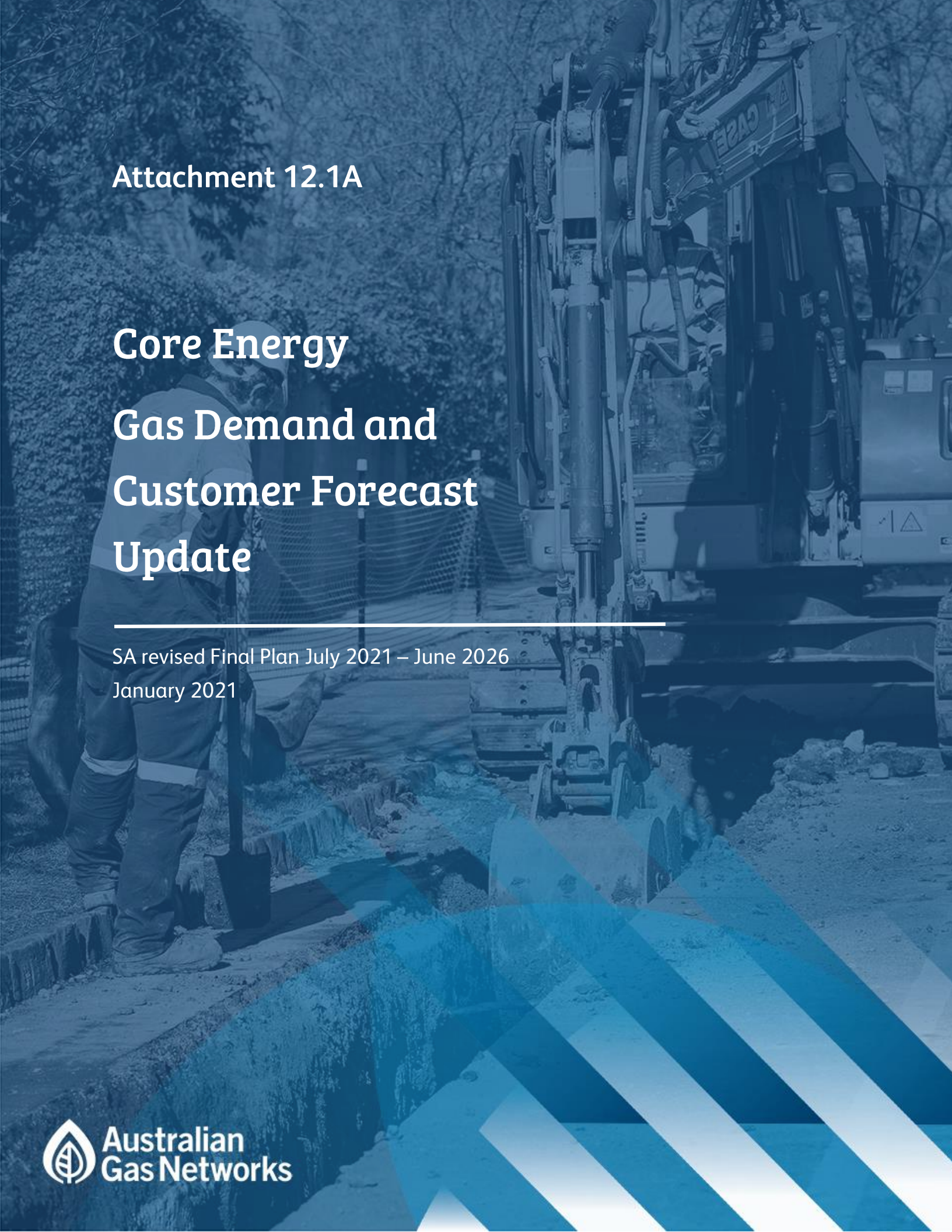

Attachment 12.1A

Core Energy Gas Demand and Customer Forecast Update

SA revised Final Plan July 2021 – June 2026

January 2021

Australian Gas Networks

CORE ENERGY & RESOURCES

Gas Demand and Customer Forecast Update

Australian Gas Infrastructure Group | SA Gas Access Arrangement 2022-2026

January 2021

Final Report

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Glossary

ACQ	Annual Contract Quantity
AER	Australian Energy Regulator
AGIG	Australian Gas Infrastructure Group
AGN	Australian Gas Networks
BOM	Bureau of Meteorology
CORE	Core Energy & Resources Pty. Limited
GAAR	Gas Access Arrangement Review
HIA	Housing Industry Association
MD	Medium Density (Dwelling)
MDHR	Medium Density/ High-Rise (Dwelling)
MDQ	Maximum Daily Quantity

Section 1 | Summary

1.1. Scope of this Report

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 demand for the company's natural gas distribution network in South Australia ("**SA**"), for the five financial years from 1 July 2021 to 30 June 2026 ("**Review Period**").

The updated forecast is based upon CORE's earlier analysis (July 2020 submission) and new data and information accessed by CORE as addressed herein, including but not limited to:

- AGN-SA actual demand data to 30 June 2020
- AGN-SA actual connections data to 30 June 2020
- An extension of weather data to 30 June 2020, sourced from BOM for EDD Index and Weather normalisation purposes
- Review of the impact movements in GSP
- Updated data sourced from HIA regarding future dwelling commencements, as a lead indicator of housing completions
- Review of gas and electricity price outlook

CORE has noted that these projections (both this Report and related forecasting models[1]) will form part of AGN's Gas Access Arrangement Review ("**GAAR**") submission to the Australian Energy Regulator ("**AER**").

As stated in the July submission, CORE acknowledges that the derivation of mid to longer range forecasts generally, and this customer and demand forecast specifically, involve a significant degree of uncertainty. Accordingly, CORE has taken all reasonable steps to ensure this Report, and the approach to deriving the forecasts referred to within the Report, comply with Division 2 of the National Gas Rules ("**NGR**") "Access arrangement information relevant to price and revenue regulation", and in particular, parts 74 and 75 as referenced below.

"74. Forecasts and estimates

(1) Information in the nature of a forecast or estimate must be supported by a statement of the basis of the forecast or estimate.

(2) A forecast or estimate:

(a) must be arrived at on a reasonable basis; and

(b) must represent the best forecast or estimate possible in the circumstances.

75. Inferred or derivative information

Information in the nature of an extrapolation or inference must be supported by the primary information on which the extrapolation or inference is based." [2]

1 The forecasting models are confidential and an application will be sought for disclosure to be suppressed in accordance with NGR part 43 (2) (b).
2 NGR dated April 2014 and accessed from AEMC website.

