

# Review of AusNet Services' Access Arrangement Variation demand forecast

Australian Energy Regulator | 19 Dec 2024



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## 1. Introduction

### 1.1. Background

AusNet Services has proposed a variation to be applied to its 2023-28 Access Arrangement period to reflect recent changes in government policy that it expects will impact its gas demand and gas connection numbers. These changes, which CIE states were not reflected in its original regulatory proposal, primarily result from the impact of the Victorian Government's Gas Substitution Roadmap, which was originally published in July 2022, and which requires, for example:

- New homes requiring a planning permit to be all-electric from 1 January 2024,
- The full, efficient costs of a gas connection, to be passed on to new customers, and
- The capping of fees to disconnect from the gas network.

### 1.2. Objective

Oakley Greenwood (OGW) has been engaged to undertake an external review of:

- The reasonableness of AusNet Services' modelling of residential and commercial gas connection rates on its network for the new forecasts AusNet produced between the AER's final decision for the 2023-28 Access Arrangement (June 2023) and the Access Arrangement variation (September 2024), and whether it has taken into account relevant information and made reasonable assumptions (decline in new connections) in response to recent policy changes in Victoria; and
- The reasonableness of AusNet Services' adjustments to gas usage per customer (for its residential and commercial customers), between the AER's final decision for the 2023-28 Access Arrangement (June 2023) and the Access Arrangement variation (September 2024), and whether AusNet Services has taken into account relevant information and made reasonable assumptions when adjusting this figure.

### 1.3. Caveats

We have relied extensively on CIE's report, titled "*Update of 2023-2028 GAAR gas forecasts*", as well as the model that supported that report. We have not undertaken a complete audit of that model and therefore we cannot provide assurance as to the veracity and robustness of that model in its entirety.

We have, however, used that model to inform our assessment of the potential scale of any changes associated with our recommendations.

### 1.4. Structure of Report

The remaining sections of this report are structured as follows:

- Section 2 provides a summary of the key factors driving CIE's forecast of AusNet Services' customer connections and gas demands;
- Section 3 summarises OGW's key findings regarding CIE's forecast of AusNet Services' customer connections and gas demands; and
- Section 4 provides OGW's estimate of the impact of its recommended adjustments.



## 2. Key Factors Driving CIE's Forecast of AusNet Services' Customer Connections and Gas Demands

The following table summarises the key factors driving CIE's forecast of AusNet Services' customer connections forecasts.

Table 1: Key factors driving CIE's forecast of AusNet Services' customer connections numbers

Component of forecast	Where it has come from/how they have modelled it
Underlying dwelling forecasts	Derived from Victoria in Future forecasts ( <a href="https://www.planning.vic.gov.au/land-use-and-population-research/victoria-in-future">https://www.planning.vic.gov.au/land-use-and-population-research/victoria-in-future</a> )
Reduced level of customer connections resulting from the application of an upfront charge to new customers	<p>CIE use an "elasticity of demand" approach, whereby, they determine the percentage change in the net present value of a connecting customer's overall gas costs (over a 10 year period) caused by now having to face the upfront cost of their connection.</p> <p>CIE assume:</p> <ul style="list-style-type: none"> <li>• A 7% discount rate;</li> <li>• A 10 year connection period;</li> <li>• That a customer will face a retail bill over those 10 years of \$237 per quarter, or \$948 per annum; and</li> <li>• That a customer will face an upfront charge of \$1777.</li> </ul> <p>CIE has also considered the fact that if customers pay more upfront for their connection, then, everything else being equal, all customers will receive slightly lower on-going charges compared to the base case (which would have entailed a lower upfront contribution from new customers being offset by higher charges to all customers in the longer term).</p> <p>CIE estimates that by levying upfront charges to connecting customers, the number of customers connecting to AusNet's network will reduce by around 4.5% per annum relative to what would have occurred, had the policy not been enacted.</p>
Impact of Planning Permit Policy	<p>CIE forecast that the policy change that requires new homes requiring a planning permit to be all-electric from 1 January 2024 will have a lagged impact on forecast connections. This results from the fact that customers connecting to the network in one year are not necessarily underpinned by a Planning Permit having been issued in that same year (i.e., it may be related to a Planning Permit that was issued in a prior year).</p> <p>CIE states that the lagged impact, based on historical information, sourced from AusNet is related to the distribution of time to pass through pipeline stages. More specifically, CIE has stated that it:<sup>1</sup></p> <p><i>"estimated this time lag using analysis of AusNet's reticulation data, planning permit data, and data provided by AusNet about the timing of when meters are connected after reticulation".</i></p> <p>These percentages are as follows:</p> <ul style="list-style-type: none"> <li>• Year 0 = 0.14%</li> <li>• Year 1 = 3.47%</li> <li>• Year 2 = 14.87%</li> <li>• Year 3 = 24.17%</li> <li>• Year 4 = 22.44%</li> <li>• Year 5 = 17.01%</li> </ul> <p>For clarity, this means that 0.14% of meters are <b>connected in the same year that a planning permit is obtained (year 0)</b>, 3.47% are connected in the following year (year 1), and so on.</p> <p>CIE also make the following broad assumption that for<sup>2</sup>:</p>

