evoenergy

Appendix 2.2: The Centre for International Economics review of AER draft decision

Revised 2026–31 access arrangement information

ACT and Queanbeyan-Palerang gas network access arrangement 2026–31

Submission to the Australian Energy Regulator

January 2026

Contents

BOXES, CHARTS AND TABLES

1   Introduction

On 19 June 2025, the Centre for International Economics (CIE) provided a final report to Evoenergy setting out an independent and detailed forecast of demand and customer numbers for the ACT and Queanbeyan-Palerang gas distribution network for the period 2026-2031 (*the CIE forecast*). The forecast informed Evoenergy's regulatory proposal to the Australian Energy Regulator's (AER's) review of gas network tariffs for the 2026–31 Access Arrangement period. The AER engaged Frontier Economics (FE) to review the reasonableness of the forecast and to provide alternate forecasts (*the FE forecast*). FE's view was that there are several issues with the CIE forecast. The AER's draft decision was to accept Evoenergy's demand forecast for the Demand Tariff for the 2026–31 period, but to not accept Evoenergy's demand forecast for the Volume Tariff. The AER used the FE forecast for the Volume Tariff and considered it better meets the requirements of the National Gas Rules (NGR).

The CIE's response to FE's and the AER's concerns about the CIE forecast are set out in the report on the update to the CIE's demand forecast.

Evoenergy has engaged the CIE to review the reasonableness of the FE forecast. The present report sets out the findings of this review.

2   Summary of Frontier Economics forecast

Approach

The FE forecast for Tariff VI demand is derived by aggregating separate forecasts for six customer categories:

- Residential – ACT detached dwellings
- Residential – ACT medium density/high rise
- Residential – NSW detached dwellings
- Residential – NSW medium density/high rise
- Commercial – ACT, and
- Commercial – NSW.

For each customer category, the forecast is a product of forecast:

- customer numbers, and
- consumption per customer.

The customer number forecasts are derived by applying linear trends to historical data on new connections and disconnections. The period of historical data on which the trend is based varies across customer categories.

The forecasts of consumption per customer are derived by:

- estimating a relationship between consumption per customer and weather (effective degree days (EDD)) over the past two years (using 24 observations of aggregated monthly data for each customer category)
- using those estimated relationships, and a forecast of EDD, to forecast consumption per customer, and
- adjusting that forecast for forecast changes in:
  - gas prices (an elasticity of -0.05 applied to heating load)
  - partial electrification (an assumption that consumption will ramp down over two years for customers forecast to disconnect within the 2026-31 AA period), and
  - energy efficiency improvements (based on AEMO's forecast for NSW).
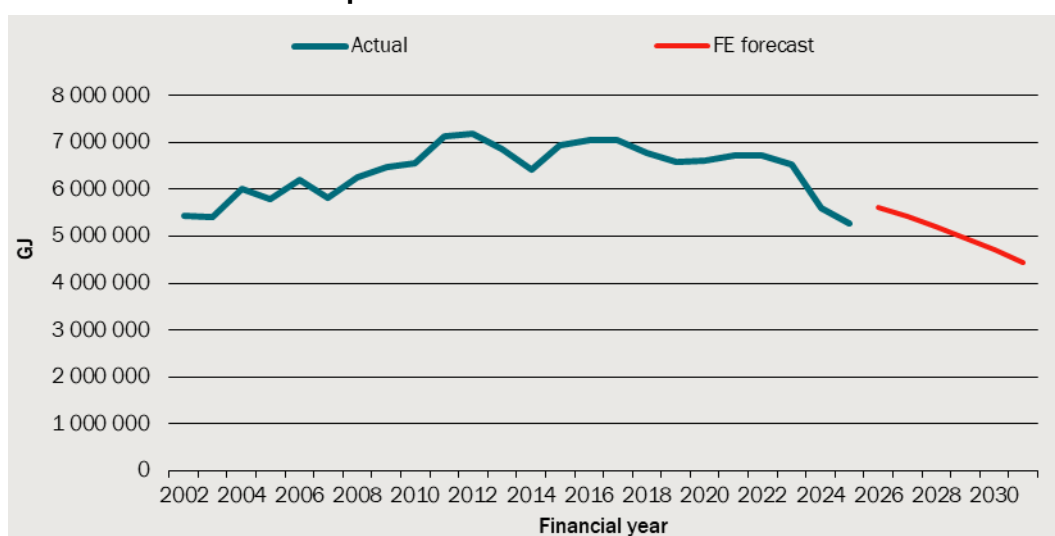
Consumption per customer is allocated to pricing blocks based on historical relationships between consumption and the share of consumption in each pricing block.