1.2. July 2020 Demand Forecast and AER Draft Decision

In July 2020 CORE submitted its independent forecast of gas customers and demand for the company's natural gas distribution network in South Australia ("**SA**"), for the five financial years from 1 July 2021 to 30 June 2026 ("**Review Period**").

In November 2020, the AER issued a Draft Decision which included as Attachment 12, a draft decision relating specifically to the Demand forecast. The report stated:

> *"Our draft decision is to accept AGN's proposed approach to demand forecast for the 2021–26 period. We are satisfied that AGN's proposed demand forecasts, as applied by its consultant CORE Energy & Resources (CORE), comply with rule 74(2) of the National Gas Rules (NGR). We have accepted AGN's inputs as a placeholder, and expect that these will be updated with the latest data in its revised proposal.*
>
> *With respect to Tariff D, we are satisfied that forecast demand for Maximum Daily Quantity (MDQ) and Annual Contract Quantity (ACQ) for this tariff class is consistent with rule 74(2) of the NGR".* [3]

1.3. Structure of this Report

This report comprises two Sections:

Section 1 – Summary

A summary of the updated forecast of network demand and customer numbers including:

- Volume customer forecast – connections/customer numbers and demand
  - Residential, Tariff R
  - Small Business, Tariff C
- Tariff D forecast – Maximum Demand and ACQ forecast
- Conclusion

Section 2 – Supporting Data, Information and Analysis

An overview of the data and information relied upon, and analysis undertaken to derive the updated forecast.

Please note that all years referred to are financial years unless otherwise stated.

[3] DRAFT DECISION Australian Gas Networks (SA) Access Arrangement 2021 to 2026, Attachment 12 Demand; paragraph 12.1, page 4

1.4. Tariff Classification

For the purpose of this Report, reference is made to three customer segments - Tariff R, Tariff C and Tariff D[4] as defined in Table 1.1 below.

Table 1.1 | Customer Segments used for Tariff Classification

Customer segment	Description
Volume Tariffs – Tariff R, Tariff C (<10TJ)	AGN's Volume Tariff customer groups consists of Residential customers (Tariff R) and Small Business customers (Tariff C) who are reasonably expected to consume less than 10 TJ of natural gas per year. As the small business customers billed quarterly have significantly different gas usage (and also drivers of demand) than residential customers, CORE has recorded forecasts for these types of customer separately under 'Small Business'. New Residential customers are further segmented as follows: ▪ E to G – electricity only dwellings which connect to gas ▪ Estates – typically new, free-standing houses but can include semi-detached or duplex/townhouse dwellings (1-2 dwellings) ▪ Medium Density/High Rise – houses connected as part of a higher density apartment (3 or more dwellings).
Demand Tariffs - Tariff D (>10TJ)	AGN's Demand Tariff customer group consists of large industrials that are reasonably expected to consume more than 10 TJ of gas per year. Throughout this report, the Demand Tariff customer group will be referred to as Tariff D customers and MDQ will be referred to for certain historical data and analysis - this refers to the highest day's consumption within a particular year. ACQ refers to the total volume consumed within one year.

Source: CORE based on AGIG Schedule of Tariffs and Plans.

1.5. Methodology Overview

CORE has adopted a methodology to derive forecasts of network demand and customer numbers, which is consistent with the approach set out in the prior report (July 2020) for both volume and demand customers – which is set out in summary form below for completeness.

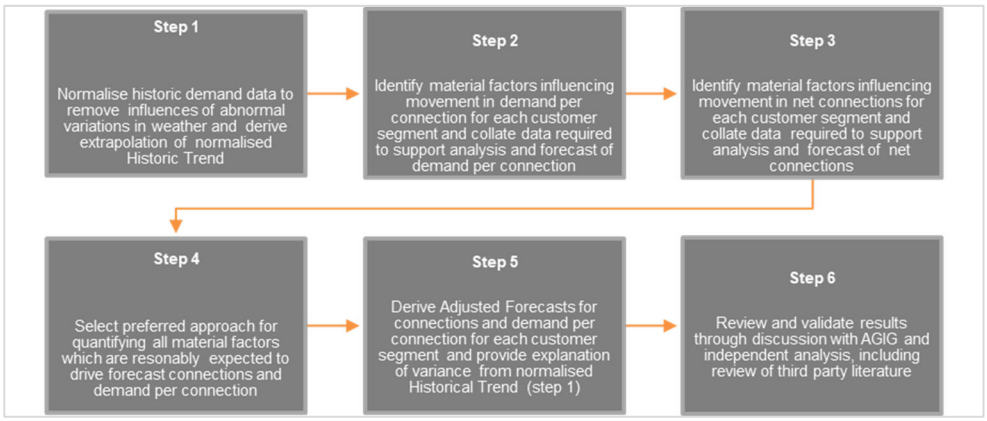
CORE notes that the methodology applied was determined by the AER to comply with the NGR, and the results were accepted as a 'placeholder', subject to update of data as part of the revised proposal[5].

4 These types are consistent with the Volume Tariff and Demand Tariff customer groups used in tariff assignment as referenced in the 2020 AGIG Schedule of Tariffs and Plans.

5 DRAFT DECISION Australian Gas Networks (SA) Access Arrangement 2021 to 2026, Attachment 12 Demand; paragraph 12.1, page 4 and paragraph 12.5, page 8

1.5.1. Volume Tariff Groups

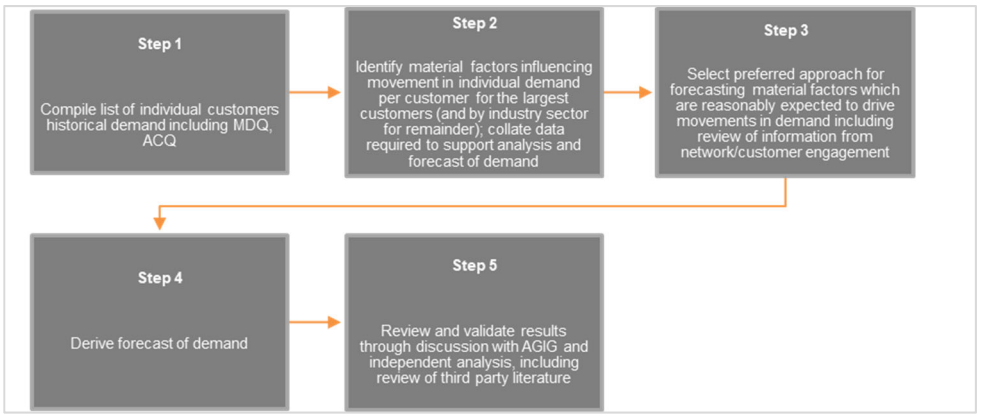
Figure 1.1 | CORE Methodology – Tariff R and Tariff C



Source: CORE

1.5.2. Tariff D

Figure 1.2 | CORE Methodology - Tariff D



Source: CORE

CORE is of the opinion that rigorous application of this methodology, as summarised within this Report, derives forecasts which satisfy the requirements of the NGR - as the forecasts are derived on a reasonable basis, provide the best forecast or estimate possible under the circumstances, and utilise appropriate primary information, where available, to support the extrapolations/forecasts.