<sup>1</sup> Email from Michael Larkin to Dale Johansen (Thursday, 21 November 2024, 3:22 PM)  
<sup>2</sup> CIE, *Update of 2023-2028 GAAR gas forecasts, Final Report*, 2 July 2024, page 18

	<i>“modelling purposes, CIE assume that 80 per cent of new dwellings require a planning permit and are thus affected by the policy in the medium term”.</i>
Sentiment effect	<p>CIE apply what is in effect a “sentiment discount”, which further reduces the number of dwellings that are expected to connect to the network. An extract from CIE’s report, explaining the basis for this adjustment, is reproduced below<sup>3</sup>:</p> <p><i>“The house connection penetration rate is projected to be 60 per cent in all postcodes from 2024 onwards. This is based on an AusNet survey finding that 40 per cent of customers expressed a desire to leave the gas network (implying that at most 60 per cent of new home builders will want to connect to gas). This establishes a baseline connection rate that reflects customer underlying preferences before they are impacted by policies”.</i></p> <p>CIE then reduce this percentage year-on-year (e.g., 60%, 50%, 40%, 30%, 20%). Note that a reducing percentage means fewer customers are assumed to connect to the network. This adjustment is applied in addition to all the other adjustments (e.g., the “Impact of Planning Permit Policy”, and the impact of charging customers upfront).</p>
Disconnections	<p>CIE forecast an increase in net disconnections from the network with this reaching levels seen by Evoenergy (being the network most affected by gas policies). An extract from CIE’s report, explaining the basis for this adjustment, is reproduced below<sup>4</sup>:</p> <p><i>“For disconnections, the scenarios consider different years in which disconnections reach the projected rate of 1.25 per cent. While Scenario 0 assumes this occurs in 2028, additional scenarios 2, 4 and 6 bring this forward to 2026.”</i></p>

The following table summarises the key factors driving CIE’s forecast of AusNet Services’ gas demands.

Table 2: Key factors driving CIE’s forecast of AusNet Services’ gas demands

Component of forecast	Where it has come from/how they have modelled it
Electrification	<p>CIE make a downward adjustment to their baseline gas demand forecast to reflect the impact of electrification. This adjustment is sourced from AEMO’s 2024 GSOO.</p> <p>CIE also estimate a share of AEMO’s electrification impact that needs to be removed to avoid double-counting CIE estimates of policy impacts with those embedded within AEMO’s original forecasts. This percentage - 25% - is in effect a back solve, as it is designed to allow CIE’s forecast of gas demands to (broadly) align with what it would have been, if CIE only adopted AEMO’s electrification impact. This is highlighted in Figure 1 below.</p>
Energy efficiency	<p>CIE make a downward adjustment to their baseline gas demand forecast to reflect the impact of energy efficiency. This adjustment is sourced from AEMO’s 2024 GSOO.</p>
7-star energy rating	<p>In addition to the above, CIE includes the impact of the new 7-star rating system. CIE estimate that the 7 Star Standard reduces consumption per new customer by 3.5 per cent for houses and 27.3 per cent for apartments.</p> <p>These estimates are based on the Consultation RIS by ACIL Allen. More specifically, CIE state that<sup>5</sup>:</p> <p><i>“As part of the NCC 2022 development process, the ABCB engaged ACIL Allen to develop a Consultation Regulation Impact Statement (RIS) assessing the costs and benefits of proposed increases in energy efficiency requirements in the NCC 2022 for new residential buildings. We have used the change in gas usage estimates calculated using the policy options modelled in the Consultation RIS”.</i></p>

