Australian Gas Networks

Attachment 13.1B

Updated Core Energy Demand Forecasting Report

Response to AER Draft Decision

January 2023

Updated Gas Demand Forecast

Australian Gas Networks (Victoria and Albury) Access Arrangement

Financial Years ending 30 June 2024-2028

January 2023

1.   Introduction

This report has been prepared by Core Energy & Resources Pty Ltd ("**CORE**") for the purpose of providing Australian Gas Networks ("AGN") with an Updated independent forecast of gas customers and gas demand for the AGN Victoria and Albury distribution networks, for the five-year (Financial Year) Review Period from 1 July 2023 to 30 June 2028 ("**Review Period**").

This Update has been undertaken following release of a Draft Decision by the Australian Energy Regulator ("AER").

The AER's Draft Decision report included the following paragraphs:

> "12.1 Draft decision
>
> Our draft decision is to accept AGN's demand forecast for the 2023–28 period. We are satisfied that AGN's proposed demand forecast, as applied by its consultant CORE Energy & Resources (CORE), comply with rule 74(2) of the National Gas Rules (NGR).
>
> 12.4.1 AGN's forecast methodology and assumptions
>
> …Notwithstanding this, we consider AGN should update its demand forecast in the revised proposal to take account of any material changes in assumptions or data between now and the revised proposal and should also update the forecast to take account of AEMO's 2023 GSOO.

Accordingly, AGN has engaged CORE to update its independent forecast in accordance with the AER's request, while noting that that the AEMO GSOO has not been publicly released at the date of this report.

We acknowledge that this Update report, will form part of AGN Victoria Access Arrangement ("**AA**") Proposal submission to the Australian Energy Regulator ("**AER**"). This report should be read in conjunction with the Revised Gas Demand Model (Confidential and Not for Public Disclosure).

CORE has taken all reasonable steps to ensure this report, and the approach to deriving the forecasts referred to within this report, comply with Part 9, Division 2 of the National Gas Rules ("**NGRs**").

2.   Summary

Following a review of Updated AGN Victoria and HIA data, CORE considers that the following Updated Forecast is the best estimate of Residential and Commercial demand for the Review Period, under these circumstances. An update is considered not to be required for the AGN Vic. Industrial tariff class, based on materiality.

CORE considers that no update is required for Albury (all tariff classes) on the basis of materiality.

The following table provides a summary of the Revised (September) Forecast and the Updated (January) Forecast for AGN Victoria.

Revised as submitted to AER September 2022	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2023-24 to 2027-28
Residential Demand	30,111,354	29,968,107	28,947,339	27,836,087	26,519,621	24,931,633	23,297,407	**131,532,087**
Commercial Demand	7,022,858	7,928,314	7,945,768	7,730,251	7,694,228	7,658,374	7,622,687	**38,651,308**
Total R&C	37,134,212	37,896,422	36,893,107	35,566,337	34,213,849	32,590,007	30,920,094	**170,183,395**
Updated January 2023	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2023-24 to 2027-28
Residential Demand	29,494,165	29,313,180	28,340,716	27,292,458	26,013,907	24,431,758	22,796,436	**128,875,275**
Commercial Demand	7,257,360	8,107,714	8,138,486	7,989,824	8,025,344	8,038,497	8,053,177	**40,245,327**
Total R&C	36,751,525	37,420,894	36,479,202	35,282,282	34,039,250	32,470,254	30,849,613	**169,120,602**
Movement	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2023-24 to 2027-28
Residential Demand	-617,189	-654,927	-606,623	-543,629	-505,714	-499,875	-500,971	**-2,656,813**
Commercial Demand	234,502	179,400	192,718	259,574	331,115	380,123	430,490	**1,594,020**
Total R&C	-382,687	-475,527	-413,905	-284,055	-174,599	-119,753	-70,481	**-1,062,793**

Further detail of the basis for this Updated Forecast is provided below and in the accompanying Demand Model.

3.   Supporting Analysis

3.1.   Residential Demand

CORE has considered the following updated information to derive its Updated Revised Forecast of residential demand:

- Updated AGN sourced connections data for the 2022 fiscal year.

- Updated AGN sourced consumption data for the 2022 fiscal year.

- Updated HIA-based new dwelling connections forecasts.

3.1.1. Update

3.1.1.1 AGN Connections data:

Based on updated 2021-22 actual AGN data, the following table shows that there is a minor difference between the 2021-22 Revised Forecast Residential connections and the 2021-22 Actual data. However, for completeness the AGN Vic Demand Model has been updated.

