DRAFT DECISION
Evoenergy
Access Arrangement

2021 to 2026

Attachment 12
Demand

November 2020

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Tel: 1300 585 165
Email: AERInquiry@aer.gov.au

AER reference: 65197

Note

This attachment forms part of the AER's draft decision on the access arrangement that will apply to Evoenergy for the 2021–26 access arrangement period. It should be read with all other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 – Services covered by the access arrangement

Attachment 2 – Capital base

Attachment 3 – Rate of return

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 8 – Efficiency carryover mechanism

Attachment 9 – Reference tariff setting

Attachment 10 – Reference tariff variation 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 Evoenergy for the 2021–26 access arrangement period. Demand is an important input into the derivation of Evoenergy's reference tariffs. It also affects operating expenditure (opex) and capital expenditure (capex), which are linked to network growth via new connections.[1]

12.1 Draft decision

Based on the information before us, we do not accept Evoenergy's Tariff VI demand forecasts for the 2021–26 access arrangement period. We are not satisfied that the overall demand forecast proposed by Evoenergy has met rule 74(2) of the National Gas Rules (NGR). Evoenergy has not established that its post model adjustments are arrived at on a reasonable basis because:

- Evoenergy's proposed 10 per cent reduction in gas usage by existing ACT customers by 2025–26 is materially different to the 2.8 per cent stated in its consultant's final report.
- Evoenergy's proposed tripling of the rate of abolishments in the ACT by 2025–26 is not included in its consultant's final report.
- Evoenergy has not demonstrated that its proposed post model adjustments are more reasonable compared to its consultant's final report.

We are concerned Evoenergy has adjusted the findings stated in the final report of its consultant, The Centre for International Economic (CIE).These adjustments were made without quantitative analysis of the type conducted by CIE, and without independent expert assurance.

While we recognise that there is considerable uncertainty relating to the ACT Government's climate change strategy, we do not accept the use of qualitative or subjective inputs that could not be substantiated by clear government policy or direction. We understand that since Evoenergy's submission, the ACT has held its general election and the new Government has outlined some significant commitments to achieve net zero emissions.[2] We expect that Evoenergy will incorporate any tangible changes in its revised proposal to reflect these new developments including its impact to brownfield developments.

We consider the information provided to date is insufficient to justify our accepting the Tariff VI demand forecasts in our final decision. This includes the need to provide the

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1 Our draft decisions on Evoenergy's capex and opex are respectively at Attachments 5 and 6.

2 ACT Labor and ACT Greens, "Parliamentary and Governing Agreement", 10th Legislative Assembly for the Australian Capital Territory, 2 November 2020. Available here: https://www.cmtedd.act.gov.au/__data/assets/pdf_file/0003/1654077/Parliamentary-Agreement-for-the-10th-Legislative-Assembly.pdf

latest 2019–20 actual usage and customer numbers as well as the latest data from the ACT Energy Efficiency Improvement Scheme (EEIS).

With respect to Tariff D, we are satisfied that the overall demand forecast for this tariff class which comprised of forecast customer numbers, usage per customer and chargeable demand is consistent with rule 74(2) of the NGR.

For the purpose of this draft decision, we have provided an alternative estimate as a placeholder based on Evoenergy's proposed forecast without certain post model adjustments.

We would like Evoenergy in its revised proposal to:

- Consider the new commitments from the ACT Government and incorporate any tangible changes into its demand forecasts.
- Incorporate updated demand and customer forecast based on 2019–20 actual usage and customer numbers.
- Compare and consider any potential difference between the Australian Energy Market Operator's (AEMO) latest demand forecast and information papers on Evoenergy's proposed demand forecast.
- Provide further analysis on the impact that the current ACT EEIS is likely to have on usage per customer based on the latest rebate on offer. In particular, the rebate scheme associated with customers upgrading from gas heaters to reverse cycle air conditioning and the factors that would influence the increase or decrease in its uptake rate over the 2021–26 period.
- Provide further analysis on abolishments. In particular, the actual data and quantitative analysis that support tripling the rate of abolishments in the ACT.
- Provide further analysis to demonstrate that customers will be better off in the 2021–26 period with Evoenergy's proposed post model adjustments than without.

We recommend that Evoenergy seek independent assurance on any updates to its revised demand forecast as well as validating that the key inputs used are fit for purpose and supported by quantitative analysis.

The reasons for our draft decision are discussed in section 12.4.

12.2 Evoenergy's proposal

12.2.1 Summary

Evoenergy engaged CIE to prepare demand forecasts for its network across ACT and NSW for the 2021–26 access arrangement period. A summary of the key aspects of Evoenergy's demand forecasts are set out in Table 12.1 (Tariff VI – residential and commercial and Tariff VB) and Table 12.2 (Tariff D – industrial or large government)[3].

Table 12.1 Evoenergy demand forecasts for Tariff VI and Tariff VB for the 2021–26 access arrangement period

	2021–22	2022–23	2023–24	2024–25	2025–26
Residential and Commercial Connections [a]	152,696	154,001	155,118	156,189	157,217
Residential and Commercial Demand (TJ)	6,247	6,081	5,923	5,783	5,610
Volume Boundary Connections	15	18	21	24	27
Volume Boundary Demand (TJ)	9	11	12	14	16

Source: Evoenergy, *Appendix 7.2 Demand Forecasting model, base model prepared by CIE*, June 2020, Confidential.