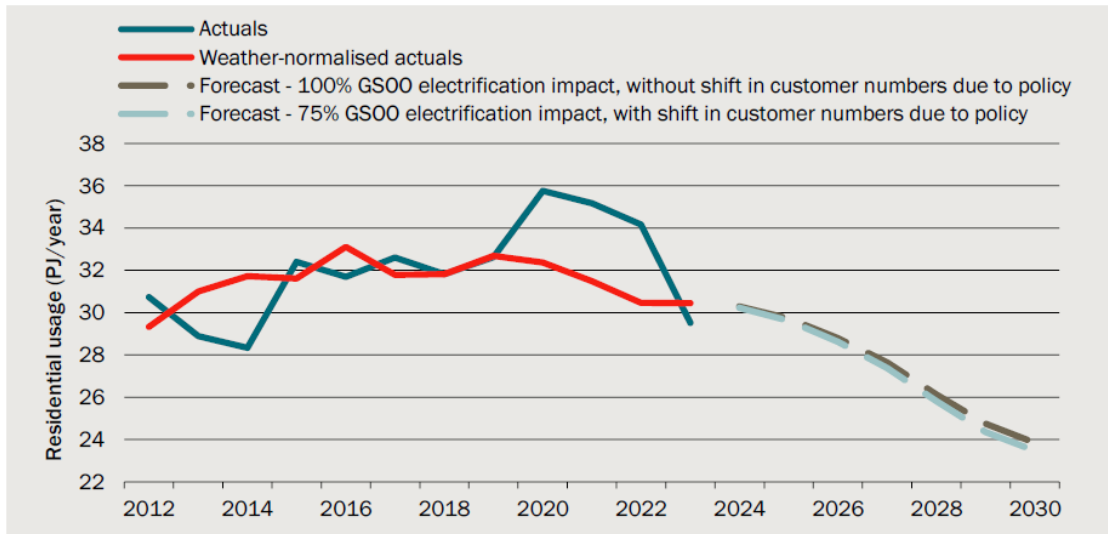
<sup>3</sup> CIE, *Update of 2023-2028 GAAR gas forecasts, Final Report*, 2 July 2024, page 49.

<sup>4</sup> Ibid.

<sup>5</sup> CIE, *op cit*, page 109

Figure 1: Extract from CIE demonstrating the alignment of their forecast with AEMO's electrification impact

**5.8 Removal of part of AEMO electrification impact to avoid double-counting**



Note: Both forecasts incorporate  
Data source: CIE.

Source: CIE, *Update of 2023-2028 GAAR gas forecasts, Final Report*, 2 July 2024, page 61.



### 3. OGW Findings

The following table summarises OGW's key findings regarding CIE's forecast of AusNet Services' customer connections forecasts.

Table 3: OGW's key findings regarding CIE's forecast of AusNet Services' customer connections

Component of Customer Connections forecast	OGW Findings	Recommended Adjustment
Underlying dwelling forecasts	This is consistent with accepted practice.	No adjustment required
Reduced level of customer connections as a result of an upfront charge now being applied to connections	<p>Whilst CIE's methodology is reasonable:</p> <ul style="list-style-type: none"> <li>CIE's estimate of the cost of gas (\$237 per quarter, or \$948 per annum), which has come from a CANSTAR rating survey (<a href="https://www.canstarblue.com.au/gas/average-gas-bill/">https://www.canstarblue.com.au/gas/average-gas-bill/</a>) of 1800 customers across Australia conducted in December 2023, is inconsistent with the median retail bill for AusNet Services' area that has been published by the Essential Services Commission (ESC).</li> <li>The (lower) retail bill used by CIE has the effect of reducing the NPV of a customer's future gas costs, which results in the application of the upfront charge having a higher percentage impact on their future gas costs. The way CIE's elasticity calculation works, the higher this percentage impact is, the greater the (downward) impact it has on future connections.</li> </ul>	<ul style="list-style-type: none"> <li>We consider the use of the ESC's estimate of the median retail bill in AusNet's service territory to be a preferred measure, as the ESC is a much more credible source of retail cost information than a CANSTAR survey.</li> <li>Furthermore, it is not clear how many of the 1800 customers surveyed were from Victoria, and given the fact that the survey results are quarterly figures, and not yearly figures, whether the survey may only be reporting a single quarterly bill (from the Spring period, given it was undertaken in December). If this is the case, this would not be representative of a customer's full year bill (as both space and water heating energy requirements would be significantly lower in the spring than in the winter).</li> <li>We would therefore, recommend that the ESC's figure be used in place of CIE's current figure.</li> <li>The ESC's reported median retail bill is \$2016 per annum<sup>7</sup>.</li> </ul>

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Essential Services Commission, *Victorian Energy Market Report: September 2024*, page 23.