1.6. Overview of Update (January 2021) vs Prior (July 2020) Connections and Demand Forecast

1.6.1. Residential

The updated forecast is impacted primarily by the following factors:

- Higher actual Estate connections in 2020 financial year vs forecast based on data sourced from AGIG
- Higher future Estate and lower MDHR connections based on latest HIA data
- Higher consumption per connection during COVID-19 period (FY 2020 (actual) and 2021 (forecast)
- Projected reduction in consumption per connection during FY 2022 to 2026 (post COVID-19 period) – to levels projected in prior submission to AER (July 2020)

Figure 1.3 | Tariff R Residential Demand Forecast

Prior Submission (July 2020)

Forecast Demand by Connection Type	Units	2020	2021	2022	2023	2024	2025	2026
Existing 2019 Connections	GJ	7,214,756	7,008,240	6,852,507	6,677,303	6,489,557	6,295,687	6,117,434
New Dwelling Connections | Residential Estate	GJ	31,108	99,267	162,955	217,520	272,108	327,108	380,806
New Dwelling Connections | Residential E2G	GJ	6,317	19,879	33,216	45,500	56,714	66,889	76,296
New Dwelling Connections | Residential MDHR	GJ	2,393	7,635	11,998	15,335	19,308	23,962	28,928
Forecast Demand	**GJ**	**7,254,574**	**7,135,021**	**7,060,676**	**6,955,659**	**6,837,687**	**6,713,646**	**6,603,465**

Update (January 2021)

Forecast Demand by Connection Type	Units	2020	2021	2022	2023	2024	2025	2026
Existing 2019 Connections	GJ		7,479,985	6,989,096	6,808,259	6,618,181	6,420,909	6,239,503
New Dwelling Connections | Residential Estate	GJ		35,287	109,490	183,824	252,275	314,608	373,665
New Dwelling Connections | Residential E2G	GJ		6,148	18,275	30,513	41,764	52,023	61,313
New Dwelling Connections | Residential MDHR	GJ		2,840	6,570	10,676	13,211	16,038	19,401
Forecast Demand	**GJ**	**7,472,790**	**7,524,260**	**7,123,430**	**7,033,271**	**6,925,431**	**6,803,579**	**6,693,881**

Movement

Forecast Demand by Connection Type	Units	2020	2021	2022	2023	2024	2025	2026
Existing 2019 Connections	GJ	265,229	- 19,144	- 44,249	- 59,122	- 68,648	- 56,185	- 122,068
New Dwelling Connections | Residential Estate	GJ	4,179	10,223	20,869	34,755	42,500	46,557	7,142
New Dwelling Connections | Residential E2G	GJ	- 169	- 1,605	- 2,703	- 3,736	- 4,691	- 5,576	14,984
New Dwelling Connections | Residential MDHR	GJ	447	- 1,064	- 1,321	- 2,124	- 3,270	- 4,561	9,527
Forecast Demand	**GJ**	**218,216**	**389,239**	**62,755**	**77,612**	**87,743**	**89,933**	**90,416**

Source: CORE

1.6.2. Small Business

The updated forecast is impacted primarily by the following factors:

- Lower consumption per connection during COVID-19 period (FY 2020 (actual) and 2021 (forecast)
- Projected increase in consumption per connection during FY 2022 to 2026 (post COVID-19 period) – to levels projected in the prior CORE submission to AER (July 2020)

Figure1.4 | Tariff C Small Business Demand Forecast

Prior Submission (July 2020)

Forecast Demand by Connection Type	Units	2020	2021	2022	2023	2024	2025	2026
Existing 2020 Connections	GJ	3,296,203	3,222,947	3,159,862	3,104,821	3,032,895	2,947,965	2,869,845
New Commercial Connections	GJ	36,977	119,289	201,177	283,924	365,377	444,709	524,287
Forecast Demand	**GJ**	**3,333,180**	**3,342,237**	**3,361,039**	**3,388,745**	**3,398,272**	**3,392,675**	**3,394,132**

Update (January 2021)

Forecast Demand by Connection Type	Units	2020	2021	2022	2023	2024	2025	2026
Existing 2020 Connections	GJ		3,209,967	3,220,902	3,165,266	3,092,467	3,006,348	2,927,146
New Commercial Connections	GJ		31,089	117,841	202,487	288,347	369,726	448,855
Forecast Demand	**GJ**	**3,219,449**	**3,241,056**	**3,338,743**	**3,367,754**	**3,380,814**	**3,376,074**	**3,376,001**

Movement

Forecast Demand by Connection Type	Units	2020	2021	2022	2023	2024	2025	2026
Forecast Demand	**GJ**	**- 113,730**	**- 101,181**	**- 22,296**	**- 20,991**	**- 17,458**	**- 16,601**	**- 18,131**

Source: CORE

1.6.3. Tariff D

The updated forecast is impacted primarily by movements in actual and known changes in customer demand since the prior submission (July 2020).

ACQ

Figure 1.5 | Tariff D ACQ Forecast

Prior Submission (July 2020)

ACQ	2020	2021	2022	2023	2024	2025	2026
Existing Connections	11,366,654	10,915,304	10,564,890	10,269,515	9,979,838	9,695,806	9,417,434
Existing Connections | Known Load Changes	- 152,735	- 54,073	- 929	4,258	9,570	15,025	20,647
Economic Outlook/Efficiency	- 298,616	- 296,341	- 294,446	- 293,935	- 293,601	- 293,397	- 293,407
Total ACQ	**10,915,304**	**10,564,890**	**10,269,515**	**9,979,838**	**9,695,806**	**9,417,434**	**9,144,674**

Update (January 2021)

ACQ	2020	2021	2022	2023	2024	2025	2026
Existing Connections		10,973,544	10,705,465	10,329,709	10,027,836	9,732,683	9,445,815
Existing Connections | Known Load Changes		- 67,157	- 67,251	- 666	4,296	9,377	14,596
Economic Outlook/Efficiency		- 200,922	- 308,505	- 301,207	- 299,449	- 296,245	- 295,406
Total ACQ	**10,973,544**	**10,705,465**	**10,329,709**	**10,027,836**	**9,732,683**	**9,445,815**	**9,165,005**

