\$2020–21) of total net capex for the 2015–16 to 2019–20 regulatory years.³

Figure 5.1 compares AGN’s past and proposed forecast capex, and the forecasts approved by us in our previous 2016–21 decision and this 2021–26 final decision.

Figure 5.1 AER’s final decision compared to AGN’s past and proposed capex (\$million, 2020–21)



Source: AER analysis.

¹ NGR, r. 69.

² NGR, r. 77.

³ NGR, r. 79.

We approve \$512.3 million of total net capex for the 2021–26 period as conforming capex under the National Gas Rules (NGR).⁴ Our decision is 3.1 per cent lower than AGN's revised proposal forecast of \$528.7 million. A summary of the reasons for our decision is set out in section 5.4, while a detailed assessment of the capex drivers is set out in section 5.5.

5.2 AGN's revised proposal

5.2.1 Capex for 2015–16 and 2016–21 period

AGN has proposed net capex of \$530.1 million for the 2016–21 period, and \$92.0 million for 2015–16.⁵ AGN underspent its approved net capex in the 2016–21 period by 12.8 per cent (\$77.9 million). AGN has not included the network extension to Mount Barker (\$34.6 million) in its revised proposal, which had been included in its initial proposal and our draft decision.

5.2.2 Capex for the 2021–26 period

AGN's revised proposal included a net capex forecast of \$528.7 million for the 2021–26 period, which is \$50.0 million higher than our draft decision and \$47.8 million lower than its initial proposal. AGN's forecast net capex is \$1.4 million (0.3 per cent) higher than its actual net capex for the 2016–21 period.⁶ AGN proposed \$576.6 million (\$2020–21) in its initial proposal. We approved \$478.8 million (\$2020–21) in our draft decision.⁷

Table 5.1 shows the drivers of AGN's revised forecast capex proposal. The major components of forecast gross total capex over the 2021–26 period are mains replacement (44.6 per cent) and growth/connections (22.2 per cent).

⁴ NGR, r. 71 and r. 79.

⁵ Capex for the regulatory year 2015–16 was included as an estimate at the time of the 2016–21 access arrangement review, as actual capex was not known. As actuals are now available, we have assessed whether this amount is conforming capex as part of this review. Similarly, the regulatory year 2020–21 is currently estimated, and it will be reviewed as part of the next access arrangement proposal.

⁶ AGN's capex for 2020–21 is an estimate.

⁷ AER, *Draft Decision – Australian Gas Networks access arrangement 2021–26, Attachment 5 - Capital Expenditure*, November 2020, p. 6.

Table 5.1 AGN’s revised proposed capex by category over the 2021–26 access arrangement period (\$2020–21, million)

Category	2021–22	2022–23	2023–24	2024–25	2025–26	Total
Mains replacement	50.0	50.0	48.9	47.8	39.2	235.9
Meter replacement	3.2	3.1	4.5	3.7	4.4	19.0
Augmentation	5.1	5.5	-	-	-	10.6
Growth/connections	25.7	22.9	22.1	22.9	23.7	117.3
IT	11.2	7.4	10.3	12.3	5.5	46.7
Other distribution	5.9	8.7	9.7	12.0	11.1	47.4
Other non-distribution	1.1	1.1	0.8	0.8	0.9	4.7
Overheads	9.6	9.6	9.5	9.6	9.3	47.6
Gross total	111.9	108.2	105.8	109.2	94.1	529.2
Contribution	0.1	0.1	0.1	0.1	0.1	0.5
Net total	111.8	108.1	105.7	109.1	94.0	528.7

Source: AER analysis based upon AGN model 2021-26 Access Arrangement Revised Proposal Attachment 8.7A – Revised Capex Forecast Model, January 2021.

Totals may not sum due to rounding.

5.3 Assessment approach

We must make two decisions regarding AGN's capex. First, we are required to assess past capex, and determine whether it is conforming capex that should be added to the opening capital base.⁸ Second, we must assess AGN’s forecast of required capex for the 2021–26 period to determine whether, if incurred in accordance with the proposal, it is conforming capex. Capex will be 'conforming' if it meets the NGR's new capex criteria.⁹

The following sections set out the approach we employed in reaching a decision on these two matters.

5.3.1 Capex in the 2016–21 period

We consider the following when determining the opening capital base for 2021–26:

- 2015–20 capex – since we have actual capex for these years, we have assessed whether this is conforming capex. We have included conforming capex in the opening capital base for 2021–26

⁸ NGR, r. 77(2)(b).

⁹ NGR, r. 79.

- 2020–21 capex – we do not yet have actual capex for 2020–21 and have included AGN’s estimate in the opening capital base. We have not assessed AGN’s estimate. We will assess whether AGN’s actual capex for 2020–21 is conforming capex in the next access arrangement review.

5.3.2 Capex in the 2021–26 period

We have assessed the key capex drivers to consider whether AGN’s proposed capex complies with the new capex criteria. In doing so, we relied on the following information:

- the access arrangement submission and access arrangement information, which outline AGN’s capex program and the main capex drivers
- AGN’s revised proposal, and associated information in AGN’s regulatory information notice (RIN) response
- AGN’s capex forecast model
- responses to information requests
- engineering advice we commissioned from Zincara Pty Ltd (Zincara)
- information regarding the prudence and efficiency of selected projects
- submissions from interested parties.

For each category of capex, we considered the scope, timing and cost of the proposed expenditure in order to form a view on whether it complies with the new capex criteria. We also considered whether cost forecasts were arrived at on a reasonable basis and represent the best forecast possible in the circumstances.