Notes: a. closing connections including suspended connections

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

	2021–22	2022–23	2023–24	2024–25	2025–26
Number of connections	43	43	43	43	43
Usage per connection (TJ)	28.80	28.79	28.78	28.77	28.76
Total Usage (TJ/annum)	1,238	1,238	1,237	1,237	1,237
Total chargeable demand (GJ/day)	7,200	7,197	7,194	7,191	7,187

Source: Evoenergy, *Attachment 7 – Demand forecasts, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26,* June 2020, p. 7-10.

[3] Tariff D is gas consumers who consume more than 10,000 gigajoule (GJ) per annum.

Evoenergy has adjusted the results of the CIE final report to account for the ACT Government's climate change strategy (post model adjustments). The CIE model already made concessions to this policy, and the post model adjustments go further than this. To date, activities that have been undertaken by ACT Government as part of this strategy that affects gas demand forecasting include:[4,5]

- Making gas reticulation optional in new suburbs, rather than mandatory
- Conducting a campaign to support the transition from gas by highlighting electric options to customers
- Providing incentives for households to install an electric heat pump hot water system or electric reverse cycle air conditioner to replace gas appliances. This scheme is known as the EEIS.

CIE's key changes to the standard model include forecasting no new residential and commercial connections in four ACT postcodes with significant forecasted greenfield developments from 2021–22, and adjustments to residential gas usage per connection based on the current EEIS products.

Evoenergy proposed the following adjustments to CIE's demand forecast:[6]

- A 10 per cent reduction in gas usage by existing ACT customers by 2025–26
- Tripling of the rate of abolishments (permanent disconnections) by 2025–26 (an increase from approximately 350 per year to 1,000 per year).

These adjustments are in response to the ACT Government's legislative target of net zero greenhouse gas emissions by 2045. The legislative target is likely to mean that historical trends will not adequately account for future gas usage. Evoenergy noted that its post model adjustments are conservative. Evoenergy expects that customers will continue to respond to new incentives offered by the ACT Government in the 2021–26 period, which may further reduce demand[7].

Evoenergy forecasts total residential and commercial demand to decrease by around 2.65 per cent per year over the 2021–26 access arrangement period. This compares to a decrease of 3.06 per cent per year in the current 2016–21 period.[8]

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4 Evoenergy, *Attachment 7 – Demand forecasts, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26*, June 2020, p. 7-6.

5 Evoenergy, *Appendix 7.1 Final Report Forecast demand for natural gas, Prepared by CIE for Evoenergy, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26*, 19 June 2020, p. 2.

6 Evoenergy, *Attachment 7 – Demand forecasts, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26,* June 2020, p. 7-8.

7 Ibid., p. 7-3.

8 Noting that any comparison between the 2021–26 access arrangement period and the current period is a comparison between two forecasts, as 2019–20 and 2020–21 are estimates.

Evoenergy forecasts residential and commercial consumption per connection to decrease by 3.39 per cent per year over the 2021–26 access arrangement period. This compares to a decrease of 4.85 per cent per year in the current 2016–21 period.[9]

Evoenergy forecasts residential and commercial connections to increase by 0.76 per cent per year over the 2021–26 access arrangement period. This compares to an increase of 1.91 per cent per year in the current 2016–21 period.[10]

Evoenergy forecasts the annual usage of industrial and large government demand to decrease by 0.04 per cent per year. This compares to an increase of 0.87 per cent per year in the 2016–21 period. Similarly, Evoenergy forecasts the chargeable demand to decrease by 0.05 per cent per year. This compares to an increase of 1.63 per cent per year in the current 2016–21 period.[11]

12.2.2 Forecast methodology

The forecasts for Tariff VI and Tariff VB gas demand were derived by multiplying the forecast of net customer numbers by the forecast consumption per connection.[12] This methodology was applied for both residential, commercial and volume boundary customer groups, albeit with different drivers.

As part of its forecast methodology, CIE has taken into account the impact of weather and price elasticities, and has adjusted connection numbers due to historical abolishments, electricity-to-gas (E2G) conversion, suspended connections and adjustments to reflect the impacts of the ACT Government's climate change strategy.[13]

12.2.2.1 Forecasting of Tariff VI and Tariff VB connections numbers

CIE undertook a number of steps to forecast residential customer numbers in the 2021–26 access arrangement period:

- CIE used customer data at the postcode level, deriving total historical connections from the number of Meter Installation Registration Number (MIRNs) receiving invoices.[14]
- For forecasting new customers in the ACT, dwelling approvals were projected based on the ACT Government's population growth forecasts and the observed ratio of new persons to dwelling approvals over the past eight years. For new

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9 AER analysis using Evoenergy, *Appendix 7.2 Demand Forecasting model, base model prepared for Evoenergy by CIE*, June 2020, Confidential.

10 Ibid.

11 Ibid.

12 Evoenergy, *Attachment 7 – Demand forecasts, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26,* June 2020, p. 7-4.

