



FINAL DECISION
Australian Gas Networks
Access Arrangement

2021 to 2026

Attachment 12
Demand

April 2021

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AER reference: 65192

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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12 Demand

This attachment sets out our assessment of the demand forecasts for AGN for the 2021–26 access arrangement period. Demand is an important input into the derivation of AGN's reference tariffs. Demand forecasts also affect operating expenditure (opex) and capital expenditure (capex), which are linked to network growth via the number of new connections.¹

12.1 Final decision

We are satisfied that AGN's proposed demand forecasts, applied by CORE Energy & Resources (CORE), comply with rule 74(2) of the National Gas Rules (NGR).²

12.2 AGN's revised proposal

In our draft decision, we accepted AGN's forecast demand for Tariff D (industrial), Maximum Daily Quantity (MDQ) and Annual Contract Quantity (ACQ), were consistent with rule 74(2) of the NGR.³ We requested AGN update its demand forecast with the latest data for Tariff R (residential) and Tariff C (commercial) in its revised proposal.⁴

AGN has provided further information and incorporated revisions to its Tariff R and Tariff C forecasts, as required by our draft decision.

In summary, CORE updated its demand forecast with the following:⁵

- 2019–20 actual consumption and connections data;
- 2019–20 Bureau Meteorology weather data sourced to update weather normalisation;
- Housing Industry Association (HIA) data with the latest available report to forecast future dwelling commencements;
- Gross State Product (GSP) forecasts from the South Australian Treasury;
- The outlook for electricity and gas prices;
- The impact of COVID-19 on current gas consumption and the expected longer term impact over the 2021–26 period; and
- Removal of the associated demand from Mount Barker as AGN has decided not to proceed with its network extension.

¹ Our final decisions on AGN's capex and opex are set out in Attachment 5 and Attachment 6, respectively.

² NGR, r. 74(2).

³ NGR, r. 74(2).

⁴ AER, *Draft decision, Australian Gas Networks access arrangement 2021–26, Attachment 12 - Demand*, November 2020, pp. 4, 8.

⁵ AGN, *Revised Final Plan 2021–26, Attachment 12.4 - Response to Draft Decision on Demand forecasts*, 13 January 2021, pp. 3–4.

Overall, AGN’s revised demand forecast for the residential and industrial segments are marginally higher, while the commercial segment is marginally lower compared to the initial proposal.

Table 12.1 AGN revised demand forecasts for Tariff R and Tariff C for the 2021–26 access arrangement period

	2020–21	2021–22	2022–23	2023–24	2024–25
Residential connections	458,300	463,996	469,359	475,055	480,977
Residential consumption per connection	15.5	15.2	14.8	14.3	13.9
Residential Demand (TJ)	7,123,430	7,033,271	6,925,431	6,803,579	6,693,881
Commercial connections	11,166	11,283	11,397	11,498	11,596
Commercial consumption per connection	299.0	298.5	296.6	293.6	291.1
Commercial Demand (TJ)	3,338,743	3,367,754	3,380,814	3,376,074	3,376,001

Source: AGN Access Arrangement Information.⁶

Notes: These values represents total connections and demand including the impact of zero consuming meters.

AGN forecast total residential demand to decrease by 2.3 per cent per year over the 2021–26 access arrangement period. This compares to a decrease of 0.3 per cent per year growth in the 2016–21 period.⁷

AGN forecasts total commercial demand to increase by 0.8 per cent per year over the 2021–26 access arrangement period. This compares to an increase of 0.1 per cent per year in the 2016–21 period.

AGN forecasts residential consumption per connection to decrease by 3.4 per cent per year over the 2021–26 period, while commercial consumption per connection is expected to increase by 0.1 per cent per year over the same period. This compares to a decrease of 1.6 per cent per year and 0.7 per cent per year respectively, in the 2016–21 period.

AGN forecasts residential connections to increase by 1.2 per cent per year over the 2021–26 period. Similarly, commercial connections are forecast to increase by 0.7 per cent per year. This compares to an increase of 1.3 per cent per year and 0.9 per cent per year respectively in the 2016–21 period.

⁶ AGN, *Revised Final Plan 2021–26, Attachment 12.2A - Updated Demand Forecast Model*, 13 January 2021.

⁷ Noting that any comparison between the 2021–26 access arrangement period and the current period is a comparison between two forecasts as 2020–21 is an estimate.

Table 12.2 AGN demand forecasts for Tariff D for the 2021–26 access arrangement period

	2021–22	2022–23	2023–24	2024–25	2025–26
Connections	109	106	103	100	97
MDQ (TJ)	46,377	44,713	43,107	41,573	40,095
ACQ (TJ)	10,329,709	10,027,836	9,732,683	9,445,815	9,165,005

Source: AGN Access Arrangement Information.⁸

AGN has updated its industrial forecast for 2019–20 actuals, as well as changes in the demand outlook for a few large customers. This has resulted in an increase of 194TJ (or 0.4 per cent) from its initial proposal.⁹

AGN forecasts industrial demand to decrease by 3.1 per cent per year over the 2021–26 access arrangement period. This compares to a decrease of 2.0 per cent per year in the current 2016–21 period.