Our assessment results in an alternative estimate of the business’s total capex requirements in the forecast period. If we are satisfied the business’s total forecast meets the NGR requirements, we accept the forecast. If we are not satisfied, we substitute the business’s forecast with our alternative estimate.¹⁰ In making this decision, we take into account the reasons for the difference between our alternative estimate and the business’s forecast, and the materiality of that difference.

5.4 Reasons for final decision

5.4.1 Capex in the 2015–16 and 2016–21 period

We accept AGN’s revised proposal of net capex of \$91.3 million for the year 2015–16 and \$408.1 million for the years 2016–20, with differences being due to escalation. We have included an estimate of \$113.1 million for 2020–21 in its opening capital base, and will review AGN’s actual expenditure at the next access arrangement review.

¹⁰ NGR, r. 64.

Except for updating 2019–20 estimate with actuals, and 2020–21 with more recent estimates there is no material change from our draft decision on conforming capex. Table 5.2 shows our decision on an annual basis.

Estimated IT capex for 2020–21 has been amended by AGN since the revised proposal and is discussed in section 5.5.1.

Table 5.2 AER’s approved capex for 2015–2021^(a)

Category	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21 ^(b)
Gross total	93.9	105.2	110.9	112.9	104.2	116.4
Contributions	2.6	9.8	6.8	4.4	4.1	3.3
Net total	91.3	95.4	104.1	108.5	100.1	113.1

Source: AGN, *Response to information request IR026*, February 2021. Totals may not sum due to rounding.

(a) Inclusive of cost escalation adjustments (section 5.5.3).

(b) We have not assessed the 2020–21 amounts as approved capex under this decision. This is because these values are estimates. We will undertake an assessment of whether the 2020–21 amounts are conforming capex in our next access arrangement decision.

5.4.2 Capex in the 2021–26 period

As noted previously, we have accepted net capex of \$512.3 million as conforming for the 2021–26 period, \$16.4 million (3.1 per cent) lower than AGN’s revised proposal.

AGN’s revised proposal, along with responses to information requests and our further analysis, address many of the questions expressed in our draft decision. Table 5.3 compares AGN’s revised proposal for each capex driver with our final decision.

Table 5.3 AGN’s revised proposal and AER’s final decision for capex over the 2021–26 access arrangement period (\$2020–21, million)

Category	AGN’s revised proposal	AER’s final decision ^(a)	Difference (\$) (RP—FD)	Difference (%)
Mains replacement	235.9	230.3	-5.7	-2.4
Meter replacement	19.0	18.6	-0.4	-2.1
Augmentation	10.6	10.5	-0.1	-1.4
Growth/connections	117.3	114.5	-2.8	-2.4
IT	46.7	39.8	-6.9	-14.7
Other distribution	47.4	46.7	-0.6	-1.3
Other non-distribution	4.7	4.6	-0.1	-2.5
Overheads	47.6	47.8	0.2	0.4
Gross total	529.2	512.8	-16.4	-3.1
Contribution	0.5	0.5	-	-
Net total	528.7	512.3	-16.4	-3.1

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

(a) Inclusive of cost escalation adjustments (section 5.5.3).

The outstanding issue from our draft decision related to mains replacement. AGN provided further information that addressed our concerns. Our reasons are set out in detail in section 5.5.2.1.

AGN's revised proposal increased information technology (IT) capex in 2021–26 by \$13.2 million (or 39.4 per cent) from its initial proposal, which we had accepted in our draft decision. Our assessment of the revised IT forecast is found in section 5.5.2.2.

We assessed AGN's forecast capex, taking into account the available information, submissions from stakeholders and advice from our independent expert advisor, Zincara. The primary differences between our final decision and AGN's revised proposal is IT and other associated capex changes from the 2020–21 actual inflation update. Consequently our alternative estimate of AGN's efficient capex is less than AGN's revised proposal. A detailed assessment of each driver is included in section 5.5 of this attachment.

5.5 Detailed assessment of capex drivers

In assessing AGN's access arrangement proposal, we must decide whether capex from previous periods is conforming,¹¹ and whether AGN's capex forecast is conforming, or if not, whether it should be substituted with an alternative estimate of capex that is conforming.

5.5.1 Conforming capex for the 2016–21 period

AGN has proposed net capex of \$530.1 million for the 2016–21 access arrangement period (\$2020–21), where capex in 2020–21 is an estimate. AGN has not included the network extension to Mount Barker (\$34.6 million) in its revised proposal, which had been included in its initial proposal and our draft decision.

Submissions regarding Mt Barker Extension

The AER received four submissions relating to AGN's removal of the Mount Barker extension from the revised proposal. Submissions from Energy Consumers Australia (ECA) and a joint submission from Red Energy and Lumo Energy questioned why the Mount Barker extension was not proceeding.¹²

¹¹ We assess capex for the regulatory years from 2015–16 to 2020–2021. As capex in 2020–21 is currently an estimate, we will assess whether actual capex is conforming for this year in the next access arrangement review.

¹² Energy Consumers Australia, *Response to Evoenergy and Australian Gas Networks (SA) Revised proposals 2021–26 submission*, p. 9.

Red Energy and Lumo Energy, *Submission on AGN 2021-26 access arrangement revised proposal*, 19 February 2021, pp. 3–4.

Alternative views were expressed by South Australian Federation of Residents and Ratepayers Association Inc. (SAFRRA) and SACOSS who both expressed approval for the cancellation of the Mount Barker expansion.¹³

Our assessment

We accept \$408.1 million (\$2020–21) as conforming capex for the 2016–17 to 2019–20 years, and will assess whether capex incurred in 2020–21 is conforming at the next (2026–31) access arrangement review.