The FE forecast for Tariff VB is constant at the most recent annual observation.
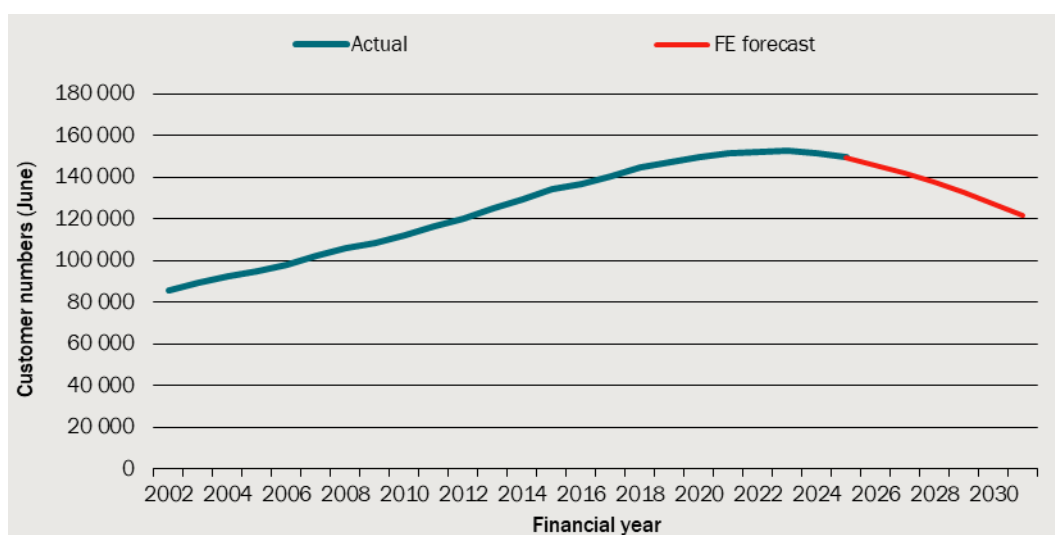
Results

The FE forecast in the context of historical consumption, customer numbers and consumption per customer are shown in charts 2.1, 2.2, and 2.3. It involves a gradual decline in customer numbers and a stabilisation of average consumption. Forecast total consumption in 2025/26 is around 7 per cent higher than actual consumption in 2024/25 and declines by 2030/31 to a level 16 per cent lower than 2024/25 consumption. FE did not have 2024/25 actual billing data available at the time of its review.
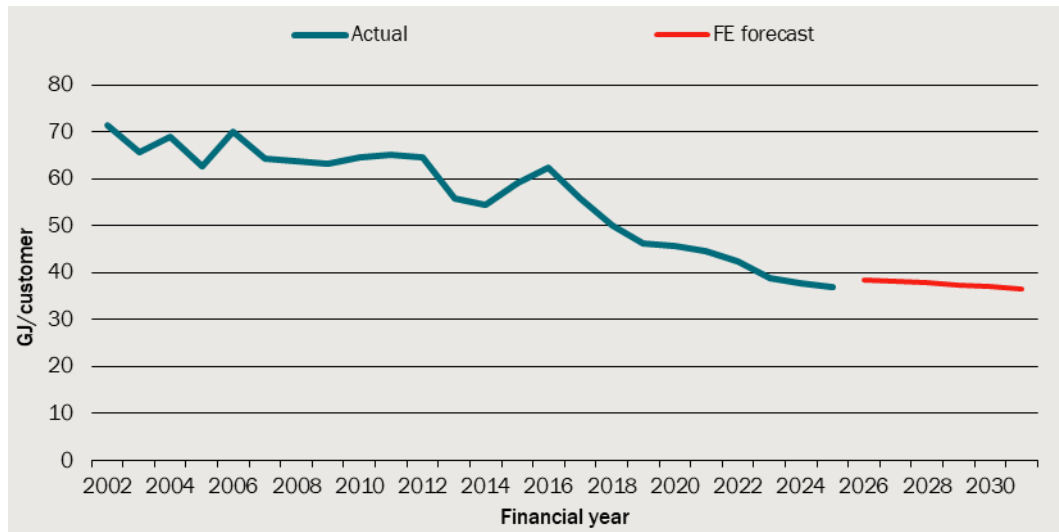
2.1   Tariff VI total consumption