Movement

Tariff ACQ	2020	2021	2022	2023	2024	2025	2026
Total ACQ	**58,240**	**140,575**	**60,194**	**47,999**	**36,877**	**28,381**	**20,331**

Source: CORE

MDQ

Figure 1.6 | Tariff D MDQ Forecast

Prior Submission (July 2020)

MDQ	2020	2021	2022	2023	2024	2025	2026
Existing Connections	50,486	47,692	45,900	44,422	43,008	41,659	40,380
Existing Connections | Known Load Changes	- 1,457	- 469	- 172	- 117	- 59	5	74
Economic Outlook/Efficiency	- 1,337	- 1,322	- 1,306	- 1,297	- 1,290	- 1,284	- 1,280
Total MDQ	**47,692**	**45,900**	**44,422**	**43,008**	**41,659**	**40,380**	**39,174**

Update (January 2021)

MDQ	2020	2021	2022	2023	2024	2025	2026
Existing Connections		50,321	48,497	46,377	44,713	43,107	41,573
Existing Connections | Known Load Changes		- 901	- 687	- 290	- 251	- 210	- 168
Economic Outlook/Efficiency		- 923	- 1,433	- 1,375	- 1,355	- 1,324	- 1,310
Total MDQ	**50,321**	**48,497**	**46,377**	**44,713**	**43,107**	**41,573**	**40,095**

Movement

MDQ	2020	2021	2022	2023	2024	2025	2026
Total MDQ	**2,629**	**2,597**	**1,955**	**1,705**	**1,448**	**1,193**	**921**

Source: CORE

1.7. Conclusion

CORE considers that the forecast presented herein has been derived on a basis which is consistent with the methodology used in the July 2020 submission to the AER, and is also based on updated data available at the time this update was undertaken.

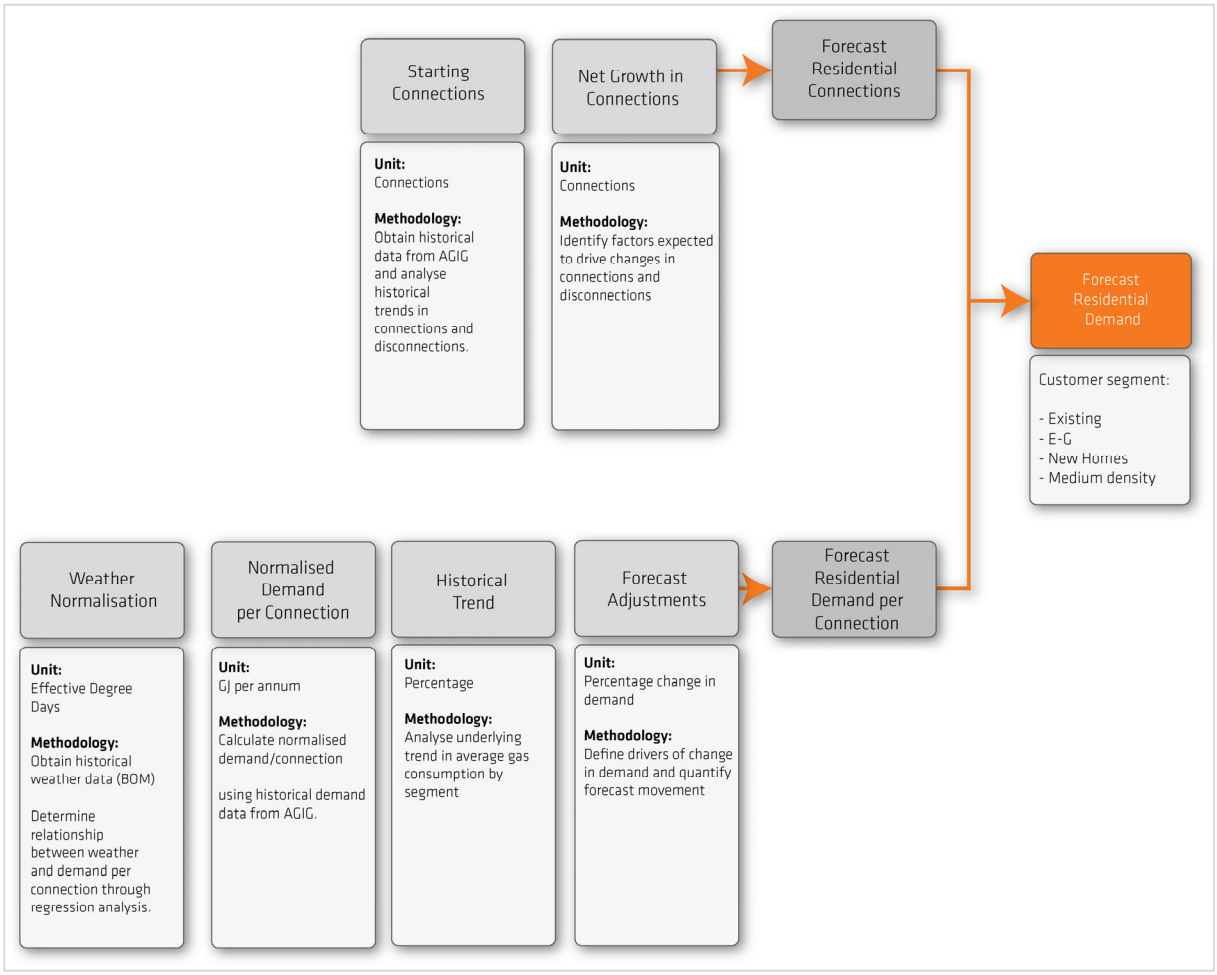
Based on the AER draft decision, outlined in 1.2 above, CORE is of the opinion that the updated forecast complies with the NGR and represents the best estimate under the circumstances.

Section 2 | Supporting Data, Information and Analysis

2.1. Tariff R, Residential Demand

Figure 2.1 provides a diagrammatic representation of the approach used by CORE to derive an updated forecast of Tariff R demand, including a forecast of connections and demand per connection, consistent with the approach used to derive forecasts summarised in the prior (July 2020) AER submission.

Figure 2.1 | Tariff R Residential Demand Forecast Methodology



Source: CORE

2.1.1. Residential Connections

CORE has developed an updated forecast of connections, based on actual connection data sourced from AGIG for FY 2020 and new commencement estimates developed by HIA (September 2020).