	<ul style="list-style-type: none"> <li>• CIE's use of a 10-year period to determine a customer's overall cost of being connected to the gas network implies that customers who build a new house and connect to the existing gas network, are only expecting to be connected to the network for 10 years (i.e., they will only get value from that connection for 10 years).</li> <li>• In considering the reasonableness of this assumption, we have had regard to the fact that CIE's assumption implies that every single customer who connects to AusNet's network during this access arrangement period will disconnect from the network by 2038. This is despite there being no "bright light" end to the network after 10 years.</li> <li>• In fact, AEMO is forecasting residential and commercial gas demand in Victoria to be over 50PJ per annum (53.9PJ)<sup>6</sup> in 2038 (which is 10 years after the last year of AusNet's variation period). This represents around a 55% reduction on current levels.</li> </ul> <p>Having regard to the above, in our opinion, a 10-year connection life does not align with AEMO's assumption that gas demand from residential and commercial customers is only forecast to reduce by 55% over this period in Victoria. For example, if we apply CIE's assumption to residential and commercial customers, a much larger decline in usage would have to occur, as all existing customers would have disconnected from the network by 2034 (10 years from now), and all new customers connecting to AusNet's network between now and 2028 would also be expected to have disconnected by 2038. If AEMO had made the same assumption as CIE has, the reduction in gas demand would be much larger than 55%. For the avoidance of doubt, we note that this analysis implicitly assumes that both existing and new customers apply the same "expected life" to their connection. We consider this not unreasonable, given the lack of information, and noting that we are not aware of there being any information to the contrary.</p>	<ul style="list-style-type: none"> <li>• In our opinion, a more reasonable assumption that better aligns with AEMO's forecasts would be to assume that a customer will expect to maintain their connection to the gas network for 15 years, not 10 years.</li> <li>• This better aligns with AEMO's forecast of residential and commercial consumption declining by 55% between now and 2038. Putting this another way, if AEMO had made the same assumption as CIE has, its forecast reduction in gas demand would have been significantly larger than the 55% it is forecasting (because a almost all customers would have disconnected from the grid).</li> </ul>
<p>Impact of Planning Permit Policy</p>	<p>Whilst the CIE methodology is reasonable, CIE's model incorrectly commences the application of the Planning Permit discount in year 2023, not 2024 when the policy commences. CIE acknowledged that this was an error, after OGW alerted them to it.<sup>8</sup></p> <p>In discussions, CIE acknowledged that the 80% of new dwellings requiring a planning permit assumption is not underpinned by any direct evidence, as none is readily available. We agree with this, and agree with CIE's use of 80%, noting that it broadly aligns with the characteristics of the AusNet network.</p>	<ul style="list-style-type: none"> <li>• Correct for the formula error.</li> <li>• We consider this a reasonable assumption.</li> </ul>
<p>Sentiment effect</p>	<p>CIE assumes only 60% of eligible customers will connect to the gas network in 2025 due to reduced sentiment towards gas. As discussed earlier, this percentage reduces linearly overtime.</p> <p>CIE primarily bases this input assumption on a Sentiment Survey from AusNet ("<i>The house connection penetration rate is projected to be 60 per cent in all postcodes from 2024 onwards. This is based on an AusNet survey finding that 40 per cent of customers expressed a desire to leave the gas network (implying that at most 60 per cent of new home builders will want to connect to gas)</i>").</p>	<p>On balance, we do not consider the available data supports the assumption CIE has adopted. In particular, we do not consider the use of AusNet Services' sentiment survey results as being reasonable, given the fact that they represent a customers' perceptions as to what they will do 10 years into the future, yet the results are being used to discount customers' willingness to connect to the network from 2025.</p>

<sup>6</sup> <https://visualisations.aemo.com.au/forecastingArchive/Gas/AnnualConsumption/Total>  
<sup>8</sup> Email from Michael Larkin to Dale Johansen (Thursday, 21 November 2024, 3:22 PM)

We have concerns over the use of these survey results. Firstly, the survey relates to customer perceptions as to what they will do in 10 years' time (Q: *"In 10 years time, how likely are you to be using the gas connection at your house/business"*), yet the results are being used to discount customers' willingness to connect to the network from 2025 (and the percentage declines over the course of the Access Arrangement period). This casts significant doubt on the use of this survey result as the basis for this input parameter.

Further to this, we note that there is a significant difference between the results of AusNet's survey, and a recent survey undertaken by ECA, which indicated that 11% of customers in Victoria are *"...seriously considering cancelling my gas supply and converting my home to running on electricity only"*<sup>9</sup>. Again, this further heightens the uncertainty around CIE's input assumption, noting that this survey result only reflects a customer's "consideration", not any tangible action to disconnect.