12.3 Assessment approach

Our assessment approach is the same as the draft decision.¹⁰

12.3.1 Interrelationships

We have considered the relevant interrelationships between the different components of AGN's access arrangement as part of our analysis.

Several interrelationships exist. This includes the effect of forecast demand on the efficient amount of capex and opex and tariffs in the 2021–2026 access arrangement period. In particular, the demand forecasts impact:

- Tariff R and Tariff C connections capex – the number of new connections affects the amount of approved connections capex
- Opex – the forecast total connection numbers and total consumption (output growth) are used to determine additional opex required to service a larger network
- Tariff prices – prices are based on forecast consumption (demand) per connection. Tariff prices are determined by cost (revenue) divided by quantity (demand per connection). This means that an increase in forecast quantity has the effect of reducing the tariff price given the same revenue.

⁸ AGN, *Revised Final Plan 2021–26, Attachment 12.4 - Response to Draft Decision on Demand forecasts*, 13 January 2021, table 1.4.

⁹ *Ibid.* p. 5

¹⁰ AER, *Draft decision, Australian Gas Networks access arrangement 2021–26, Attachment 12 - Demand*, November 2020, pp. 6–7.

12.3.2 Minimum, maximum and average demand

Under the NGR, AGN's access arrangement must include minimum, maximum and average demand for the earlier access arrangement period.¹¹ AGN's access arrangement information and its response to our regulatory information notice (RIN) satisfy these requirements.¹²

12.3.3 Forecast pipeline capacity and utilisation

The NGR requires that to the extent practicable, the access arrangement information should include forecast pipeline capacity and utilisation of pipeline capacity over the access arrangement period.¹³

AGN did not provide this information in its access arrangement information. However, AGN's distribution network is a meshed network made up of interconnected pipes, and there are a number of practical considerations that mean that calculating forecast capacity and utilisation is not practical.

12.4 Reasons for final decision

We accept AGN's forecast Tariff R and Tariff C for residential and commercial customers, as well as AGN's forecast Tariff D for industrial customers. We are satisfied that these demand forecasts are consistent with rule 74(2) of the NGR.

AGN's revised proposal incorporated the revisions to its demand forecasts required by our draft decision.¹⁴

Overall, we are satisfied that the demand forecasts in AGN's revised proposal are arrived at on a reasonable basis and represent the best estimate possible in the circumstances.¹⁵

12.4.1 Demand forecast of Tariff R and Tariff C

Based on further information supplied in AGN's revised proposal, we are satisfied with AGN's forecast of Tariff R and Tariff C numbers and demand are consistent with rule 74(2) of the NGR.

¹¹ NGR, r. 72(1)(a)(iii)(A).

¹² AGN, *Final Plan 2021–26, Attachment 6 - RIN Workbook 2, Historical data - Consolidated*, 1 July 2020.

¹³ NGR, r. 72(1)(d).

¹⁴ AGN, *Revised Final Plan 2021–26, Attachment 12.4 - Response to Draft Decision on Demand forecasts*, 13 January 2021; AGN, *Revised Final Plan 2021–26, Attachment 12.1A - Core Energy Gas Demand and Customer Forecast Update*, 13 January 2021.

¹⁵ NGR, r. 74(2).

2019–20 actual demand and customer data

CORE has confirmed the following new data and information in its Gas Demand and Customer Forecast Update report submitted as part of AGN’s revised proposal:¹⁶

- AGN actual demand data to 30 June 2020
- AGN actual connections data to 30 June 2020
- An extension of weather data to 30 June 2020.

CORE have observed the following impacts to actual demand for the final quarter of 2019–20 when COVID-19 lockdowns commenced:¹⁷

- weather normalised consumption in the residential segment was 3 per cent higher than the two year average over the same period
- weather normalised consumption in the commercial segment was 3 per cent lower.

On the basis that AGN has updated its demand and connections inputs using 2019–20 actual data as requested in our draft decision with independent assurance, we are satisfied that AGN has used the best possible inputs in terms of actual data.

Mount Barker

In its initial proposal, CORE separately considered the connections rate for the Mount Barker extension. Given AGN’s commitment in its revised proposal not to proceed with the extension of the network to Mount Barker, the associated demand is removed from its forecast.¹⁸

AGN also removed the associated capex of Mount Barker from both its 2016–21 actuals/estimates and 2021–26 forecast. Please refer to attachment 5 – Capex, for further details.