13 Ibid.

14 Evoenergy, *Appendix 7.1 Final Report Forecast demand for natural gas, Prepared by CIE for Evoenergy, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26*, 19 June 2020, p. 36.

customers in NSW, dwelling approvals were projected based on the NSW Government's dwelling projections.[15]

- CIE apportioned the forecasted dwelling approvals into detached, medium density and high-rise dwellings based on each dwelling type's share of new dwellings in the past three years[16].
- Due to the ACT Government's climate change strategy and the likelihood that future greenfield developments in the ACT will be prevented from connecting to natural gas, CIE forecasted zero gross new connections in four postcodes with significant forecast greenfield development:
    - 2611, which includes Denman Prospect and Whitlam
    - 2615, which includes Strathnairn and Macnamara
    - 2618, which includes Gooromon
    - 2914, which includes Taylor[17].
- CIE applied a constant marginal penetration rate based on the observed ratio of new customers to dwelling approvals over the past eight years, with the exception of four postcodes where CIE forecasted no connections due to the ACT Government's policy.[18]
- CIE adjusted Tariff VI customers based on the expected Tariff VB customers[19].

In addition to new residential connections, CIE has also included changes to existing connections to forecast residential customer numbers in the 2021–26 access arrangement period:

- CIE has forecast abolishments (permanent disconnections) to increase above historical trend based on a similar increase in gas heaters to reverse cycle air conditioning conversion driven by the EEIS[20]. Subsequently, Evoenergy took the CIE model and tripled the rate of abolishments by 2025–26 on the basis of future ACT Government activities[21].
- New E2G connections, which are projected to continue to decline over time.[22]

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15 Ibid., p. 39.
16 Ibid., p. 42.
17 Ibid., p. 40.
18 Ibid., p. 43.
19 Ibid., p. 45.
20 Ibid., p. 44.
21 Evoenergy, *Attachment 7 – Demand forecasts, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26,* June 2020, p. 7-8.
22 Evoenergy, *Appendix 7.1 Final Report Forecast demand for natural gas, Prepared by CIE for Evoenergy, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26*, 19 June 2020, p. 45.

For the postcodes that CIE forecasted zero gross new connections, the net new customers are calculated as the residual after accounting for abolishments and E2G connections.[23]

Table 12.3 Evoenergy residential and commercial customers forecasts Tariff VI and Tariff VB

	2019–20	2020–21	2021–22	2022–23	2023–24	2024–25	2025–26
Opening Connections	152,508	154,491	151,340	152,711	154,019	155,139	156,213
ACT detached dwellings	1,433	986	449	445	443	470	484
ACT medium density/high rise	2,134	2,642	1,112	1,172	1,104	1,150	1,214
NSW detached dwellings	227	227	231	231	232	232	232
NSW medium density/ high rise	29	29	29	29	29	29	29
Electricity-to-Gas (E2G) Conversion	99	68	47	34	25	19	15
Commercial	68	68	65	66	66	66	67
Volume Boundary Tariff	5	3	3	3	3	3	3
Abolishments	-320	-429	-540	-655	-772	-894	-1,017
Suspended Connections	-1,692	-6,745	-26	-18	-9	-3	4
Net Connections	**1,982**	**-3,150**	**1,371**	**1,308**	**1,121**	**1,073**	**1,032**
Closing Connections	154,491	151,340	152,711	154,019	155,139	156,213	157,244

Source: AER analysis using Evoenergy, *Appendix 7.2 Demand Forecasting model, base model prepared by CIE*, June 2020, Confidential.

As of June 2019, approximately 90 per cent of Evoenergy's customers are from the ACT, with the remaining proportion residing in NSW across Queanbeyan, Jerrabomberra and Bungendore regions.[24] Adjusting for no new connections in four ACT postcodes, the largest impact on demand occurs for detached dwellings in the ACT. Most new forecast connections after 2021–22 are anticipated to be either in NSW or from medium density and high rise urban infill in the ACT.[25]

CIE anticipates that future growth in medium density/high rise customers will be split between individual volume (Tariff VI) and boundary volume (Tariff VB) customers.[26]

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23 Ibid., p. 40.

24 Evoenergy, *Appendix 7.1 Final Report Forecast demand for natural gas, Prepared by CIE for Evoenergy, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26*, 19 June 2020, p. 36.

25 Ibid., p. 43.

26 Ibid., p. 45.

The forecast increase in Tariff VB customers is therefore subtracted from net new medium density/high rise customers.

Forecast numbers of suspended connections are subtracted from total connection numbers to derive the number of active customers for pricing purposes.

CIE forecasted commercial (small business) customer numbers based on historical trends and allocation across postcodes based on each postcode's contribution to overall growth over the last three years.[27] Consistent with the approach applied to residential customers, CIE set gross connections in greenfield suburbs to zero from 2021–22.