Finally, we note that more recent information provided by AusNet in response to several questions we asked them during the review process<sup>10</sup> indicates that the negative sentiment expressed in the survey referred to by CIE has in fact reduced (i.e., improved) from 40% to 32%. This brings it back to levels seen in autumn 2023, which is also relatively similar to Spring 2022. [See Figure 2 and Figure 3 below].

This highlights to us that "sentiment" can potentially move both ways (i.e., it will not only get worse), is subject to some volatility (30% to 40% back down to 32% over 3 surveys conducted over a 12 month period), and is dependent on a range of factors that may change/evolve over time.

AusNet highlights several factors in its Access Arrangement Variation<sup>11</sup> that it considers led to the improvement in sentiment in the last survey, including the impact electricity market issues may have had on customer sentiment (*"...widespread media coverage on electricity supply shortages at the tail-end of fieldwork in May 2024"*).

We note that recent changes to the gas market may also impact future sentiment, complicating the use of past sentiment results to estimate future customer connection estimates. This is further complicated by the fact that the directional impact of these (in some cases, only potential) policy changes is somewhat uncertain, for example:

- the Victorian Government's Economic Growth Statement promises to fast-track new gas extraction, storage and transmission projects alongside renewable projects to *"ensure reliable access to gas for Victorian businesses"*<sup>12</sup>, likely improving customer sentiment; and

The volatility exhibited in previous results (and the fact that the most recent one shows a decline in the number of customers expressing a desire to leave the gas network), and the material disconnect with the ECA results increases the level of uncertainty in this input parameter.

We therefore think it is reasonable to remove this adjustment from CIE's forecast.

<sup>9</sup> ECA, *Energy Consumer Behaviour Survey, Household Topline Results*, October 2023 (page 9) and the supporting results model.

<sup>10</sup> This information is also contained in their Access Arrangement Variation document.

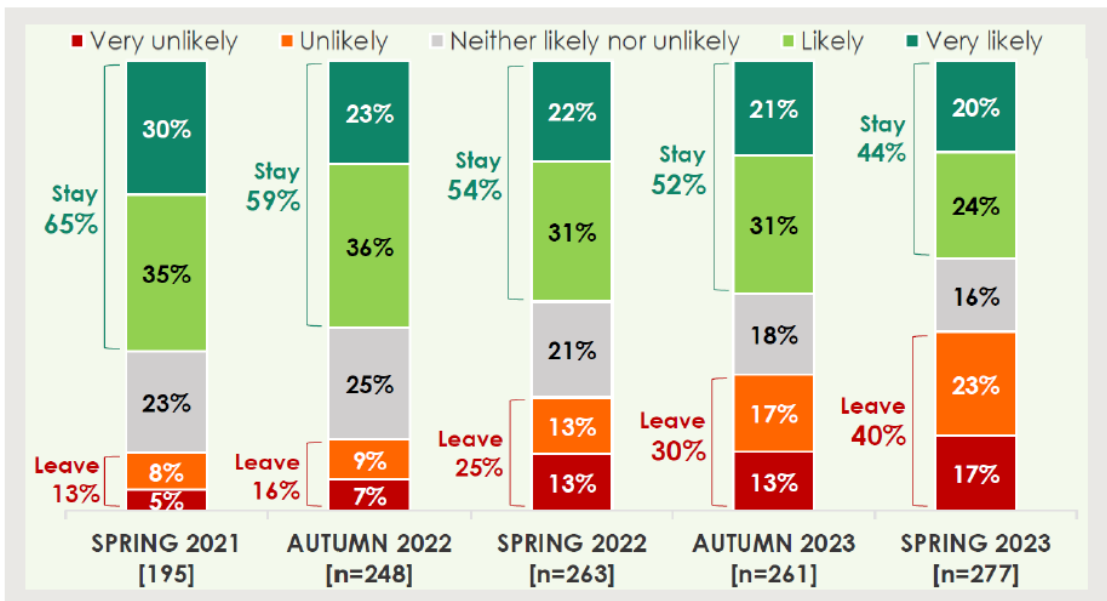
<sup>11</sup> These include: *"(a) Concerns about moving to a single fuel following the major outage event Victoria experienced in February 2024 and widespread media coverage on electricity supply shortages at the tail-end of fieldwork in May 2024, following the release of AEMO's updated 2023 Electricity Statement of Opportunities. Our Energy Sentiments tracker showed that wanting gas as a back-up option in case electricity jumped from fourth biggest barrier to electrification to the second, below customers' preferences (1) for gas but above not seeing any benefits to switching (3) and the cost of switching (4); (b) Households and businesses recognising electrification will likely be a gradual process for them (rather than replacing gas appliances in one fell swoop), at least in the earlier stages, with 7 in 10 expecting a gradual swap-out. While customers are starting the electrification journey, it may take longer than some initially thought"* (AusNet, *Gas Access Arrangement Variation - 2024-28*, page 17).