Data source: Evoenergy billing data and Frontier Economics demand forecast

2.2   Tariff VI customer numbers

Data source: Evoenergy billing data and Frontier Economics demand forecast

2.3   Tariff VI consumption per customer

Data source: Evoenergy billing data and Frontier Economics demand forecast

3   Reasonableness of the forecast

■ While some elements of the forecasting approach are reasonable, there are shortcomings which result in a forecast that is not reasonable.

■ Reliance on a trend-based approach is not reasonable given evidence that future behaviour is unlikely to follow historical trends due, at least in part, to the ACT Government Integrated Energy Plan.

■ Having adopted a trend-based approach, the forecast does not account for the historical downward trend in average consumption per customer. The forecast involves a stabilisation of average consumption that is not explained by external factors or drivers of demand. This problem arises because FE's methodology includes neither:

  – a time trend for average consumption based on historical data, nor

  – a post-model adjustment for appliance switching (or partial electrification) for customers who are expected to remain connected over the 2026-31 AA period.

Structure of forecasting approach

The approach of constructing a forecast from separate forecasts of the customer numbers and average consumption of six different customer categories is generally reasonable. However, it is not reasonable to assume that new connections will have the same average consumption as existing connections. It would be preferable to include new customers as a separate category, to account for the fact that average consumption is lower for new customers. This issue is less significant than it would have been in previous demand forecasts now that new connections are banned in the ACT.

Another issue relating to the structure of the approach is that there does not appear to be a coherent overall view on changes in consumer demand for gas that informs the approaches to the separate customer number and consumption components. The forecasting approach implies that approximately 122 000 customers will remain connected to the gas network through the 2026-31 AA period and continue using gas as they have in recent years, with no appliance switching and only a 5 per cent reduction by 2031 due to improved energy efficiency and a behavioural response to gas prices. This is inconsistent with the steady decline in average consumption observed historically, as discussed in later sections.

Approach to forecasting customer numbers

FE adopted The CIE forecasts of new connections in NSW, which we view as reasonable for the reasons set out in our demand forecast report.

FE adopted a trend-based approach to forecasting disconnections.[1] While we acknowledge there is considerable uncertainty over forecast disconnections, any forecast based on a trend would need to be accompanied by explanation of:

- why recent ACT Government policy relating to the energy transition has not resulted in a structural break in the time series data, and

- how the trend reconciles to the ageing of the stock of gas appliances in the network and consumer preferences regarding appliance replacements.

Survey evidence indicates most consumers will switch to electric appliances when their gas appliances break.[2] The ACT Government has also noted that banning the installation of new gas appliances would be a logical next step for the energy transition in the ACT.[3] FE found the CIE's assumption of an appliance ban from 2030 is reasonable.[4] It is plausible that some form of appliance ban could be introduced earlier, at the midpoint review of the Integrated Energy Plan in 2027, given Victoria has already announced a ban on new gas hot water appliances from March 2027.[5]

Given the mean age and life of gas appliances in Evoenergy's network are approximately 10 and 16 years, respectively, significant quantities of appliances are expected to reach end of life over the six-year forecast period.