12.2.2.2 Forecasting of Tariff VI and Tariff VB consumption per connection

CIE undertook a number of steps to forecast residential consumption per connection for the 2021–26 access arrangement period. Its forecasts of residential consumption per connection are based on the statistical relationship it found between historical residential consumption per connection and a number of explanatory variables. To this effect, CIE has:

- modelled and removed the impact of weather from the forecast.[28]
- used Australian Bureau of Statistics (ABS) and other third party sources to analyse historical gas price and electricity price related elasticities[29], and forecasted future movements based on AEMO's 2019 Gas Statement of Opportunities (GSOO) and 2019 Electricity Statement of Opportunities (ESOO).[30]
- accounted for the continued gains in energy efficiency and fuel switching through the observation of historical trend[31] – however, it made additional adjustments on gas-to-electricity (G2E) upgrades due to the ACT Government's climate change strategy (further details below).
- forecasted usage per customer for the ACT and NSW customers separately across existing residential connections, and new connections, which are further split into medium density/high rise, new estates and electricity to gas connections.[32]
- considered macroeconomic variables such as Gross State Product per capita and found the relationship between economic variables and residential demand is

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27 Evoenergy, *Attachment 7 – Demand forecasts, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26,* June 2020, p. 7-3.

28 Evoenergy, *Appendix 7.1 Final Report Forecast demand for natural gas, Prepared by CIE for Evoenergy, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26*, 19 June 2020, pp. 52-53 and 62.

29 Ibid., pp. 53–55.

30 Ibid., p. 63.

31 Ibid., p. 64.

32 Ibid., p. 63.

unreliable and not statistically significant. As such, the forecast excludes any additional economic variables.[33]

CIE anticipated that the EEIS will likely cause an acceleration in the rate of switching from G2E appliances. It made a post model adjustment forecasting the incremental impact of the ACT Government's recent rebate to promote the upgrading of gas heaters to reverse cycle air condition (G2E rebates). The cumulative impact of the post model adjustment to existing ACT residential customer average usage is 2.8 per cent by 2025–26.[34]

Subsequently, Evoenergy took the CIE model and increased the cumulative impact to 10 per cent by 2025–26.[35] Evoenergy undertook this adjustment to account for future ACT Government activities, including:

- the ACT Government's broader campaign to transition from G2E options is likely to manifest during the 2021–26 period as the Government ramps-up initiatives to implement the strategy. Evoenergy provided an example of a recently announced rebate of up to $10,000 for residential home buyers in Whitlam to commit to energy efficiency measures including not connecting to the gas network.[36]
- Evoenergy has also noted its ongoing market campaign of a $500 rebate for customers to upgrade to more energy efficient gas appliances. As the penetration of new energy efficient gas appliances grows, gas usage per customer is expected to fall.[37]
- Evoenergy indicated that its assumptions are conservative and do not account for the full breath of options contemplated by the ACT Government such as the possibility of disconnecting around 60,000 existing customers by 2025.[38]

For commercial consumption per connection, CIE used statistical analysis similar to that which it used to forecast residential consumption per connection.[39] The only difference is the dwelling type variable, which is not applicable to commercial customers. Other variables such as weather conditions and price response continue to be identified as a driver.

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33 Ibid., p. 58.

34 Ibid., p. 67.

35 Evoenergy, *Attachment 7 – Demand forecasts, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26,* June 2020, p. 7-8.

36 Ibid.

37 Ibid.

38 Evoenergy, *Attachment 7 – Demand forecasts, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26,* June 2020, p. 7-8.

39 Evoenergy, *Appendix 7.1 Final Report Forecast demand for natural gas, Prepared by CIE for Evoenergy, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26*, 19 June 2020, p. 75.

Table 12.4 Evoenergy consumption per connection (GJ) forecasts for Tariff VI and Tariff VB

	2019–20	2020–21	2021–22	2022–23	2023–24	2024–25	2025–26
Tariff VI (No adjustment)	42.5	42.1	42.4	41.5	40.8	40.2	39.4
Tariff VI (CIE adjustment)	42.3	41.8	41.9	41.0	40.1	39.4	38.5
Tariff VI (Evoenergy adjustment)	42.5	41.5	41.1	39.7	38.5	37.4	36.1
Tariff VB (No adjustment)	619.8	611.5	607.1	597.5	589.8	583.8	574.8
Tariff VB (CIE adjustment)	619.8	611.5	607.1	597.5	589.8	583.8	574.8
Tariff VB (Evoenergy adjustment)	619.8	611.5	607.1	597.5	589.8	583.8	574.8

Source: AER analysis using Evoenergy, *Appendix 7.2 Demand Forecasting model, base model prepared by CIE*, June 2020, Confidential.

Note: Exclude impacts from other post model adjustments.

12.2.2.3 Forecasting of Tariff D

CIE forecast for industrial customer demand in the 2021–26 access arrangement period includes:

- A review of historical trends to forecast new connections and disconnections. As Evoenergy has had approximately 40 customers for the past 18 years,[40] this level was maintained with the exception of reallocating two customers from Tariff VI who had recently used more than 10 TJ over a 12-month period.
- Large customers on a throughput tariff are forecast for individual annual usage using 2018–19 usage as a starting point, adjusting for the impact of weather.[41]
- Customers on capacity tariff are forecasted based on the ninth-highest usage day for each customer during 2018-19, grown at the same rate as annual usage.[42]

[40] Evoenergy, *Appendix 7.1 Final Report Forecast demand for natural gas, Prepared by CIE for Evoenergy, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26*, 19 June 2020, p. 87.