<sup>12</sup> Victorian Government, *Economic Growth Statement*, page 23.

	<ul style="list-style-type: none"> <li>the Building Electrification Regulatory Impact Statement (RIS), which, if adopted, would lead to a phase out of gas heaters and gas hot water services from Victorian homes, might reduce customer sentiment, however it also allows residential customers to maintain their gas cooktops, which may improve customer sentiment. Existing commercial buildings would not be affected, which may also improve customer sentiment.</li> </ul> <p>All-in-all, the above discussion highlights the inherent uncertainty regarding this input parameter, and given how material it is to the CIE's forecasts of AusNet's future customers connections, the uncertainty that adopting this input assumption creates in the forecasts themselves.</p> <p>Finally, we note that in its Access Arrangement Variation, AusNet presents information around historical connection application rates, amongst other things. Whilst this may be suggestive of a drop off, there are several factors that are likely to have affected it, including, as AusNet itself observes, "<i>weak construction in this period</i>". This makes it difficult to separate out the impact of "sentiment" from other exogenous factors.</p>	
Disconnections	We consider CIE's approach, in particular, its reference to the outturn results seen by Evoenergy in terms of disconnections, as being broadly reasonable.	No adjustment required

Figure 2: Results of sentiment survey relied upon by CIE

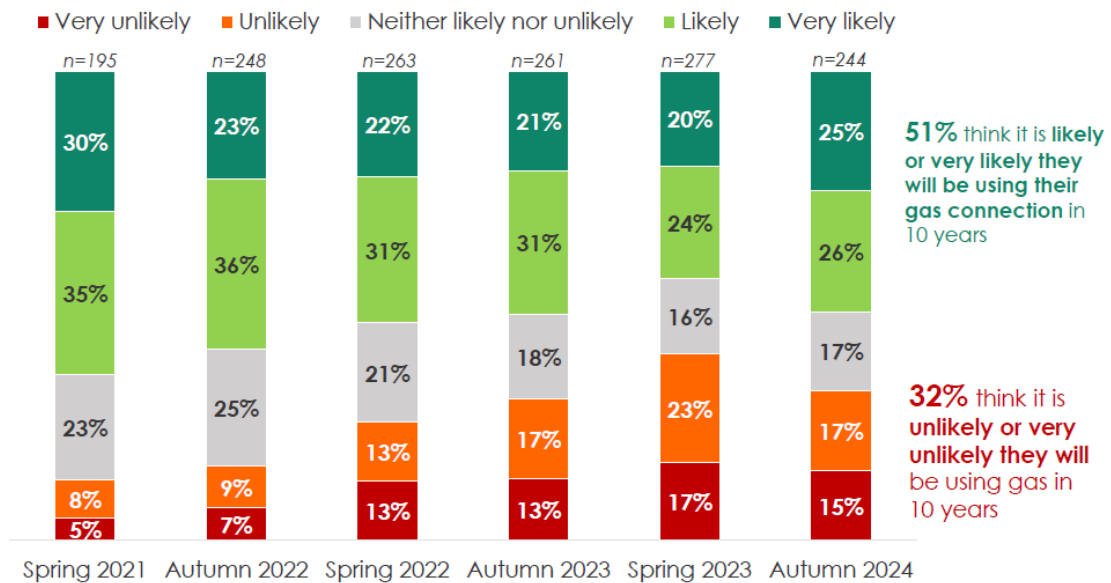
2.8 Customer intent to leave the gas network



Note: Shows responses to: "In 10 years time, how likely are you to be using the gas connection at your house/business?".  
Data source: AusNet, 2023, Energy Sentiment Tracker: Gas, November 2023, p.13.

Source: CIE, Update of 2023-2028 GAAR gas forecasts, Final Report, 2 July, 2024, page 25

Figure 3: Results of sentiment survey provided by AusNet



Source: AusNet Services, AER Board Briefing, Gas Reopener Price Review, 19 September, 2024, page 25

Table 4: OGW's key factors regarding CIE's forecast of AusNet Services' gas demands