In reaching this view, we have considered the following factors:

- in the regulatory process it is our role to assess the proposed expenditures of businesses for prudence and efficiency, ensuring that customers are better off now, and in the future, and are consistent with the National Gas Objective.¹⁴ Businesses determine which investments they undertake, and the timing of them. Ultimately, the decision to proceed with the Mount Barker extension rests with AGN.
- AGN's capex is expected to be \$86.9 million (14.3 per cent) less than the \$608.1 million (\$2020–21) we approved for the 2016–21 period
- the largest underspend in the 2016–21 period occurred in the mains replacement category, where AGN is expected to spend \$53.2 million (16.3 per cent) less than approved. The main saving in mains replacement occurred due to lower unit rates and that less expensive work had been undertaken, deferring more expensive block main replacement¹⁵
- the second largest underspend in the 2016–21 period occurred in the IT category, where AGN spent \$36.9 million (59.2 per cent) less than approved. AGN submitted that this is due to a number of programs being deferred into the next period and efficiencies from the consolidation of service providers¹⁶
- the largest overspend in the 2016–21 period occurred in connections, where AGN spent \$25.9 million (26.8 per cent) more than approved. This was addressed in our draft decision, where we accepted the impact of higher than forecast housing and business connections.¹⁷

¹³ SAFRRA, *Submission to AER on AGN's Revised Proposal and AER's Draft Decision 2021–26*, 17 February 2021, p. 2; SACOSS, *Submission to AER on AGN's Revised Proposal and AER's Draft Decision 2021–26*, 16 February 2021, pp. 4–5.

¹⁴ NGR, r. 79. NGL, s. 23.

¹⁵ AGN, *Final Plan 2021–26, Supporting Information - Capital Expenditure in the Current Access Arrangement Period*, July 2020, p. 4.

¹⁶ AGN, *Final Plan 2021–26, Supporting Information - Capital Expenditure in the Current Access Arrangement Period*, July 2020, p. 5.

¹⁷ AER, *Draft decision, Australian Gas Networks access arrangement 2021–26, Attachment 5 - Capital Expenditure*, November 2020, p. 13.

Table 5.4 AGN capex performance against the approved by category over the 2016–21 access arrangement period (\$2020–21, million)

Category	Approved	Actual ^(a)	Difference (\$) (Allow – Act)	Difference (%)
Mains replacement	325.7	272.4	-53.2	-16.3
Meter replacement	19.1	22.7	3.6	18.9
Augmentation	16.7	9.1	-7.6	-45.5
Growth/connections	96.8	122.7	25.9	26.8
IT	62.3	25.4	-36.9	-59.2
Other distribution	26.2	44.7	18.5	70.6
Other non-distribution	5.6	3.5	-2.1	-37.8
Overheads	59.6	49.0	-10.5	-17.6
Gross total	612.0	549.6	-62.4	-10.2
Contribution	3.9	28.4	24.5	628.2
Net total	608.1	521.2	-86.9	-14.3

Source: AGN, *Response to information requests IR023 and IR026*. AER Analysis. Totals may not sum due to rounding.

(a) Inclusive of cost escalation adjustments (section 5.5.3).

5.5.2 Conforming capex for the 2021–26 period

5.5.2.1 Mains replacement

We consider \$230.3 million of mains replacement capex is conforming.¹⁸ This is consistent with AGN’s revised proposal, with differences due to inflation and labour escalation.

In its initial proposal, AGN sought \$269.5 million mains replacement capex for the 2021–26 period.¹⁹ Our alternative forecast over the same period was \$189.1 million (\$2020–21, direct cost) reflecting our analysis and review of AGN’s initial proposal and supporting material.²⁰ We did not consider the volume of proposed replacement for cast iron and unprotected steel pipes, as well as HDPE 575 DN40 for both the insertion and direct methods, were prudent. In the draft decision we also queried unit rates for the North Adelaide mains replacement work, HDPE 575 DN40 – direct burial and non-AMRP service replacements.²¹

¹⁸ NGR, r. 79(1).

¹⁹ AGN, *Final Plan 2021–26, Attachment 8.3 - Distribution Mains and Service Integrity Plan*, July 2020, p. 5.

²⁰ AER, *Draft Decision, Australian Gas Networks access arrangement 2021–26, Attachment 5 - Capital Expenditure*, November 2020, p. 14.

²¹ AER, *Draft Decision, Australian Gas Networks access arrangement 2021–26, Attachment 5 - Capital Expenditure*, November 2020, p. 15.

The discussion below focusses on AGN’s response to our draft decision. Our reasons for the other elements of mains replacement capex are the same as those in the draft decision.

AGN’s revised proposal

In its revised proposal AGN has modified its mains replacement program, to 780 km (90 km less than its initial proposal) and 201 km more than the draft decision.²²

Table 5.5 Volumes of mains replacement

Asset Category	Measure	Treatment	Initial Proposal	Draft Decision	Revised Proposal
Cast iron and unprotected steel – block	km	Replace	558	405	558
HDPE 250 – remaining	km	Replace	14	14	14
HDPE 575 DN40 – insertion	km	Replace	198	150	198
HDPE 575 DN40 – direct burial	km	Replace	90	-	-
Reactive (piecemeal)	km	Replace	10	10	10
Total replacement	km	Replace	870	579	780
HDPE 575 DN50 – HP	km	Inspect	57	57	57
HDPE 575 DN50 – MP	km	Inspect	259	259	259
Total inspection	km	Inspect	316	316	316
Multi-user services	number	Replace	457	457	457
Non-AMRP service	number	Replace	2,450	2,450	2,450

Source: AER Analysis.