[41] Ibid., p. 88.

[42] Ibid., p. 90.

Overall, demand customers are forecast to use around 1.2 PJ each year, similar to levels observed over the past eight to nine years[43].

12.3 Assessment approach

Rule 74(2) of the NGR requires forecasts in access arrangement proposals to be arrived at on a reasonable basis, and to represent the best forecast possible in the circumstances. Based on all the information before us, we are not satisfied that Evoenergy's forecasts for Tariff VI demand are consistent with rule 74(2) of the NGR for the purpose of the draft decision. This is because we do not accept Evoenergy's proposed post model adjustments.

For the purpose of our draft decision, we have separately assessed Evoenergy's demand forecasts based on these key components:

- CIE's Base model
- CIE's post model adjustments
- Evoenergy's post model adjustments.

With respect to Tariff D, we are satisfied that the demand forecasts for these tariff classes are consistent with rule 74(2) of the NGR.

The reasons for our decision are discussed further below.

12.4 Reasons for draft decision

12.4.1 Minimum, maximum and average demand

Under the NGR, Evoenergy's access arrangement must include minimum, maximum and average demand for the earlier access arrangement period.[44] Evoenergy's access arrangement information and its response to our Regulatory Information Notice (RIN) satisfy these requirements.[45]

12.4.2 Forecast pipeline capacity and utilisation

The NGR require that to the extent practicable, the access arrangement information should include forecast pipeline capacity and utilisation of pipeline capacity over the access arrangement period.[46]

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43 Evoenergy, *Attachment 7 – Demand forecasts, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26,* June 2020, p. 7-11.

44 NGR, r. 72(1)(a)(iii)(A).

45 Evoenergy, *Attachment 7 – Demand forecasts, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26,* June 2020, p. 7-13.

46 NGR, r. 72(1)(d).

Evoenergy did not provide this information in its access arrangement information. However, Evoenergy'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 practicable.

12.4.3 Demand forecast of Tariff VI and Tariff VB

We are not satisfied with Evoenergy demand forecasts for Tariff VI for both consumption per connection and connection numbers. As a result, we have provided an alternative estimate as a placeholder based on the following assessment.

Base model

In terms of the forecasting methodology, CIE's base model follows AEMO's demand forecast approach. This includes weather normalisation, price elasticity, historical trends and projections.[47] This is in line with our recent decisions and a number of reputable forecasters' approach to demand forecasting.

In addition, as part of its assurance process, CIE carried out a back cast of the current period and demonstrated a similar outcome. Consistent with our previous decisions, we accept that CIE's forecasting methodology for its base model is reasonable.

While the methodology is similar, there are some distinct differences in the key inputs and assumptions used by CIE in its base model compared to our other recent decisions.

CIE uses the ACT Government's population growth forecasts as the basis for its volume customers forecast. This is different to the usual approach of using a directly relatable forecast such as the Housing Industry Association (HIA) dwelling approvals and projections.[48] While it is possible to achieve an equivalent outcome using either data set, CIE needed to convert its data into a usable form. That is, in order to utilise population growth data, CIE needed to use demographic analysis to convert population growth to housing growth, which is not necessary when using the HIA data. This adds an additional layer of complexity to its demand forecast. CIE noted that it has not critically reviewed the rigour of the HIA dwelling forecasts and its alignment to its forecast.

Our understanding is that CIE has chosen the use of the ACT Government's population growth forecasts because its methodology relies on postcode level data. The HIA dwelling forecasts are not available at the postcode level.

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47 Evoenergy, *Appendix 7.1 Final Report Forecast demand for natural gas, Prepared by CIE for Evoenergy, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26*, 19 June 2020, pp. 47, 52, 54, 57 and 63.

48 Ibid., pp. 14 and 39.

The decision to use postcode level data enabled CIE to exclude the following postcodes from the demand forecast:

- 2611, which includes Denman Prospect and Whitlam
- 2615, which includes Strathnairn and Macnamara
- 2618, which includes Gooromon
- 2914, which includes Taylor.

CIE noted that under current ACT Government policy, which includes the removal of mandated gas reticulation in new ACT suburbs, these greenfield development areas were likely to be the first to cease connection to the gas network.

While there are some discrepancies in our definition of greenfield and brownfield developments, it is likely that any new suburbs from future ACT land releases will move away from gas, due to higher energy rating requirements and other financial incentives. In addition, the Suburban Land Agency[49] has also advised Evoenergy it will not be connecting gas in its new estates.[50]

CIE considers vacant land in existing suburbs that has yet to be developed, including any existing fringe suburbs, as brownfield sites. Brownfield developments are included in CIE's forecast as potential new connections. We consider connections are likely to decline in subsequent access arrangement periods, as the stock of these brownfield sites is exhausted.