The FE forecast involves 18 per cent of customers partially electrifying and then disconnecting by 2031. The average of 3 per cent of gas appliances switched each year implies average appliance lives in the order of 30 years.[6] This is inconsistent with the 15-

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[1]   The forecast utilises 'stock and flow' estimates generated from billing data by The CIE that were included in CIE's Excel workbook but not used in the forecast, which instead prioritised connection status reports at a MIRN level at specific points in time. Connection status reports are a more reliable source for disconnections, because of difficulties distinguishing between zero-consuming connections and disconnected customers in the billing data. The FE model applies an absolute value function to any implied negative flow estimates. There are no implied negative flow estimates in the observations used for historical trends in the FE model associated with its November 2025 report, but this may not remain the case if the model is updated for new data or the periods used to define trends are revised.

[2]   CIE 2025. Price elasticity of demand for natural gas. Final report. June.

[3]   https://www.abc.net.au/news/2024-06-19/canberrans-could-be-banned-from-buying-new-gas-appliances/103997228 (accessed 13/06/2025)

[4]   Frontier Economics 2025. Gas demand forecasts for Evoenergy. Prepared for the Australian Energy Regulator. 5 November. p 17.

[5]   https://www.planning.vic.gov.au/guides-and-resources/strategies-and-initiatives/victorias-gas-substitution-roadmap, accessed 7/1/25

[6]   For a stable appliance stock with like-for-like replacement and a 30-year appliance life, the statistical expectation of replacement over 30 years would be the level of the stock, implying an annual replacement rate of around 3 per cent (100 per cent divided by 30 years).

year appliance life assumption adopted by the AER's consultant in its recent review of the demand forecast for Jemena Gas Networks.[7]

For these reasons it is our view that a forecast based purely on a time trend is not the best possible in the circumstances.

Finally, although FE estimated the forecast impact of changes in gas prices on heating load, it did not consider the impact of changes in gas prices on disconnections. Although this approach is potentially internally inconsistent, accounting for price elasticity of demand for connections is unlikely to materially affect the demand forecast, given the small forecast changes in gas retail prices in the 2026-31 AA period and the relative inelasticity of demand for connections.

Approach to forecasting average consumption

In our view, the approach to forecasting average consumption is not reasonable, especially in relation to detached dwellings. Our main concern is that the approach limits the use of historical data to the most recent two years' worth of monthly observations. The CIE agrees that the most recent weather-normalised observations are the most reasonable starting point for a forecast. Further discussion on this point is included in the report on our updated demand forecast. However, when faced with a relationship between EDD and consumption that has changed over time, it is more reasonable to model the changes in the relationship than to throw away data. There is significant uncertainty created by forecasting over a period (6 years) that is triple the length of the historical period (2 years) on which the model is developed.
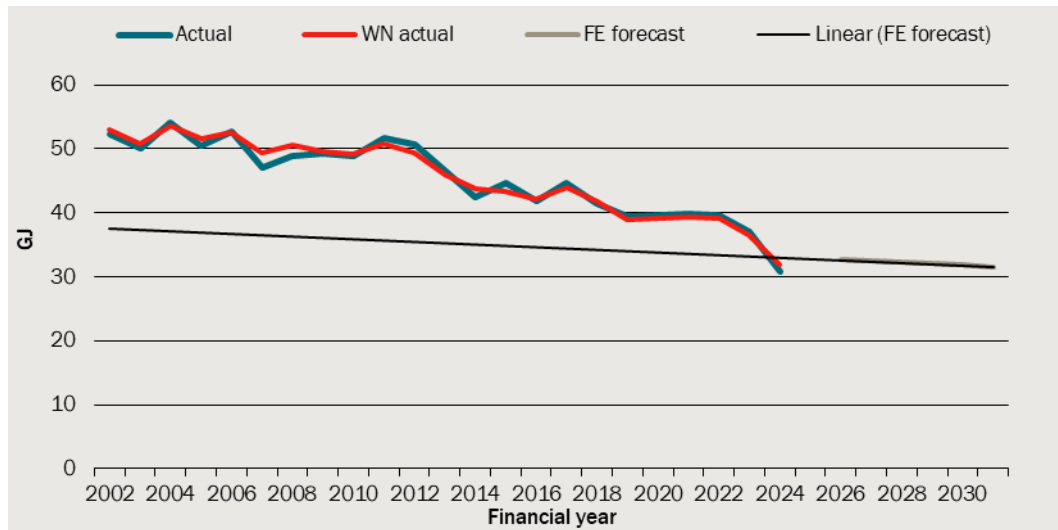
There has been a consistent decline in average consumption over a long period of time, driven by a range of factors including appliance switching and building energy efficiency. The approach adopted by FE implicitly assumes that decline will cease, but no rationale in terms of external factors or drivers of demand is provided.