Component of Gas Demand forecast	OGW Findings	Recommended Adjustment
Electrification	We have cross-checked CIE's input assumptions to AEMO's forecasting portal, and these are correct. However, we are of the opinion that the 25% reduction CIE applies to AEMO's forecast of "electrification" to account for the potential double counting, should be altered as a result of other adjustments we are recommending be made to CIE's forecasts (see below).	<ul style="list-style-type: none"> <li>Adjust the 25% double-counting allowance to a level that means CIE's forecast aligns with the AEMO electrification forecast, once CIE's allowance for 7-star minimum energy efficiency standards has been removed.</li> </ul>
Energy Efficiency	We consider the downward adjustment CIE make to their baseline gas demand forecast to reflect the impact of energy efficiency to be reasonable. This adjustment is sourced from AEMO's 2024 GSOO and appears to have been applied correctly.	<ul style="list-style-type: none"> <li>No adjustment required.</li> </ul>



<p>7-star energy rating</p>	<p>Under the banner of Energy Efficiency, AEMO's GSOO states that the impact of changes to the National Construction Code (2022) has been included in the forecasts<sup>13</sup>:</p> <p><i>“Working with Strategy.Policy.Research (SPR), AEMO developed energy efficiency savings forecasts based on existing, planned, and prospective policies, including....The National Construction Code 2022 (NCC 2022), including whole of home (WOH) provisions, which allow households to offset their energy consumption with efficient appliances, as well as distributed photovoltaic (PV) systems and batteries.....NCC is the largest component of gas savings, growing to around 7 PJ by 2043 in the Step Change scenario. This is driven by improved thermal construction for homes and buildings, as well as the forecast growth in dwellings. In addition, the WOH provisions introduced in NCC 2022 are forecast to drive the uptake of electric heat pumps, replacing gas water heaters and contributing to gas savings. Other modelled policies add about 3 PJ of savings by 2043”.</i></p> <p>The IASR also states that the impact of the NCC has been included<sup>14</sup>. The Victorian Government also highlights the direct nexus between the NCC 2022 and the 7-star rating system<sup>15</sup>:</p> <p><i>“On 26 August 2022, Victoria agreed to increase minimum energy efficiency building standards for new homes from 6 to 7 stars under changes to the National Construction Code 2022”.</i></p> <p>Finally, CIE state that<sup>16</sup>:</p> <p><i>“As part of the NCC 2022 development process, the ABCB engaged ACIL Allen to develop a Consultation Regulation Impact Statement (RIS) assessing the costs and benefits of proposed increases in energy efficiency requirements in the NCC 2022 for new residential buildings. We have used the change in gas usage estimates calculated using the policy options modelled in the Consultation RIS”.</i></p> <p>In summary, we conclude from the above statements that the NCC (2022) already includes the impact of moving to a 7-star minimum energy efficiency building standard. Therefore, by including the effects of it, as well as the full effects of AEMO's Energy Efficiency adjustment, which includes the impacts of the NCC (2022), CIE has double-counted its impact.</p>	<ul style="list-style-type: none"> <li>• In our opinion, it is reasonable to assume that the impact of moving to a 7-star minimum energy efficiency building standards, whilst also including the full effects of AEMO's Energy Efficiency adjustment, which includes the impacts of the NCC (2022), is a double-count.</li> <li>• We therefore consider it reasonable to remove this adjustment.</li> </ul>
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13 AEMO, 2024 GSOO, page 25.

14 AEMO, 2023 Inputs, Assumptions and Scenarios Report, page 8.

15 <https://www.energy.vic.gov.au/households/7-star-energy-efficiency-building-standards>

16 CIE, Update of 2023-2028 GAAR gas forecasts, Final Report, 2 July 2024, page 109

## 4. Impact of Recommended Adjustments

### 4.1. Adjustments modelled

The following table summarises the correction scenarios that we have modelled, using CIE's own model.

Note that despite our reservations with CIE's approach to determining its gas demand forecasts, notably, the double-count of the inclusion of the 7-star rating minimum efficiency standard, we are not proposing any changes to their final forecasts. This is because our proposed changes would simply lead us to change the share of AEMO electrification impact that is removed to avoid double-counting, thus leading to a final result that is very similar to CIE's original forecast.

The following table summarises the adjustments' we are recommending be made to AusNet's residential gas connections forecasts, as well as a brief summary of how we modelled them.