Overall, while this is different from the typical approach, we consider that CIE's use of the ACT Government's population data and the exclusion of these four postcodes is reasonable. Stakeholder submissions, such as ACT Council of Social Services (ACTCOSS) and Consumer Challenge Panel (CCP24), are broadly supportive of the assumption that gas networks will not be expanded into new suburbs in the ACT and that the same decision could also apply to brownfield sites in existing suburbs.[51, 52] The Conservation Council ACT Region also recommended that Evoenergy immediately cease all new gas infrastructure and connections in all suburbs[53] while Origin Energy submitted that there is scope for more pronounced reduction in both connections and usage[54].

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[49] The Suburban Land Agency is responsible for delivering the ACT Government's suburban development program, including urban renewal in established town centres and suburbs. This comprises releases for residential, commercial, industrial, mixed use and community purposes.

[50] Evoenergy, *Attachment 3 – Capital expenditure, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26,* June 2020, p. 3-9.

[51] ACTCOSS, *Submission: Evoenergy's gas network 2021–26 access arrangement proposal to the Australian Energy Regulator,* August 2020, p. 7.

[52] CCP24, *Advice to the Australian Energy Regulatory on Evoenergy gas network 21 plan for Evoenergy (ActewAGL) ACT, Queanbeyan and Palerang access arrangement July 2021–June 2026*, August 2020, pp. 4 and 34.

[53] Conservation Council ACT Region, *Submission re Evoenergy 2021–26 gas access arrangement proposal*, August 2020, p. 4.

[54] Origin Energy, *Evoenergy access arrangement proposal,* August 2020, p. 3.

For the purpose of the draft decision, we accept and consider CIE exclusion of greenfield sites by way of removing relevant postcodes from the model inputs, rather than a post model adjustment is likely to deliver a more accurate forecast of demand. With the announcement of further commitments to achieve net zero emissions by the ACT Government on 3 November 2020, we consider that further refinements to the base model could be made in Evoenergy's revised proposal including further assessment of brownfield developments in its demand forecast.

CIE Post Model Adjustments

As noted above, CIE has modified the outcomes of its model to account for the ACT Government's policy on natural gas and carbon targets. CIE has applied the following post model adjustments to account for its base model outputs:

- The incremental impact of a new rebate for customers upgrading from gas heaters to reverse cycle air conditioning under the ACT EEIS[55].
- An increase in the number of abolishments (permanent disconnection) similar to the rate of increase in customers upgrading from gas heaters to reverse cycle air conditioning under the ACT EEIS[56].
- A continual decline in the number of E2G conversions over the 2021–26 period[57].

In July 2019, the EEIS introduced a new rebate of up to $5,000 for upgrading a ducted gas heater to reverse conditioning, and up to $2,500 for upgrading a room heater. Based on initial data from EEIS over the period August 2019 to January 2020, CIE has forecast that the current rebate will result in existing ACT residential customers using 2.8 per cent less gas by 2025–26.

We consider CIE's approach has merit, as it attempts to factor in known changes that are not present in the historical trend. However, we consider the six-month observation period is not sufficient to forecast seven years into the future. This is of particular concern as there is significant uncertainty surrounding the transition path to achieve the ACT Government's climate change policy.

On that basis, we do not accept CIE's post model adjustments of usage per customer. However, we are open to accepting this type of adjustment in our final decision if longer term data is available, and further analysis is carried out on the likely impact of

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55 Evoenergy, *Appendix 7.1 Final Report Forecast demand for natural gas, Prepared by CIE for Evoenergy, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26*, 19 June 2020, p. 65.

56 Ibid., p. 44.

57 Ibid., p. 45.

rebates, including factors that would increase or decrease its uptake rate over the 2021–26 period.

It is our understanding that EEIS rebate data over the period, February 2020 to October 2020, is likely to be available for CIE to review in Evoenergy's revised proposal.

We also do not accept CIE's post model adjustments on abolishments over the 2021–26 period. This adjustment relies on a rate of change calculation derived from the usage per customer adjustment. The abolishment rate proposed would be an increase of 31 per cent from 2020–21, with minimal growth thereafter.

We also consider CIE's use of its usage per customer calculation is not a reasonable proxy for adjusting abolishments. There is no direct relationship between the EEIS's new rebate and abolishments. We would like Evoenergy to provide further information on how CIE came to this position as part of its revised proposal, including any quantitative assessment carried out.

In terms of E2G conversions, we accept CIE's proposed 34 per cent decline each year over the 2021–26 period. We consider CIE's use of a three-year trend to derive this forecast is reasonable. However, we expect CIE to review and update the number of E2G conversion with the inclusion of the latest available data in the revised proposal.

We understand that CIE did not engage with AEMO when preparing the demand forecasts, We also understand that it did not extensively review AEMO's 2020 GSOO demand forecasting methodology information paper, which estimated the potential impact of the ACT Government's climate change strategy.

As such, we were given no assurance that the overall demand forecast methodology and key assumptions used were reasonable in forecasting the impact of the ACT Government's climate change strategy.

Evoenergy and CIE have indicated that they intend to engage with AEMO as part of their updated demand forecast for the revised proposal.[58] We expect Evoenergy in its revised proposal to compare and consider any potential difference between AEMO's latest demand forecast and GSOO information paper against its revised demand forecast.