Based on updated November 2022 HIA data, the following table shows that there is an increase in forecast new residential connections of 13,781 across Victoria, over the 2023-4 to 2027-8 period.

HIA Data	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	Total 2023-24 to 2027-28
Revised Forecast HIA Data	57,499	54,513	45,862	39,316	37,166	37,311	37,239	196,893
Updated Revised Forecast HIA Data	57,497	54,523	48,770	43,308	37,866	38,844	41,886	210,674
Net Movement	-2	10	2,908	3,992	700	1,533	4,647	13,781

By applying a methodology which is consistent with the approach summarised in the Revised Forecast report, the forecast Victorian increase results in an updated revised forecast increase of 3,833 new connections for the AGN Vic network (no change for Albury), as shown below.

Regression Data (Net Connection Movement; HIA Data)

Multiple R	0.9777
R Square	0.9559
Adjusted R Square	0.9471
Significance F	0.0001
X Variable P value	0.0001
Coefficient X Variable	0.2782
Intercept	1,438.3252

	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	Total 2023-24 to 2027-28
Revised Forecast New Connections	17,433	16,603	14,196	12,375	11,777	11,818	11,797	61,963
Updated Revised Forecast New Connections	17,433	16,605	15,005	13,486	11,972	12,244	13,090	65,797
Net Movement	-1	3	809	1,111	195	426	1,293	3,834

Taking the above updates into consideration, the following table presents a summary of the Revised Forecast connections (September) and the Updated Forecast connections (January).

Revised as submitted to AER	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Closing connections	695,963	704,179	705,234	703,654	694,587	680,251	660,021
Average connections	689,169	700,071	704,707	704,444	699,121	687,419	670,136

Updated January 2023	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Closing connections	695,963	704,182	706,045	705,576	696,704	682,794	663,857
Average connections	**689,169**	**700,072**	**705,113**	**705,810**	**701,140**	**689,749**	**673,325**

3.1.1.2 AGN Demand/Connection data:

Based on updated 2021-22 actual AGN data, the following table shows that the 2021-22 actual weather normalised demand/connection was lower than the 2021-22 Revised Forecast.

Demand per Connection		2021-22 Revised Forecast	Actual 2021-22	Actual 2021-22 Weather Normalised
Total Vic & Albury	GJ	**43.66**	**44.83**	**42.80**

CORE has Updated the Demand Model for the Actual 2022 result vs the estimate which was included in the Revised (September) Model.

The following table presents a summary of the Revised Forecast connections (September) and the Updated Forecast connections (January).

Revised Residential as submitted to AER	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
D/C		43.69	42.81	41.08	39.51	37.93	36.27	34.77

Movement		2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
D/C	0	-0.89	-0.93	-0.88	-0.85	-0.83	-0.85	-0.91

Updated January 2023		2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
D/C		42.80	41.87	40.19	38.67	37.10	35.42	33.86

3.2. Commercial Demand

CORE has considered the following updated information to derive its Updated Revised Forecast of commercial demand:

- Updated AGN sourced connections data for the 2022 fiscal year.

- Updated AGN sourced consumption data for the 2022 fiscal year.

3.2.1. Updated data

3.2.1.1 AGN Connections data:

Based on updated 2021-22 actual AGN data, the following table shows that there is a minor difference between the 2021-22 Revised Forecast commercial connections and the 2021-22 Actual data. However, for completeness the AGN Vic Demand Model has been updated.

Revised as submitted to AER		2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Closing		24,149	24,168	23,262	22,352	22,473	22,594	22,716	22,838
Average		24,053	24,159	23,715	22,807	22,412	22,533	22,655	22,777
Updated January 2023		2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Closing		24,149	24,206	23,309	22,410	22,540	22,670	22,802	22,934
Average			24,178	23,758	22,859	22,475	22,605	22,736	22,868

3.2.1.2 AGN Demand/Connection data:

Based on updated 2021-22 actual AGN data, the following table shows that the 2021-22 actual weather normalised demand/connection was marginally higher than the 2021-22 Revised Forecast.

Revised as submitted to AER	2021-22
D/C	290.70

Updated January 2023	2021-22
Updated D/C	300.17

CORE has Updated the Demand Model for the Actual 2022 result vs the estimate which was included in the Revised (September) Model.

The following table presents a summary of the Revised Forecast connections (September) and the Updated Forecast connections (January).

Revised as submitted to AER	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
D/C	290.70	334.32	348.39	344.91	341.46	338.05	334.67

Updated January 2023	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Updated D/C	300.17	341.27	356.02	355.50	355.03	353.56	352.16