Cast Iron and Unprotected Steel

In our draft decision we did not accept the unit rates proposed by AGN for the North Adelaide replacement, and substituted rates recommended by our consultant. AGN accepted the rates applied in our draft decision for the North Adelaide cast iron and unprotected steel replacement.²³

Our draft decision reduced the proposed volume of cast iron and unprotected steel replacement over the five years from 558 km to 405 km. AGN did not accept this revision in its revised proposal, and has provided additional materials including

²² AGN, *Revised Final Plan 2021–26, Attachment 8.3A - Response on Mains Replacement*, 13 January 2021, p. 7.

²³ AGN, *Revised Final Plan 2021–26, Attachment 8.3A - Response on Mains Replacement*, 13 January 2021, p. 22.

updated leak reports and an independent review of the program in support of its position.²⁴

HDPE 575 DN40 – insertion

We approved the replacement of 150 km of HDPE 575 DN40 pipes in our draft decision (being those pipes laid up until 1990). AGN has provided material to support its position that mains of this type laid up until 1993 suffer similar performance issues to the older pipes, and that the volume to be replaced in 2021–26 should be 198 km.²⁵

In our draft decision, we also sought further information on whether the replacement of pipes by insertion method would mean there was a residual benefit to the network from the original pipe. AGN has provided reports from GHD in support of there being no ongoing benefit of the original pipeline.

HDPE 575 DN40 – direct burial

AGN has accepted our draft decision that the replacement of medium pressure HDPE 575 DN40 via direct burial should be deferred to the 2026–31 access arrangement period.²⁶ Accordingly, there is no need to undertake further assessment of this item.

Non-AMRP service replacement

AGN's revised proposal does not accept the alternative rate we used in our draft decision for Non-AMRP service replacement.²⁷ It stated that the most recent rates are a better basis for estimating the costs of this work, rather than historic averages. The recent increase in materials/other rates is largely driven by a change in accounting treatment of motor vehicle leasing.²⁸

Submissions on Mains Replacement

The AER received submissions on AGN's mains replacement program from five different stakeholders.

The SA Minister for Energy and Mining expressed the government's support for AGN's revised mains replacement program. In doing so, the Minister referenced additional information and engagement with the Office of the Technical Regulator (OTR) by AGN.²⁹ Similarly, the South Australian Federation of Residents and Ratepayers

²⁴ AGN, *Revised Final Plan 2021–26, Attachment 8.3A - Response on Mains Replacement*, 13 January 2021, p. 22.

²⁵ AGN, *Revised Final Plan 2021–26, Attachment 8.3A - Response on Mains Replacement*, 13 January 2021, p. 25.

²⁶ AGN, *Revised Final Plan 2021–26, Attachment 8.3A - Response on Mains Replacement*, 13 January 2021, p. 22.

²⁷ AGN, *Revised Final Plan 2021–26, Attachment 8.3A - Response on Mains Replacement*, 13 January 2021, p. 22.

²⁸ AGN, *Revised Final Plan 2021–26, Attachment 8.3A - Response on Mains Replacement*, 13 January 2021, p. 23.

²⁹ South Australian Minister for Energy and Mining, *Submission to AER on Draft Determination and AGN Revised Access Arrangement*, 16 February 2021, p. 2.

Association (SAFRRA), ECA, Origin Energy and CCP24 expressed support for the revised proposal's mains replacement program given external expert advice.³⁰

Our assessment

Cast Iron and Unprotected Steel

AGN accepted the draft decision on unit rates for the North Adelaide replacement.³¹ Accordingly, there is no need to undertake further assessment for this matter.

Our draft decision reduced the proposed volume of the cast iron and unprotected steel block replacement program in the 2021–26 period from 558 km to 405 km. AGN did not accept this reduction as reasonable, and has provided additional materials including updated leak reports and a report by GHD in support of its position.³²

Zincara has reviewed the materials provided by AGN with its revised proposal, including the supporting reports, and considers the cast iron and unprotected steel block replacement program proposed by AGN is prudent.³³

We consider AGN's proposed expenditure is conforming capex, and have included this in our final decision.

HDPE 575 DN40 – insertion

We approved the replacement of 150 km of HDPE 575 DN40 pipes laid up until 1990 in our draft decision, due to the prevalence of “squeeze off” failures in assets laid in that period. AGN has provided material to support its position that mains of this type laid up until 1993 suffer similar squeeze off issues, and the volume to be replaced in 2021–26 should be 198 km.³⁴

Zincara has reviewed the materials provided by AGN with its revised proposal, including updated failure data and the GHD report. Zincara has formed the view that HDPE 575 DN40 – insertion program to replace 198 km in the 2021–26 period to be prudent based on the risk consequence of failure and all of the information provided by AGN.³⁵

³⁰ SAFRRA, *Submission to AER on AGN's Revised Proposal and AER's Draft Decision 2021–26*, 17 February 2021, p. 2; Energy Consumers Australia, *Submission, Response to Evoenergy and Australian Gas Network (SA) Revised proposals 2021–26*, 22 February 2021, p. 16; Origin Energy, *Response to AER draft decision and revised access arrangement proposal for AGN (SA) 2021–26*, 17 February 2021, p. 1; CCP24, *Advice to Australian Energy Regulator on Australian Gas Networks Revised Final Plan for AGN Gas Networks (South Australia) Access Arrangement 2021–26*, 17 February 2021.

³¹ AGN, *Revised Final Plan 2021–26, Attachment 8.3A - Response on Mains Replacement*, 13 January 2021, p. 22.