Evoenergy Post Model Adjustments

Evoenergy has further modified the outcomes of the CIE final report before submitting its forecast to the AER. These have the effect of further reducing forecast demand per customer over the next access arrangement period.

[58] Evoenergy, *Response to information request IR007,* received 7 September 2020.

Evoenergy has applied the following additional post model adjustments:[59]

- Increasing CIE's post model adjustments for the incremental impact of the EEIS's new rebate from 2.8 per cent to 10 per cent by 2025–26.
- Similarly, tripling the rate of abolishments from CIE's neutral assumption of 31 per cent in 2020–21 to 200 per cent by 2025–26.

Evoenergy has used a number of examples to justify its position in adjusting CIE's findings.

Our initial assessment is that most of these examples have already been considered and factored into CIE's forecast. Making a post model adjustment is likely to result in double counting of the potential impact.

For example, new suburbs that are likely the subject of incentives and rebates to reduce gas usage, such as Whitlam, have already been excluded from CIE's forecast.

It is also our understanding that Evoenergy's ongoing market campaign to offer a rebate for customers to install more energy efficient gas appliances has been in place for a number of years.[60] As such, CIE's base model, which is based on a historical trend, already captures these incentives.

Evoenergy noted that the EEIS provides incentives for households to install heat pump hot water systems. It is our understanding that the current eligible EEIS products only includes upgrades of traditional electric hot water system to heat pump or solar hot water systems, not gas hot water systems.[61] We note that there is a national rebate scheme that includes gas hot water systems that has been in place for a number of years.[62] As such, we expect CIE would have already captured the effects of the national scheme in its base model.

Evoenergy's post model adjustments are a substantial change to CIE's final report. We are unclear on what assurance process Evoenergy has undertaken to ensure that the technical integrity of CIE's model remained intact. We expect Evoenergy to address this in its revised proposal.

Evoenergy considers its assumptions are conservative on the basis of a worst case scenario where the ACT Government mandates the disconnection of

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59 Evoenergy, *Attachment 7 – Demand forecasts, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26,* June 2020, p. 7-8.

60 Evoenergy, *Response to information request IR007,* received 7 September 2020.

61 ACT Government Environment, Planning and Sustainable Development Directorate – Environment, "Summary of eligible activities and abatement in Energy Efficiency (Cost of Living) Improvement (Eligible Activities) Determination 2017", *Publications*, 16 March 2020. Available here https://www.environment.act.gov.au/__data/assets/pdf_file/0011/1216748/Summary-of-eligible-activities-and-abatement-1-Jan-2018.pdf.

62 Clean Energy Regulator, "Register of solar water heaters"*, Renewable energy target*, 25 September 2020. Available here http://www.cleanenergyregulator.gov.au/RET/Scheme-participants-and-industry/Agents-and-installers/Small-scale-systems-eligible-for-certificates/Register-of-solar-water-heaters.

60,000 customers by 2025.[63] We would like Evoenergy to provide further information on how it would physically transition and disconnect over a third of its customer base to an alternative fuel source by 2025 while maintaining safety and reliability across both its gas and electricity networks. It is our view that it is not reasonable for Evoenergy to compare its proposed forecast to a scenario that might not be readily achievable.

While it is possible that the ACT Government might introduce more aggressive gas reduction policies in the future, we do not consider it reasonable to speculate on movements in a five-year demand forecast without objective estimates of key parameters. A submission from Energy Consumers Australia (ECA) also questioned the appropriateness of making such post model adjustments.[64] It is worthwhile noting that any policy changes in the 2021–26 period will likely be captured as historical trends when we assess the 2026–31 access arrangement.

Overall, while we acknowledge there is considerable uncertainty in relation to the ACT Government's climate change strategy, we do not accept Evoenergy's post model adjustments in the absence of any quantitative analysis or other tangible ACT Government activities that are not already included in CIE's forecast.

Suspended Connections

Based on our understanding, Evoenergy defines suspended connections and disconnections as the following:

- A 'suspended connection' is where Evoenergy either wad[65] or lock the meter to **temporarily** stop gas flowing
- A 'disconnection' or 'abolishment' is where Evoenergy remove the meter and/or isolate the service at the main to **permanently** remove the connection.

It is our understanding that Evoenergy's 2021–26 access arrangement definitions may differ from those used elsewhere in the market.

Historically, Evoenergy billed retailers network charges for temporarily suspended connections and would only cease network charges once a connection was permanently disconnected. Retailers have raised concerns that they were continuing to pay network charges for sites that no longer used the network.

While a suspended connection is meant to be temporary, many of these sites were suspended for a prolonged period of time without being disconnected. This may be because the costs of a disconnection is higher than a suspended connection.

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63 Evoenergy, *Attachment 7 – Demand forecasts, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26,* June 2020, p. 7-8.

64 Energy Consumers Australia, *Evoenergy and Australian Gas Networks (SA) Gas access arrangement proposals 2021–26 submission*, August 2020, p. 42.

65 Wadding means inserting a disc "wad: in the pipework to stop the flow of gas.

As part of its proposed Reference Service Agreement (RSA), Evoenergy has agreed to cease network charges for sites that are suspended.