Latest HIA dataset

CORE has confirmed the following new data and information in its Gas Demand and Customer Forecast Update report submitted as part of AGN’s revised proposal:¹⁹

- new forecast dwelling commencements estimates by HIA (September 2020)

¹⁶ AGN, *Revised Final Plan 2021–26, Attachment 12.1A - Core Energy Gas Demand and Customer Forecast Update*, 13 January 2021, p. 1.

¹⁷ AGN, *Revised Final Plan 2021–26, Attachment 12.4 - Response to Draft Decision on Demand forecasts*, 13 January 2021, p. 4.

¹⁸ AGN, *Revised Final Plan 2021–26, Attachment 12.4 - Response to Draft Decision on Demand forecasts*, 13 January 2021, p. 4.

¹⁹ AGN, *Revised Final Plan 2021–26, Attachment 12.1A - Core Energy Gas Demand and Customer Forecast Update*, 13 January 2021, pp. 7–8.

- applied the HIA data consistently with the approach used in AGN's initial proposal.

CORE noted the following major movements in HIA's latest dataset:²⁰

- a forecast increase in estate dwellings due to SA Government incentive programs and other influences
- a forecast reduction in Medium Density High Rise (MDHR) dwelling due to lower demand for tourist and student accommodation supply, and actual data supporting higher applications relating to estates versus MDHR dwellings.

Overall, the new HIA forecast have a positive net impact on residential connections and a negative net impact on commercial connections compared to its initial forecast. This is shown in Figure 12.1 and Figure 12.2.

Figure 12.1 CORE Residential Connection Forecast, by number of connections

Prior Submission (July 2020)

Connections by Type	2020	2021	2022	2023	2024	2025	2026
Opening Connections	443,043	448,400	452,592	455,278	459,953	465,169	470,924
Disconnections	1,897	1,920	1,944	1,962	1,982	2,004	2,029
Disconnections Zero Consuming Connections	-	1,448	1,448	-	-	-	-
Existing 2019 Connections	441,146	437,778	434,385	432,424	430,442	428,437	426,408
New Dwelling Connections Residential Estate	5,628	5,932	4,798	5,241	5,685	6,128	6,031
New Dwelling Connections Residential E2G	918	880	843	808	775	743	712
New Dwelling Connections Residential MDHR	708	748	437	588	738	889	911
Forecast Connections	448,400	452,592	455,278	459,953	465,169	470,924	476,549

Update (January 2021)

Connections by Type	2020	2021	2022	2023	2024	2025	2026
Opening Connections		449,649	453,957	458,300	463,996	469,359	475,055
Disconnections		1,910	1,934	1,959	1,983	2,006	2,030
Disconnections Zero Consuming Connections		1,448	1,448	-	-	-	-
Existing 2019 Connections		446,291	442,908	440,949	438,966	436,960	434,930
New Dwelling Connections Residential Estate		6,036	6,450	6,450	6,153	6,457	6,622
New Dwelling Connections Residential E2G		844	808	773	740	708	678
New Dwelling Connections Residential MDHR		785	468	432	453	537	652
Forecast Connections	449,649	453,957	459,036	463,993	469,356	475,052	480,974

²⁰ Ibid. p. 8

Movement

Connections by Type	2020	2021	2022	2023	2024	2025	2026
Opening Connections		1,249.08	1,364.84	3,022.12	4,042.67	4,190.20	4,130.87
Disconnections		(10.06)	(9.76)	(2.86)	1.31	1.76	1.31
Disconnections Zero Consuming Connections		-	-	-	-	-	-
Existing 2019 Connections		8,513.22	8,522.98	8,525.85	8,524.54	8,522.78	8,521.47
New Dwelling Connections Residential Estate		103.30	1,652.17	1,208.70	468.70	328.75	591.20
New Dwelling Connections Residential E2G		(35.39)	(35.15)	(34.86)	(34.53)	(34.17)	(33.78)
New Dwelling Connections Residential MDHR		37.80	30.49	(156.15)	(285.33)	(352.15)	(259.15)
Closing Connections	1,249	1,365	3,758	4,040	4,187	4,128	4,425

Source: AGN, Revised Final Plan 2021–26, Attachment 12.1A - Core Energy Gas Demand and Customer Forecast Update, 13 January 2021, Figure 2.3.