³² AGN, *Revised Final Plan 2021–26, Attachment 8.3A - Response on Mains Replacement*, 13 January 2021, pp. 24–25.

³³ Zincara, *AGN Access Arrangement 2021 Capital expenditure Stage 2, March 2021*, p. 15.

³⁴ AGN, *Revised Final Plan 2021–26, Attachment 8.3A - Response on Mains Replacement*, 13 January 2021, p. 25.

³⁵ Zincara, *AGN Access Arrangement 2021 Capital expenditure Stage 2, March 2021*, pp. 24–25.

In our draft decision, we also sought further information on whether the replacement of pipes by the insertion method (inserting a replacement pipe inside an existing pipe) would mean there was a residual benefit to the network from the original pipe.³⁶

Zincara has reviewed the GHD report on this matter and considers that AGN's method of mains insertion renders the existing mains (and inset services) obsolete, with no ongoing operational or asset management value.³⁷ However, Zincara also noted that there are a range of mains rehabilitation and replacement methods that can be applied across gas and similar utility network businesses, and recommends that any accelerated depreciation as a result of mains replacement be assessed on a case by case basis.³⁸

AGN accepted the draft decision with respect to the replacement of medium pressure HDPE 575 DN40 via direct burial.³⁹ Accordingly, there is no need to undertake further assessment for this matter.

Non-AMRP service replacement

In our draft decision, we considered the historical unit rates would provide the best estimate of efficient cost for non-AMRP service replacement. AGN does agree with this position, noting that it considers the most recent rates are a better basis for estimating cost.⁴⁰ AGN suggests that the recent increase in materials/other rates is largely driven by a change in the accounting treatment of motor vehicle leasing.⁴¹ We accept that a change in treatment to a more accurate cost allocation is preferred, and therefore accept the recent actuals as a reasonable basis of forecasting.⁴²

5.5.2.2 Information technology

We consider \$25.4 million and \$39.8 million IT capex as conforming for the 2016–21 and 2021–26 periods respectively, and have included this in our alternative estimate of efficient capex.⁴³ This is lower than AGN's revised proposal.

In its initial proposal, AGN sought \$33.5 million for IT for the 2021–26 period.⁴⁴ In our draft proposal we accepted this forecast.⁴⁵

³⁶ AER, *Draft Decision, Draft decision, Australian Gas Networks access arrangement 2021–26, Attachment 5 - Capital Expenditure*, November 2020, p. 15.

³⁷ Zincara, *AGN Access Arrangement 2021 Capital expenditure Stage 2*, March 2021, p. 20.

³⁸ Zincara, *AGN Access Arrangement 2021 Capital expenditure Stage 2*, March 2021, p. 20.

³⁹ AGN, *Revised Final Plan 2021–26, Attachment 8.3A - Response on Mains Replacement*, 13 January 2021, p. 22.

⁴⁰ AGN, *Revised Final Plan 2021–26, Attachment 8.3A - Response on Mains Replacement*, 13 January 2021, p. 23.

⁴¹ AGN, *Revised Final Plan 2021–26, Attachment 8.3A - Response on Mains Replacement*, 13 January 2021, p. 23.

⁴² NGR, r. 74.

⁴³ NGR, r. 79(1).

⁴⁴ AGN, *Revised Final Plan 2021–26, Attachment 8.6A - Addendum to IT Investment Plan*, 13 January 2021, p. 20.

⁴⁵ ER, *Draft Decision, Australian Gas Networks access arrangement 2021–26, Attachment 5 - Capital Expenditure*, November 2020, p. 26.

The section below addresses the changes AGN has made in the revised proposal and our analysis of the new material. Our reasons for the other elements of IT capex are the same as those in the draft decision.

AGN's revised proposal

AGN's revised proposal includes \$31.1 million for the current access arrangement period (a reduction of \$10.7 million or 25.4 per cent) and \$46.7 million for 2021–26 period (an increase in of \$13.5 million or 41.1 per cent) for IT capex. Table 5.6 shows AGN's changes from the draft decision to the revised proposal.

Table 5.6 Change in proposed IT capex (\$2020–21, million)

	2016–21 Actual	2021–26 Forecast
Draft Decision	41.8	32.8
Geospatial Information System (GIS)	-4.9	3.8
Mobility Integration	-5.7	5.7
Business Intelligence	-1.0	1.1
AGIG Strategy & Roadmap	0.9	-0.2
Applications Renewal	-	1.8
Life support data solution	-	0.6
Other movement	0.1	1.1
Revised Proposal	31.1	46.7
Change in proposed IT	-10.7	13.9

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

As shown in Table 5.6, the changes from the draft decision can be summarised as a deferral of \$10.7 million from the current period to the 2021–26 period, along with \$2.8 million of new capex in the upcoming period, and some differences in cost escalation.

Geospatial Information System (GIS) upgrade project

The GIS upgrade project, which involves consolidation of AGN's outdated platforms into a single Enterprise GIS platform, was initially due to be completed in 2020–21.⁴⁶

⁴⁶ AGN, *Revised Final Plan 2021–26, Attachment 8.6A - Addendum to IT Investment Plan*, 13 January 2021, p. 10, Figure 2.1.

However, the project is now scheduled to go live in September 2021, with conflation work to be completed after this.⁴⁷

Consistent with this delay, AGN has reduced its capex forecast for 2016–21 by \$4.9 million from \$14.1 million to \$9.3 million, and included an additional \$3.8 million in forecast capex to account for the deferred capex.