This issue primarily relates to detached dwellings. The results of FE's approach are less problematic for high-density and commercial customers, as the trend in average consumption has been flatter in recent years for those customer types. However, detached dwellings comprise two thirds of Tariff VI consumption and three quarters of Tariff VI connections.

Chart 3.1 shows actual average consumption for detached dwellings in the ACT. It also includes weather-normalised actual average consumption calculated by The CIE using Frontier Economics' EDD trend and regression coefficients. The forecast decline in average consumption is much flatter than the historical decline in average consumption, particularly that observed over the past two years.

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7   Acil Allen 2024. Review of Jemena Gas Network's demand forecasts. For the Australian Energy Regulator. 8 November. (https://www.aer.gov.au/system/files/2024-11/ACIL%20Allen%20-%20JGN%20demand%20review%20report%20-%20November%202024.pdf).

3.1 Average consumption, ACT detached dwellings

Data source: Forecast from Frontier Economics demand forecasting model. Actual from 'Evoenergy billing data' in Frontier Economics demand forecasting model. Weather-normalised actual calculated by CIE using EDD and EDD regression coefficients in Frontier Economics demand forecasting model. Trendline through forecast from CIE analysis.

The forecast trend is also out of step with ACT Government expectations. FE has forecast ongoing reductions in average consumption across all Tariff VI customers of between 0.7 per cent and 1.2 per cent per year, while the ACT Government anticipated declines in average consumption of 2.5 per cent per year.[8] If the FE forecast for the early years of the 2026-31 AA period were to eventuate, it is possible the ACT Government would introduce new initiatives to maintain progress towards electrification.

This problem arises because FE's methodology includes neither:

- a time trend for average consumption based on historical data over a long period, nor
- a post-model adjustment for appliance switching (or partial electrification) for customers who are expected to remain connected over the 2026-31 AA period. (FE makes an adjustment only for the approximately 30 000 customers that it expects will disconnect by 2031.)

A reasonable forecast would include one of these two approaches. Including neither means that a significant driver of the forecast has been omitted.

The problem is not mitigated by updating the historical data, with average consumption declining further to 29.2 GJ in 2024/25 for detached dwellings in the ACT — the lowest level recorded.

Note also that the CIE approach to forecasting average consumption cannot be used as a basis for the FE forecasting approach. CIE considered appliance switching across all customers and translated the adjustment primarily to disconnections. FE has taken an entirely different approach to forecasting disconnections, which is not based on appliance switching modelling across all customers. The CIE noted in its June 2025 report:

> The time trend was excluded from baseline forecasts of average residential consumption to ensure no double counting of impacts in the switching model… Should household staging of

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8   ACT Government 2022. Utility impact statement — Gas transition. p 5.

appliance replacement and disconnection occur over a longer period than we have assumed, customer numbers would remain higher than forecast, but average consumption would decrease below the levels forecast."[9]

Finally, we note the *forecast* accounts for price elasticity, but no normalisation of *historical* consumption for price elasticity is undertaken when estimating trends and weather normalisation. This approach is internally inconsistent.

Approach to forecasting Tariff VB

Given the small relative size of demand on Tariff VB, the simple approach to forecasting adopted by FE is reasonable.

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9   Evoenergy 2025. Appendix 2.1: The Centre for International Economics Gas demand forecast report. Access Arrangement Information ACT and Queanbeyan-Palerang gas network 2026–31. June. pp 69-70.