This agreement has created another layer of complexity in the customer forecasts, where suspended connection now need to be removed from the customer base to ensure consistency between the RSA and the Tariff VI calculation.

As suspended connections were not captured in Evoenergy's historical disconnection numbers, it is our understanding that Evoenergy relied on its billing system, and provided a data extract to CIE for analysis.[66] This data identifies when each connection was suspended, and whether it had been recommissioned or disconnected, as well as the date of occurrence. CIE used this data and made additional adjustments to the customer number forecast.

While we commend Evoenergy working with retailers on the RSA and have accepted suspended connections in our previous decisions, we remain concerned that customers might be at risk of paying more than they should in the short- to medium-term. In particular, the new RSA introduces a step change in which customer numbers are counted for the purpose of demand forecasting and pricing. By removing suspended connections from its demand forecast, Evoenergy has effectively reduced the retailers' risk at the expense of a higher network charge (other things being equal, more disconnections will increase the price for remaining customers).

This action may be characterised as a transfer of 'bad debt' risk from retailers to customers through the network charge. Evoenergy characterised the change as ensuring customers who use the network are the ones paying for it.[67]

On balance, we accept that Evoenergy has acted in good faith given the circumstances and have complied with the National Gas Objective (NGO) on suspended connection for the purpose of its demand forecast. However, we would expect Evoenergy to provide further information on the actions it has taken to engage with its customers on these matters throughout its stakeholder engagement process.

AER Alternative Demand Forecast for Tariff VI and Tariff VB

Given all the information before us, we have provided an alternative estimate as a placeholder based on Evoenergy's proposed forecast without the post model adjustments on usage per customer and abolishments.

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66 Evoenergy, *Appendix 7.1 Final Report Forecast demand for natural gas, Prepared by CIE for Evoenergy, Access arrangement information, ACT and Queanbeyan-Palerang gas network 2021–26*, 19 June 2020, p. 46.

67 Evoenergy, *Response to information request IR007,* received 7 September 2020.

Table 12.5 AER demand forecasts for Tariff VI and Tariff VB for the 2021–26 access arrangement period

	2021–22	2022–23	2023–24	2024–25	2025–26
Residential and Commercial Connections [a]	152,990	154,594	156,116	157,700	159,354
Total Residential and Commercial Demand (TJ)	6,448	6,388	6,340	6,314	6,255
Volume Boundary Connections	15	18	21	24	27
Total Volume Boundary Demand (TJ)	9	11	12	14	16

Source: AER analysis using Evoenergy, *Appendix 7.2 Demand Forecasting model, base model prepared by CIE*, June 2020, Confidential.

Notes: a. closing connections including suspended connections.

2019–20 actual demand and customer numbers

Given that Evoenergy submitted its 2021–26 access arrangement proposal in June 2020, 2019–20 actual data is not reflected in its proposal.

However, as noted in Evoenergy's response to our information request, Evoenergy indicated that it will provide an updated gas demand forecast based on 2019–20 actual usage and customer numbers for its revised proposal.[68]

As such, we accept it is good industry practice to use the latest data when it is available and our expectation is that Evoenergy will update all relevant inputs using 2019–20 actual data including any that was used to develop its demand and customer forecasts.

12.4.4 Demand forecasts for Tariff D

Given the number of demand customers has been relatively stable at around 40 customers for the past 18 years and CIE has moved two volume customers to Tariff D, we are satisfied that Evoenergy's forecast for Tariff D is arrived at on a reasonable basis.

However, given recent ACT Government announcements on further commitments to achieve net zero emissions, we would expect Evoenergy in its revised proposal to incorporate changes and provide further information on any communications it might

[68] Evoenergy, *Response to information request IR007*, 31 August 2020.

have with its Tariff D customers regarding their likely consumption behaviours over the 2021–26 period.

CCP24 submitted that the two major gas customers in ACT – the ACT Government and Australian National University – both have clear policies to exit gas and the forecast of flat rather than declining growth may be optimistic[69].

12.5 Revisions

We require the following revisions to make the access arrangement proposal acceptable:

Revision 12.1	Make all necessary revisions arising from using 2019–20 actual data, and other matters set out in 12.1

[69] CCP24, *Advice to the Australian Energy Regulatory on Evoenergy gas network 21 plan for Evoenergy (ActewAGL) ACT, Queanbeyan and Palerang access arrangement July 2021–June 2026*, August 2020, pp. 22 and 36.

Shortened forms

Shortened form	Extended form
ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
ACTCOSS	ACT Council of Social Service
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Capex	Capital expenditure
CCP / CCP24	Consumer Challenge Panel, sub-panel 24
CIE	The Centre for International Economics
E2G	Electricity-to-gas
EEIS	Energy Efficiency Improvement Scheme
ECA	Energy Consumers Australia
ESOO	Electricity Statement of Opportunities
GJ	Gigajoule
G2E	Gas-to-electricity
GSOO	Gas Statement of Opportunities
HIA	Housing Industry Association
MIRN	Meter installation registration number
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
NSW	New South Wales
Opex	Operating expenditure
PJ	Petajoule
RIN	Regulatory Information Notice
RSA	Reference Service Agreement
TJ	Terajoule