The new HIA commencement data which has been relied upon to derive projections of connections, (by lagging by one year – consistent with prior submission) is summarised as follows:

Figure 2.2 | Updated HIA Commencement Data

Updated Model (base)

Historical	Source	Unit	2019	2020	2021	2022	2023	2024	2025	2026
Dwelling Commencements | Houses	HIA Housing Starts	#	7,333	7,775	9,257	7,361	7,927	8,318	8,530	8,079
Dwelling Commencements | Multi-units	HIA Housing Starts	#	2,725	2,988	1,779	1,642	1,723	2,042	2,479	2,837
Dwelling Commencements	HIA Housing Starts	#	10,058	10,763	11,036	9,003	9,650	10,359	11,009	10,915

Submitted Model

Historical	Source	Unit	2019	2020	2021	2022	2023	2024	2025	2026
Dwelling Commencements | Houses	HIA Housing Starts	#	7,333	7,730	6,252	6,830	7,407	7,985	7,858	7,696
Dwelling Commencements | Multi-units	HIA Housing Starts	#	2,725	2,876	1,682	2,261	2,840	3,419	3,503	3,591
Dwelling Commencements	HIA Housing Starts	#	10,058	10,606	7,933	9,090	10,247	11,404	11,361	11,288

Delta

Historical	Source	Unit	2019	2020	2021	2022	2023	2024	2025	2026
Dwelling Commencements | Houses	HIA Housing Starts	#	-	45	3,005	531	519	332	672	382
Dwelling Commencements | Multi-units	HIA Housing Starts	#	-	112	98	- 619	- 1,117	- 1,377	- 1,024	- 755
Dwelling Commencements	HIA Housing Starts	#	-	157	3,103	- 88	- 597	- 1,045	- 352	- 372

Source: HIA

The major movements are summarised as follows:

- a forecast increase in estate dwellings due to SA Government incentive programs and other influences;
- a forecast reduction in MDHR dwellings due to lower demand for tourist and student accommodation supply and actual data supporting higher applications relating to estates vs MDHR dwellings.

The resulting updated connection forecasts are presented in Figure 2.3. It should be noted that the 2022 to 2023 connections have been averaged, that is the total 2022 to 2023 derived connections have simply been divided by 2, (consistent with approach used in the prior (July 2020) AER submission) to address uncertainty relating to the timing of new commencements in during COVID-19 pandemic and related SA and Federal Government support programs which are unprecedented in recent history.

Figure 2.3 | CORE Residential Connection Forecast

Prior Submission (July 2020)

Connections by Type	Units	2020	2021	2022	2023	2024	2025	2026
Opening Connections	(no.)	443,043	448,400	452,592	455,278	459,953	465,169	470,924
Disconnections	(no.)	1,897	1,920	1,944	1,962	1,982	2,004	2,029
Disconnections | Zero Consuming Connections	(no.)	-	1,448	1,448	-	-	-	-
Existing 2019 Connections	(no.)	441,146	437,778	434,385	432,424	430,442	428,437	426,408
New Dwelling Connections | Residential Estate	(no.)	5,628	5,932	4,798	5,241	5,685	6,128	6,031
New Dwelling Connections | Residential E2G	(no.)	918	880	843	808	775	743	712
New Dwelling Connections | Residential MDHR	(no.)	708	748	437	588	738	889	911
Forecast Connections	**(no.)**	**448,400**	**452,592**	**455,278**	**459,953**	**465,169**	**470,924**	**476,549**

Update (January 2021)

Connections by Type	Units	2020	2021	2022	2023	2024	2025	2026
Opening Connections	(no.)		449,649	453,957	458,300	463,996	469,359	475,055
Disconnections	(no.)		1,910	1,934	1,959	1,983	2,006	2,030
Disconnections | Zero Consuming Connections	(no.)		1,448	1,448	-	-	-	-
Existing 2019 Connections	(no.)		446,291	442,908	440,949	438,966	436,960	434,930
New Dwelling Connections | Residential Estate	(no.)		6,036	6,450	6,450	6,153	6,457	6,622
New Dwelling Connections | Residential E2G	(no.)		844	808	773	740	708	678
New Dwelling Connections | Residential MDHR	(no.)		785	468	432	453	537	652
Forecast Connections	**(no.)**	**449,649**	**453,957**	**459,036**	**463,993**	**469,356**	**475,052**	**480,974**

Movement

Connections by Type	Units	2020	2021	2022	2023	2024	2025	2026
Opening Connections	(no.)		1,249.08	1,364.84	3,022.12	4,042.67	4,190.20	4,130.87
Disconnections	(no.)		(10.06)	(9.76)	(2.86)	1.31	1.76	1.31
Disconnections | Zero Consuming Connections	(no.)		-	-	-	-	-	-
Existing 2019 Connections	(no.)		8,513.22	8,522.98	8,525.85	8,524.54	8,522.78	8,521.47
New Dwelling Connections | Residential Estate	(no.)		103.30	1,652.17	1,208.70	468.70	328.75	591.20
New Dwelling Connections | Residential E2G	(no.)		(35.39)	(35.15)	(34.86)	(34.53)	(34.17)	(33.78)
New Dwelling Connections | Residential MDHR	(no.)		37.80	30.49	(156.15)	(285.33)	(352.15)	(259.15)
Closing Connections	**(no.)**	**1,249**	**1,365**	**3,758**	**4,040**	**4,187**	**4,128**	**4,425**

Source: CORE

2.1.2. Residential Consumption per Connection

CORE has sourced actual data from AGN for FY 2020 and has used this as a basis to estimate 2021 consumption per connection. The actual consumption in FY 2020 was 16.62 and consumption of 16.57 has been estimated for FY 2021 by assuming a similar impact of COVID-19, albeit with a higher assumed level of workers returning to employer premises in the latter part of FY 2021.

CORE notes that the SA Major Emergency Declaration (shutdown) commenced in March 2020 and extended through the remainder of FY 2020. This period is a high gas usage period due to winter heating applications.

For FY2021, the number of days of formal shutdown are estimated to be lower, however CORE notes that a significant portion of workers continued to work from home for all or part of a working week. However, the days worked from home are expected to decline over the year as the businesses return to work in an office. This reflects the success Australia, and South Australia in particular, have (to date) at containing COVID-19.

Also, the advent of various COVID-19 vaccines which are already being administered internationally and in Australia shortly, indicate that COVID-19 induced lockdowns like those experienced are much less likely to occur. CORE therefore estimates that consumption will remain at a higher average level for FY21 but beyond FY 2022. Residential consumption will return to levels forecast previously as submitted in July 2020.

CORE has also undertaken a review of revised data relating to future gas and electricity prices as a basis for assessing price elasticity of demand. This review has shown that is future gas and electricity prices are expected to be materially consistent with those included in the July 2020 assessment.