Mobility integration

The mobility integration project, consolidating of three streams – e-Forms, integrated mobile work management systems and additional mobile applications, was initially programmed to be completed in 2020–21.⁴⁸ The e-Forms stream, which replaces paper forms with electronic versions compatible with multiple devices, commenced in 2017–18, and is now expected to continue into 2021–22.⁴⁹ The integrated mobile work management project aims to improve work processes through mobile integration with the asset management system. The project close is expected in December 2021.⁵⁰ AGN’s enterprise system mobility applications program is being implemented to enable its enterprise systems, (e.g. GIS, HR, and Payroll) to operate on mobile devices. Based on work undertaken, it is forecasted that this program continue until 2023.⁵¹

AGN has reduced the mobility integration capex forecast for 2016–21 by \$5.7 million from \$10.7 million to \$5.0 million, and increased the forecast for the next period by \$5.7 million to account for the deferral.

Business intelligence

The business intelligence project was initially programmed to be completed in 2020–21.⁵² The tactical business intelligence platform is complete. While many aspects have been completed, the work required to integrate AGN’s enterprise applications to the platform will continue in the next period, deferring some associated expenditure.⁵³

AGN has reduced the capex forecast for 2016–21 by \$1.0 million from \$3.0 million to \$2.0 million, with \$1.1 million deferred to 2021–26.

⁴⁷ AGN, *Revised Final Plan 2021–26, Attachment 8.6A - Addendum to IT Investment Plan*, 13 January 2021, pp. 12–14.

⁴⁸ AGN, *Final Plan 2021–26, Attachment 8.6 - IT Investment Plan – South Australia*, July 2020, p. 10, Figure 2.1.

⁴⁹ AGN, *Revised Final Plan 2021–26, Attachment 8.6A - Addendum to IT Investment Plan*, 13 January 2021, p. 15.

⁵⁰ AGN, *Revised Final Plan 2021–26, Attachment 8.6A - Addendum to IT Investment Plan*, 13 January 2021, pp. 16–17.

⁵¹ AGN, *Revised Final Plan 2021–26, Attachment 8.6A - Addendum to IT Investment Plan*, 13 January 2021, p. 17.

⁵² AGN, *Final Plan 2021–26, Attachment 8.6 - IT Investment Plan – South Australia*, July 2020, p. 10, Figure 2.1.

⁵³ AGN, *Revised Final Plan 2021–26, Attachment 8.6A - Addendum to IT Investment Plan*, 13 January 2021, p. 19.

AGIG strategy and roadmap

The AGIG strategy and roadmap project has been updated with actual expenditure and market costs from an enterprise resource planning request for proposals undertaken in 2020.⁵⁴

The capex forecast for the AGIG strategy and roadmap for 2016–21 has increased from nil to \$3.3 million, while 2021–26 has been reduced by \$0.2 million.

Application renewal

AGN has updated the timing of the next major update of the consolidated GIS system, which will impact the application renewal program in the next period by increasing the amount of capex required.⁵⁵

AGN increased its capex forecast for applications renewal for 2021–26 from \$14.5 million to \$16.2 million.

Life support and data

The life support and data solution, encompassing three industry agreed initiatives – life support, customer details and new job enquiry codes, was initially programmed to be completed in 2020–21.⁵⁶ The initiatives are to be implemented by November 2021, which has increased AGN's proposed capex in the next period.⁵⁷

The 2016–21 capex forecast for life support and data projects remains \$0.4 million, with 2021–26 increasing from nil to \$0.6 million.

Submissions on AGN's IT Capex

The AER received submissions from the SA Minister for Energy and Mining, SAFRRA and CCP24 regarding AGN's revised proposal IT capex.

The SA Minister for Energy and Mining encouraged the AER to closely investigate AGN's proposed IT capex given the large underspend in the current period.⁵⁸

SAFRRA was supportive of the AER's draft decision with respect to investment in IT.⁵⁹

⁵⁴ AGN, *Revised Final Plan 2021–26, Attachment 8.6A - Addendum to IT Investment Plan*, 13 January 2021, pp. 12–14.

⁵⁵ AGN, *Revised Final Plan 2021–26, Attachment 8.6A - Addendum to IT Investment Plan*, 13 January 2021, p. 11.

⁵⁶ AGN, *Final Plan 2021–26, Attachment 8.6 - IT Investment Plan – South Australia*, July 2020, p. 10, Figure 2.1.

⁵⁷ AGN, *Revised Final Plan 2021–26, Attachment 8.6A - Addendum to IT Investment Plan*, 13 January 2021, pp. 20–21.

⁵⁸ South Australian Minister for Energy and Mining, *Submission on AGN 2021-26 access arrangement revised proposal*, 16 February 2021, p. 1.

⁵⁹ SAFRRA, *Submission to AER on AGN's Revised Proposal and AER's Draft Decision 2021–26*, 17 February 2021, p. 2.

CCP24 requested assurance from the AER on the current period underspend in IT.⁶⁰

Our assessment

In making our final decision we need to review both 2016–21 and 2021–26 IT capex. AGN significantly changed the forecast for both periods in its revised proposal. We accepted AGN's initial proposal for IT capex in our draft decision. AGN's revised proposal for IT incorporated changes that were not in response to issues raised in our draft decision. Service providers may only submit additions or other amendments to their initial proposal to address matters raised in the draft decision unless the AER approves further amendments.⁶¹

We do not approve the revised proposal for IT, however we do accept AGN's amendments to its IT estimates and forecasts, including those that were not responding to matters raised in our draft decision.

We consider that under normal circumstances, AGN should have been able to provide a more accurate estimate of the delivery of the IT program in its initial proposal. However, 2020 was not a normal operating environment. We recognise that it was a difficult and challenging year for individuals and businesses globally. COVID-19 impacted AGN's ability to produce a more accurate forecast of program delivery for its initial proposal.