Figure 12.2 CORE Commercial Connection Forecast, by number of connections

Prior Submission (July 2020)

Connections by Type	2020	2021	2022	2023	2024	2025	2026
Opening Connections	11,233	11,350	11,291	11,231	11,337	11,442	11,544
Disconnections	150	151	153	154	156	157	158
Disconnections Zero Consuming Connections	-	168	168	-	-	-	-
Existing 2019 Connections	11,083	10,764	10,443	10,289	10,133	9,976	9,818
New Commercial Connections	267	261	261	260	260	259	258
Cumulative New Connections	267	528	788	1,048	1,308	1,567	1,826
Forecast Connections	11,350	11,291	11,231	11,337	11,442	11,544	11,644

Update (January 2021)

Connections by Type	2020	2021	2022	2023	2024	2025	2026
Opening Connections		11,287	11,203	11,166	11,283	11,397	11,498
Disconnections		153	154	155	157	159	160
Disconnections Zero Consuming Connections		168	168	-	-	-	-
Existing 2019 Connections		10,966	10,645	10,489	10,332	10,174	10,014
New Commercial Connections		236	285	272	271	259	258
Cumulative New Connections		236	521	793	1,065	1,324	1,582
Forecast Connections	11,287	11,203	11,166	11,283	11,397	11,498	11,596

Movement

Connections by Type	2020	2021	2022	2023	2024	2025	2026
Forecast Connections	(62.88)	(88.72)	(65.21)	(54.60)	(44.56)	(46.01)	(47.70)

Source: AGN, Revised Final Plan 2021–26, Attachment 12.1A - Core Energy Gas Demand and Customer Forecast Update, 13 January 2021, Figure 2.7.

On the basis that AGN has updated its tariff R inputs with the latest HIA data and independent assurance, we are satisfied that AGN has used the best possible inputs.

COVID-19 Impacts

Given the uncertainty relating to both the timing of new commencements and recent changes to consumption behaviours as a result of COVID-19, CORE has adopted the following approach:²¹

- for new connections, 2021–22 and 2022–23 data has been averaged. In other words, the total 2021–22 and 2022–23 derived connections have been divided by two
- consumption per residential connection will remain at a higher average level for 2020–21 but return to pre COVID-19 forecast levels at beyond 2021–22
- consumption per commercial connection will remain at a lower average level for 2020–21 but return to pre COVID-19 forecast levels beyond 2021–22.

CORE noted the reasons for its approach are based on the success of Australia (and in particular South Australia) in containing COVID-19 and the advent of various vaccines to be administered globally now and in the coming months.²²

AGN has also sought independent advice from ACIL Allen on the reasonableness of CORE's approach to the impacts of COVID-19. ACIL Allen stated in its report that CORE's assumption of a return to normality in 2021–22 is reasonable given the imminent rollout of an approved and effective vaccine, even if a considerable amount of uncertainty remains.²³

We agree with ACIL Allen's view that a considerable amount of uncertainty remains. While it is possible that the path to normality may take more than two years, and that consumption behaviours from recent work practices may have a long tail, we accept that CORE has used reasonable assumptions to produce its forecast.

In our assessment, we have also considered the following:

- materiality of the associated demand changes
- impacts to the existing forecast methodology
- assurances from independent consultants
- stakeholder submissions
- overall reasonableness of the proposed changes.

²¹ AGN, *Revised Final Plan 2021–26, Attachment 12.1A - Core Energy Gas Demand and Customer Forecast Update*, 13 January 2021, pp. 8, 9 and 11.

²² *Ibid.* pp. 8, 9.

²³ AGN, *Revised Final Plan 2021–26, Attachment 12.5 - ACIL Allen Review of COVID-19 related adjustments*, 13 January 2021, p. 4.

Overall, we are satisfied that AGN has met all of the above conditions. On this basis, we accept AGN's proposed changes to the demand forecast to reflect impact of COVID-19.

12.4.2 Demand forecast of Tariff D

In our draft decision, we accepted AGN's forecast for Tariff D, but requested it update the forecast with the latest data in its revised proposal.

AGN has updated the Gross State Product (GSP) forecasts from the South Australia Treasury, as well as the demand outlook for a few large customers. This has resulted in an overall increase of 194TJ (or 0.4 per cent) compared to its initial forecast.²⁴

Based on further information supplied in AGN's revised proposal, we are satisfied with AGN's forecast of Tariff D numbers and demand are consistent with rule 74(2) of the NGR.

²⁴ AGN, *Revised Final Plan 2021–26, Attachment 12.4 - Response to Draft Decision on Demand forecasts*, 13 January 2021, p. 4.

Shortened forms

Shortened form	Extended form
ACIL Allen	ACIL Allen Pty Ltd
AER	Australian Energy Regulator
ACQ	Annual Contract Quantity
capex	capital expenditure
CCP/CCP24	Consumer Challenge Panel, sub-panel 24
CORE	CORE Energy & Resources
COVID-19	2019 novel coronavirus disease
GSP	Gross State Product
HIA	Housing Industry Association
MDHR	Medium Density High Rise
MDQ	Maximum Daily Quantity
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
opex	operating expenditure
RIN	Regulatory Information Notice
TJ	Terajoule