Figure 2.4 | CORE Residential Consumption per Connection Forecast

Prior Submission (July 2020)

Demand per Connection by Type	Units	2020	2021	2022	2023	2024	2025	2026
Existing 2019 Connections	GJ	16.35	16.01	15.78	15.44	15.08	14.69	14.35
New Dwelling Connections | Residential Estate	GJ	5.53	8.59	9.96	10.07	9.97	9.79	9.65
New Dwelling Connections | Residential E2G	GJ	6.88	11.06	12.58	13.19	13.43	13.47	13.44
New Dwelling Connections | Residential MDHR	GJ	3.38	5.24	6.34	6.18	6.00	5.83	5.76
Average Demand per Connection	**GJ**	**16.18**	**15.76**	**15.51**	**15.12**	**14.70**	**14.26**	**13.86**

Update (January 2021)

Demand per Connection by Type	Units	2020	2021	2022	2023	2024	2025	2026
Existing 2020 Connections	GJ		16.76	15.78	15.44	15.08	14.69	14.35
New Dwelling Connections | Residential Estate	GJ		5.85	8.59	9.96	10.07	9.97	9.79
New Dwelling Connections | Residential E2G	GJ		7.28	11.06	12.58	13.19	13.43	13.47
New Dwelling Connections | Residential MDHR	GJ		3.62	5.24	6.34	6.18	6.00	5.83
Average Demand per Connection	**GJ**	**16.62**	**16.57**	**15.53**	**15.17**	**14.76**	**14.32**	**13.92**

Movement

Demand per Connection by Type	Units	2020	2021	2022	2023	2024	2025	2026
Average Demand per Connection	**GJ**	**0.44**	**0.81**	**0.02**	**0.05**	**0.06**	**0.07**	**0.06**

Source: CORE

2.1.3. Forecast Residential Demand

The product of forecast residential connections and forecast demand per residential connection is total forecast demand for the Tariff R residential segment, as summarised in the following table.

Figure 2.5 | CORE Residential Demand Forecast

Prior Submission (July 2020)

Forecast Demand by Connection Type	Units	2020	2021	2022	2023	2024	2025	2026
Existing 2019 Connections	GJ	7,214,756	7,008,240	6,852,507	6,677,303	6,489,557	6,295,687	6,117,434
New Dwelling Connections | Residential Estate	GJ	31,108	99,267	162,955	217,520	272,108	327,108	380,806
New Dwelling Connections | Residential E2G	GJ	6,317	19,879	33,216	45,500	56,714	66,889	76,296
New Dwelling Connections | Residential MDHR	GJ	2,393	7,635	11,998	15,335	19,308	23,962	28,928
Forecast Demand	**GJ**	**7,254,574**	**7,135,021**	**7,060,676**	**6,955,659**	**6,837,687**	**6,713,646**	**6,603,465**

Update (January 2021)

Forecast Demand by Connection Type	Units	2020	2021	2022	2023	2024	2025	2026
Existing 2019 Connections	GJ		7,479,985	6,989,096	6,808,259	6,618,181	6,420,909	6,239,503
New Dwelling Connections | Residential Estate	GJ		35,287	109,490	183,824	252,275	314,608	373,665
New Dwelling Connections | Residential E2G	GJ		6,148	18,275	30,513	41,764	52,023	61,313
New Dwelling Connections | Residential MDHR	GJ		2,840	6,570	10,676	13,211	16,038	19,401
Forecast Demand	**GJ**	**7,472,790**	**7,524,260**	**7,123,430**	**7,033,271**	**6,925,431**	**6,803,579**	**6,693,881**

Movement

Forecast Demand by Connection Type	Units	2020	2021	2022	2023	2024	2025	2026
Existing 2019 Connections	GJ	265,229	- 19,144	- 44,249	- 59,122	- 68,648	- 56,185	- 122,068
New Dwelling Connections | Residential Estate	GJ	4,179	10,223	20,869	34,755	42,500	46,557	7,142
New Dwelling Connections | Residential E2G	GJ	- 169	- 1,605	- 2,703	- 3,736	- 4,691	- 5,576	14,984
New Dwelling Connections | Residential MDHR	GJ	447	- 1,064	- 1,321	- 2,124	- 3,270	- 4,561	9,527
Forecast Demand	**GJ**	**218,216**	**389,239**	**62,755**	**77,612**	**87,743**	**89,933**	**90,416**

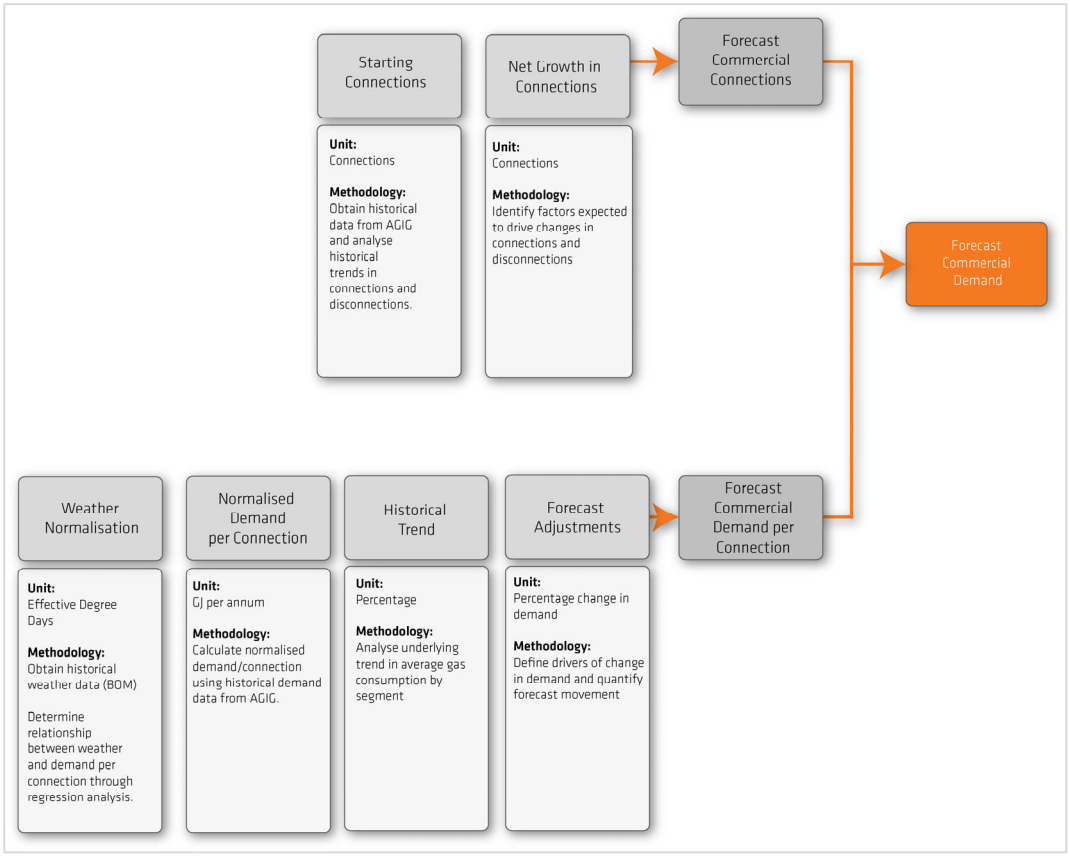
Source: CORE

2.2. Tariff C, Small Business Demand

This section provides a summary of the methodology used to derive a forecast for Tariff C, Small Business customers.