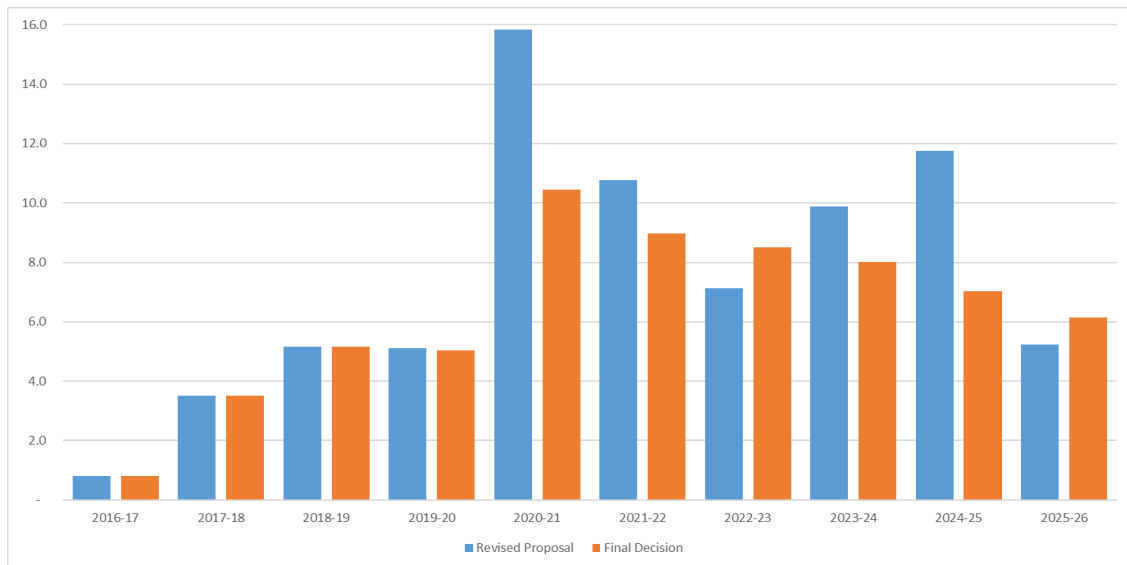
In finalising our decision we focussed on assessing whether or not the revised proposal is prudent and efficient based on the latest information available.

After our initial top down analysis, we worked with AGN to understand the changes in the revised proposal, and after participating in this process, AGN submitted an amended forecast for IT capex. Figure 5.2 provides an illustration by year of the amended forecast, while Table 5.7 shows the changes from AGN's revised proposal to our final decision.

⁶⁰ CCP24, *Advice to Australian Energy Regulator on Australian Gas Networks Revised Final Plan for AGN Gas Networks (South Australia) Access Arrangement 2021–26*, 17 February 2021, pp. 19–20.

⁶¹ NGR, r. 60.

Figure 5.2 Revised proposal and final decision 10 year capex



Source: AER Analysis.

Table 5.7 IT capex changes from revised proposal to final decision (\$2020–21, million)

	2016–21 Actual	2021–26 Forecast
Revised Proposal	31.1	46.7
Mobility Integration	-3.8	3.8
Business Intelligence	-1.0	-
AGIG Strategy & Roadmap	-0.4	-5.2
Applications Renewal	-0.2	-4.9
Other	-0.2	-0.6
Final Decision	25.4	39.8

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

We have reduced AGN’s IT capex forecast over the current and upcoming access arrangement periods by \$12.6 million in our final decision. This is a reduction of \$5.7 million in 2016–21, and \$6.9 million in 2021–26. IT capex is summarised in Table 5.8.

Table 5.8 IT capex 2016–21 and 2021–26 (\$2020–21, million)

	2016–21 Approved	2016–21 Actuals	2021–26 Revised Proposal	2021–26 Final Decision
Information technology	61.9	25.4	46.7	39.8

Source: AER Analysis.

We challenged AGN's revised proposal in response to the concerns expressed by CCP24 that consumers may be, in effect, paying twice for the deferred IT expenditures.⁶² As a result, forecast capex has been reduced by AGN in both the 2020–21 year and the 2021–26 period, mitigating this risk to consumers.

GIS

We have analysed the information provided in the revised proposal and sought assurances with respect to AGN's delivery timetable. AGN has advised delivery commenced in December 2020, with conflation pushed to 2022–23.⁶³

As noted earlier, we do not assess the estimate of capex for the final year of an access arrangement in the subsequent review. Rather, we assess it at the next review (2026–31). Consequently, we have not assessed whether AGN's estimate of \$5.8 million for 2020–21 is conforming capex. We accept the \$3.7 million 2021–26 forecast expenditure to be conforming.

Mobility integration

In addition to the deferral of \$5.7 million to the next period in the revised proposal, AGN has advised us of another \$3.8 million that can be deferred in the amended forecast. While the mobility integration project has received final approvals, COVID-19 delayed key appointments. Staffing issues have now been resolved and the project is on track for a go live in South Australia in June 2022. Large licencing costs originally estimated in this period, have been delayed until after June 2021.⁶⁴

AGN estimated the current period (2016–21) capex to be \$1.2 million, which will be assessed as conforming as part of the 2026–31 access arrangement. We assess the forecast of \$9.5 million for 2021–26 to be conforming capex.

Business intelligence

In addition to the deferral of \$1.0 million in the revised proposal, AGN's amended forecast has reduced the current period capex by another \$1.0 million. AGN advised that the project's framework and delivery is under review, which has delayed platform migration to the cloud.⁶⁵ This project now has a 2016–21 estimate of \$0.9 million which will be assessed as part of the 2026–31 access arrangement.