Figure 2.2 provides an outline of the Methodology and explanations of key elements of the approach are provided below.

Figure 2.6 | Tariff C Small Business Methodology



2.2.1. Small Business Connections

A small change in connections is attributable to statistical trend analysis, following update of the actual connections for FY 2020.

Figure 2.7 | Forecast Tariff C Small Business Connections

Prior Submission (July 2020)

Connections by Type	Units	2020	2021	2022	2023	2024	2025	2026
Opening Connections	(no.)	11,233	11,350	11,291	11,231	11,337	11,442	11,544
Disconnections	(no.)	150	151	153	154	156	157	158
Disconnections | Zero Consuming Connections	(no.)	-	168	168	-	-	-	-
Existing 2019 Connections	(no.)	11,083	10,764	10,443	10,289	10,133	9,976	9,818
New Commercial Connections	(no.)	267	261	261	260	260	259	258
Cumulative New Connections	(no.)	267	528	788	1,048	1,308	1,567	1,826
Forecast Connections	**(no.)**	**11,350**	**11,291**	**11,231**	**11,337**	**11,442**	**11,544**	**11,644**

Update (January 2021)

Connections by Type	Units	2020	2021	2022	2023	2024	2025	2026
Opening Connections	(no.)		11,287	11,203	11,166	11,283	11,397	11,498
Disconnections	(no.)		153	154	155	157	159	160
Disconnections | Zero Consuming Connections	(no.)		168	168	-	-	-	-
Existing 2019 Connections	(no.)		10,966	10,645	10,489	10,332	10,174	10,014
New Commercial Connections	(no.)		236	285	272	271	259	258
Cumulative New Connections	(no.)		236	521	793	1,065	1,324	1,582
Forecast Connections	**(no.)**	**11,287**	**11,203**	**11,166**	**11,283**	**11,397**	**11,498**	**11,596**

Movement

Connections by Type	Units	2020	2021	2022	2023	2024	2025	2026
Forecast Connections	**(no.)**	**(62.88)**	**(88.72)**	**(65.21)**	**(54.60)**	**(44.56)**	**(46.01)**	**(47.70)**

Source: CORE

2.2.2. Small Business Consumption per Connection

CORE has updated FY 2020 results based on actual data supplied by AGN. CORE considers it reasonable to assume that FY 2021 demand per connection will continue to be at lower levels due to the ongoing impact of COVID-19, due to restrictions imposed on many businesses, for example as it relates to social distancing in hospitality and leisure areas. However, expected containment of the virus, including future use of vaccines, is expected to see commercial consumption levels adjust over time. CORE therefore estimates that FY2021 will remain at a higher average consumption, but beyond FY 2022 Commercial consumption will return to levels forecast previously as submitted in July 2020.

CORE has also undertaken a review of revised data relating to future gas and electricity prices as a basis for assessing price elasticity of demand. This review has shown that is future gas and electricity prices are expected to be materially consistent with those included in the July 2020 assessment.

Figure 2.8 | Forecast Tariff C Small Business Consumption per Connection

Prior Submission (July 2020)

Demand per Connection by Type	Units	2020	2021	2022	2023	2024	2025	2026
Existing 2019 Connections	GJ	297	299	303	302	299	295	292
New Commercial Connections	GJ	139	226	255	271	279	284	287
Average Demand per Connection	**GJ**	**294**	**296**	**299**	**299**	**297**	**294**	**292**

Update (January 2021)

Demand per Connection by Type	Units	2020	2021	2022	2023	2024	2025	2026
Existing 2020 Connections	GJ	273	293	303	302	299	295	292
New Commercial Connections	GJ		132	226	255	271	279	284
Average Demand per Connection	**GJ**	**273**	**289**	**299**	**298**	**297**	**294**	**291**

Movement

Demand per Connection by Type	Units	2020	2021	2022	2023	2024	2025	2026
Average Demand per Connection	GJ	-20.49	-6.69	-0.25	-0.41	-0.37	-0.27	-0.36

Source: CORE

2.2.3. Forecast Small Business Demand

The product of forecast connections and forecast demand per connection is Total Forecast Demand for the Tariff C Small Business segment.

Figure 2.9 | Forecast Tariff C Small Business Demand

Prior Submission (July 2020)

Forecast Demand by Connection Type	Units	2020	2021	2022	2023	2024	2025	2026
Existing 2020 Connections	GJ	3,296,203	3,222,947	3,159,862	3,104,821	3,032,895	2,947,965	2,869,845
New Commercial Connections	GJ	36,977	119,289	201,177	283,924	365,377	444,709	524,287
Forecast Demand	**GJ**	**3,333,180**	**3,342,237**	**3,361,039**	**3,388,745**	**3,398,272**	**3,392,675**	**3,394,132**

Update (January 2021)

Forecast Demand by Connection Type	Units	2020	2021	2022	2023	2024	2025	2026
Existing 2020 Connections	GJ		3,209,967	3,220,902	3,165,266	3,092,467	3,006,348	2,927,146
New Commercial Connections	GJ		31,089	117,841	202,487	288,347	369,726	448,855
Forecast Demand	**GJ**	**3,219,449**	**3,241,056**	**3,338,743**	**3,367,754**	**3,380,814**	**3,376,074**	**3,376,001**

Movement

Forecast Demand by Connection Type	Units	2020	2021	2022	2023	2024	2025	2026
Forecast Demand	**GJ**	**- 113,730**	**- 101,181**	**- 22,296**	**- 20,991**	**- 17,458**	**- 16,601**	**- 18,131**