The additional change in the current period is not a deferral to the next period. The forecast for 2021–26 is \$1.1 million as per the revised proposal. We accept \$1.1 million as conforming capex.

⁶² CCP24, *Advice to Australian Energy Regulator on Australian Gas Networks Revised Final Plan for AGN Gas Networks (South Australia) Access Arrangement 2021–26*, 17 February 2021, pp. 19–20.

⁶³ AGN, *Response to information request IR023*, 10 March 2021, Table 1 and p. 5.

⁶⁴ AGN, *Response to information request IR023*, 10 March 2021.

⁶⁵ AGN, *Response to information request IR023*, 10 March 2021.

AGIG strategy and roadmap

Minor IT delays have resulted in additional reductions to the 2016–21 estimate of \$0.4 million.⁶⁶ Current period expenditure on the AGIG strategy and roadmap is estimated to be \$3.0 million which will be assessed for conforming capex in the 2026–31 access arrangement.

AGN advised that the SAP S4 Hanna platform project is the largest program of work within the AGIG strategy and roadmap. Moving the Dampier to Bunbury Pipeline and AGN Finance to the new platform is on track for completion later this year. Multinet Gas Networks (MGN) and the remainder of AGN migration to the platform is scheduled for 2023 to 2025. AGN's allocation of the AGIG group's overall costs, based upon customer numbers, is 60 per cent. On review, rather than delivering work concurrently, the work will most likely be staged with MGN first and AGN to follow. Current period experience with delivery has changed the delivery time assumptions to an extended period. It is now forecast that \$5.2 million of capex will be delayed until the 2026–2031 period.⁶⁷

We consider a capex forecast for 2021–26 of \$8.7 million is prudent and efficient.⁶⁸

Application renewal

In addition to the increase of \$1.8 million next period for GIS application renewal, AGN forecasts reductions of \$0.2 million in 2016–21 and \$4.9 million 2021–26. This results in a 2016–21 estimate of \$6.7 million and 2021–26 of \$11.4 million.

AGN's originally proposed system upgrade program reflected a prudent approach based on maintaining n-1 currency for core systems. AGN's updated forecast has changed its approach, delaying system upgrades as much as possible without compromising systems support. If the business need arises, AGN will undertake additional investment to maintain core system currency as required.⁶⁹

Applications renewal forecast for 2016–21 is \$6.7 million which the AER will assess for conforming capex in the 2026–31 access arrangement. The updated forecast for 2021–26 is \$11.4 million which we accept as prudent and efficient.⁷⁰

Life support and data

The life support and data forecast remains as per the revised proposal. Capex forecast for 2016–21 remains \$0.4 million unchanged from our draft decision.

⁶⁶ AGN, *Response to information request IR023*, 10 March 2021.

⁶⁷ AGN, *Response to information request IR023*, 10 March 2021.

⁶⁸ NGR, r. 79(1)(a).

⁶⁹ AGN, *Response to information request IR023*, 10 March 2021.

⁷⁰ NGR r. 79(1)(a).

As expenditure driven by changes to mandatory regulatory requirements we accept \$0.6 million in 2021–26 as conforming capex.⁷¹

Summary

We share the concerns expressed in submissions regarding the delivery of programs, particularly the AGIG strategy and roadmap. We expect AGIG to undertake a thorough deliverability review in preparation for its Victorian regulatory proposals.

While we challenge AGN to be more robust in forecasting the delivery of its IT programs, we find:

- \$5.1 million to be conforming capex for 2019-20, with 2020–21 expenditure of \$10.6 million to be reviewed in the 2026–31 access arrangement
- \$39.8 million for the 2021–26 period to be prudent and efficient.

5.5.3 Cost escalation and reconciliation

In our final decision for the 2021–26 access arrangement period, we considered the inflation and labour real cost escalation inputs:

- actual inflation up to 2020–21
- adjusted labour cost escalators in line with our opex assessment based on the Deloitte Access Economics (DAE) forecast (Attachment 6 – Operating expenditure) and the appropriateness of its application to the capex forecast.

As AGN has based its forecast on historical inputs and presented the inputs in 2019–20 and 2020–21 dollar terms in its capex model, we confirmed actual rates of inflation prior to 2020–21.

As noted in our draft decision, we have updated estimated inflation with actual inflation for 2020–21 in line with our roll forward model (RFM) and our capital base decision (Attachment 2 – Capital Base). This resulted in an \$8.5 million (\$2020–21) reduction in total capex.

In terms of labour real cost escalators, we have made adjustments for each capex category in accordance to the labour percentage allocation between EGW skilled labour and construction labour provided by AGN. This resulted in \$1.6 million (\$2020–21) reduction in total capex.

⁷¹ NGR, r. 79(1).

Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
AMRP	Accelerated Main Replacement Program
capex	Capital Expenditure
CCP/CCP24	Consumer Challenge Panel, sub-panel 24
DAE	Deloitte Access Economics
ECA	Energy Consumers Australia
EGW	Electricity, Gas and Water
ETL	Extract, Transfer, Load
GIS	Geospatial Information System
HDPE	High-density Polyethylene
IT	Information Technology
MGN	Multinet Gas Network
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
OTR	Office of the Technical Regulator
RAB	Regulatory Asset Base
RFM	Roll Forward Model
SACOSS	South Australian Council of Social Service
SAFRRA	South Australian Federation of Residents and Ratepayers Association
Zincara	Zincara Pty Ltd