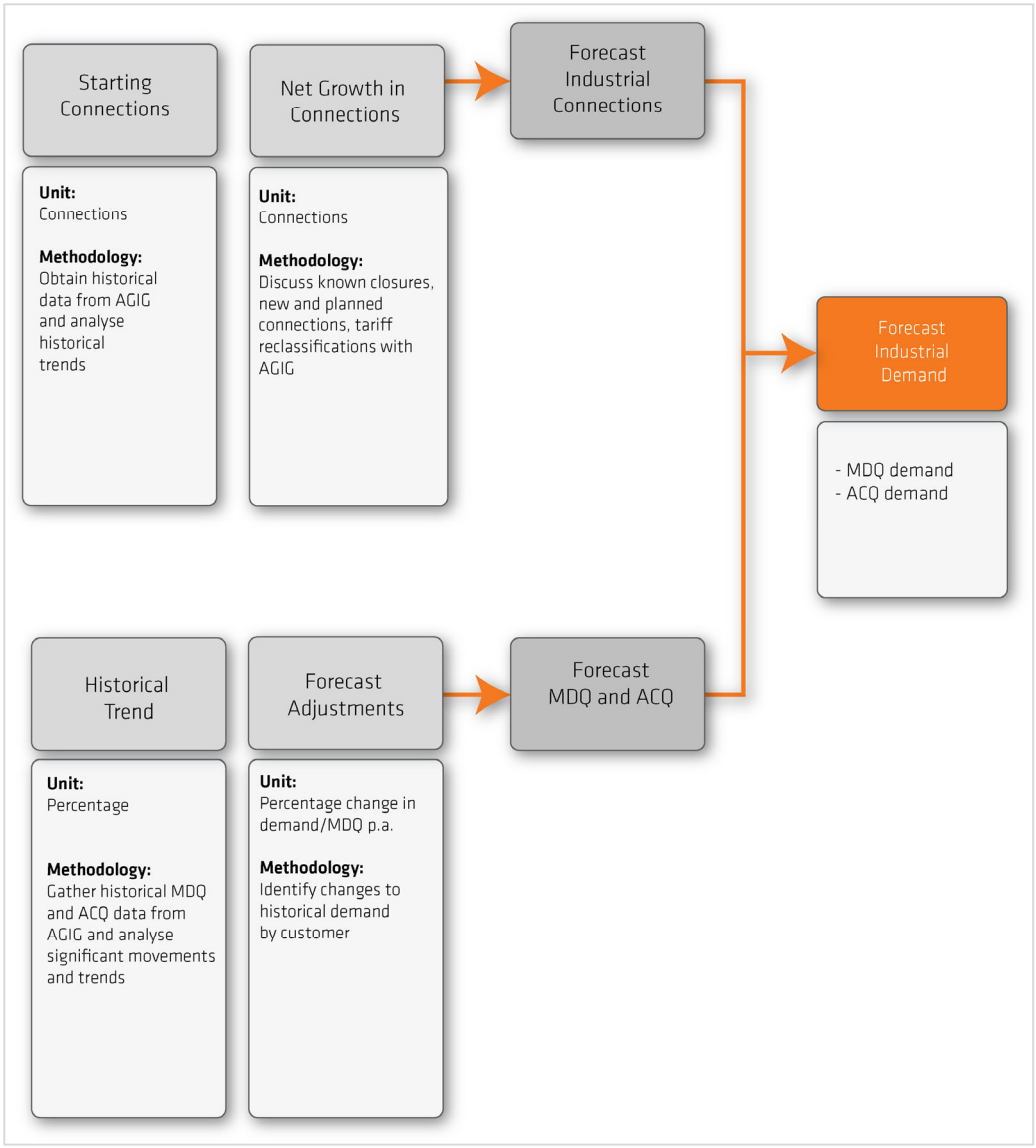
Source: CORE

2.3. Tariff D Demand

CORE's forecast of Tariff D demand considered the total annual quantity of demand (ACQ), the maximum daily demand (MDQ) - the highest day of consumption within a particular year) and the total number of connections.

The following figure provides an outline of the methodology and explanations of key elements of the approach.

Figure 2.10 | Tariff D Methodology



Source: CORE

CORE notes that the vast majority of the relatively minor movements in ACQ and MDQ (summarised below) relate to changes in the demand outlook for a few specific, significant customers, which are not specifically named for reasons of confidentiality. A lower level of impact is associated with movements in the outlook for GSP.

2.3.1. ACQ

Prior Submission (July 2020)

ACQ	2020	2021	2022	2023	2024	2025	2026
Existing Connections	11,366,654	10,915,304	10,564,890	10,269,515	9,979,838	9,695,806	9,417,434
Existing Connections | Known Load Changes	- 152,735	- 54,073	- 929	4,258	9,570	15,025	20,647
Economic Outlook/Efficiency	- 298,616	- 296,341	- 294,446	- 293,935	- 293,601	- 293,397	- 293,407
Total ACQ	**10,915,304**	**10,564,890**	**10,269,515**	**9,979,838**	**9,695,806**	**9,417,434**	**9,144,674**

Update (January 2021)

ACQ	2020	2021	2022	2023	2024	2025	2026
Existing Connections		10,973,544	10,705,465	10,329,709	10,027,836	9,732,683	9,445,815
Existing Connections | Known Load Changes		- 67,157	- 67,251	- 666	4,296	9,377	14,596
Economic Outlook/Efficiency		- 200,922	- 308,505	- 301,207	- 299,449	- 296,245	- 295,406
Total ACQ	**10,973,544**	**10,705,465**	**10,329,709**	**10,027,836**	**9,732,683**	**9,445,815**	**9,165,005**

Movement

Tariff ACQ	2020	2021	2022	2023	2024	2025	2026
Total ACQ	**58,240**	**140,575**	**60,194**	**47,999**	**36,877**	**28,381**	**20,331**

2.3.2. MDQ

Prior Submission (July 2020)

MDQ	2020	2021	2022	2023	2024	2025	2026
Existing Connections	50,486	47,692	45,900	44,422	43,008	41,659	40,380
Existing Connections | Known Load Changes	- 1,457	- 469	- 172	- 117	- 59	5	74
Economic Outlook/Efficiency	- 1,337	- 1,322	- 1,306	- 1,297	- 1,290	- 1,284	- 1,280
Total MDQ	**47,692**	**45,900**	**44,422**	**43,008**	**41,659**	**40,380**	**39,174**

Update (January 2021)

MDQ	2020	2021	2022	2023	2024	2025	2026
Existing Connections		50,321	48,497	46,377	44,713	43,107	41,573
Existing Connections | Known Load Changes		- 901	- 687	- 290	- 251	- 210	- 168
Economic Outlook/Efficiency		- 923	- 1,433	- 1,375	- 1,355	- 1,324	- 1,310
Total MDQ	**50,321**	**48,497**	**46,377**	**44,713**	**43,107**	**41,573**	**40,095**

Movement

MDQ	2020	2021	2022	2023	2024	2025	2026
Total MDQ	**2,629**	**2,597**	**1,955**	**1,705**	**1,448**	**1,193**	**921**