Table 5: OGW's Recommended Adjustments' to AusNet's Residential gas connections forecasts

Scenario	Description of correction scenario	Change made to CIE model to operationalise scenario
1	Original CIE scenario	No changes to the CIE model.
2	Scenario 1 with sentiment changed from 60% decreasing to 20% from 2025 - 2029, to 100% from 2025 - 2029 (i.e., removal of this effect).	"Assumptions" sheet, values for "User-specified rate for houses" and "User-specified rate for houses in 2029" set to 100%.
3	Scenario 2 with the planning approval lag start year set to 2024. (Original start year was 2023, due to the formula error)	Lag in new customers adjusted forward by 1 year in sheet "C- PRs chosen" row 703 columns O to Z.
4	Scenario 3 with quarterly retail bill amount increased to \$504. (Original value set to \$237.)	Average quarterly gas bill increased from \$237/quarter (\$948/year) to \$504/quarter (\$2,016/year) using cell T22 on the "Cost passthrough impact" sheet.
5	Scenario 4 with the cost passthrough years increased from 10 to 15	"Assumptions" sheet cost passthrough years set to 15 in cell B38. Number of years extended to 15 on the "Cost passthrough impact" sheet, cells Q2:V15.

The following sections outline the impact our proposed adjustments have on CIE's forecast of AusNet's residential and commercial customer connections.

## 4.2. Residential Customer Numbers

The following figure summarises the results of that modelling.

Figure 4: Results of modelling - residential gas connections

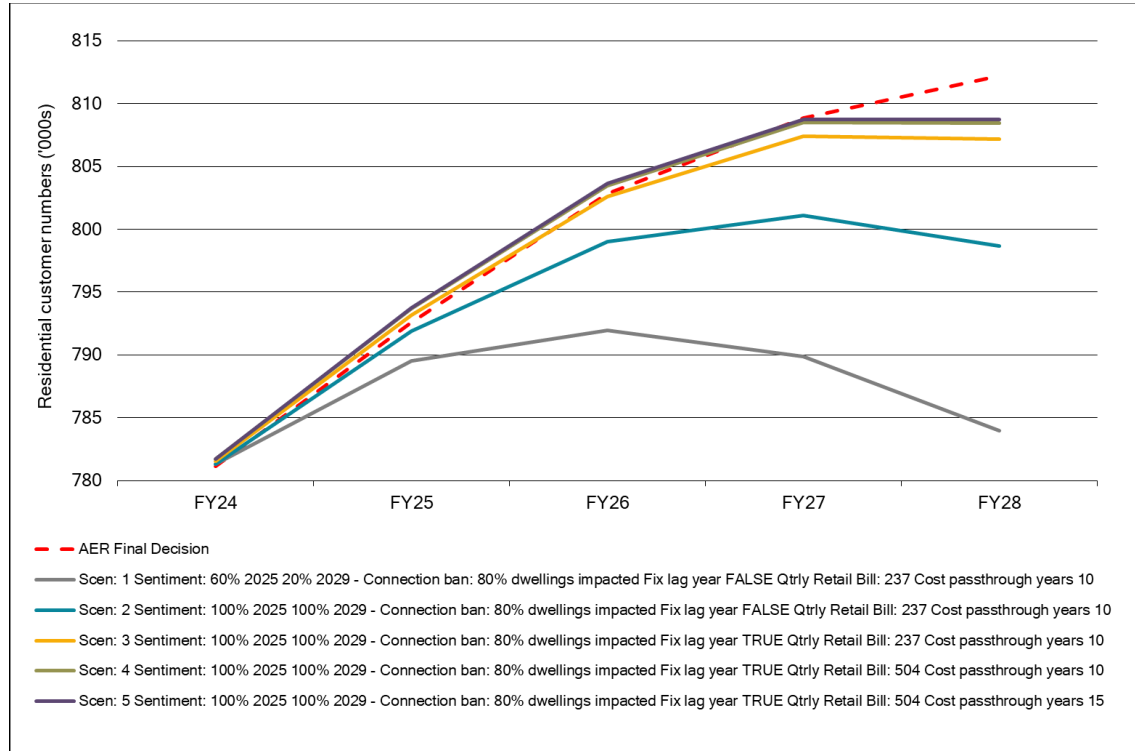


Table 6: AusNet residential gas connections sensitivity scenario results

Scenario	FY24	FY25	FY26	FY27	FY28
AER Final Decision	781,161	792,591	802,844	808,824	812,193
1	781,344	789,513	791,983	789,892	783,990
2	781,344	791,884	799,015	801,109	798,684
3	781,536	793,154	802,603	807,378	807,150
4	781,707	793,675	803,460	808,506	808,473
5	781,741	793,781	803,634	808,735	808,742

### 4.3. Commercial Customer Numbers

As CIE forecasts the number of commercial customers by estimating the number of new commercial customers that are associated for each new residential customer, higher residential customer numbers flow through to higher commercial customers numbers<sup>17</sup>.

The following figure and table demonstrate the impact on commercial gas connections resulting from applying the adjustments we have outlined in the above section.

Figure 5: Results of modelling - commercial gas connections

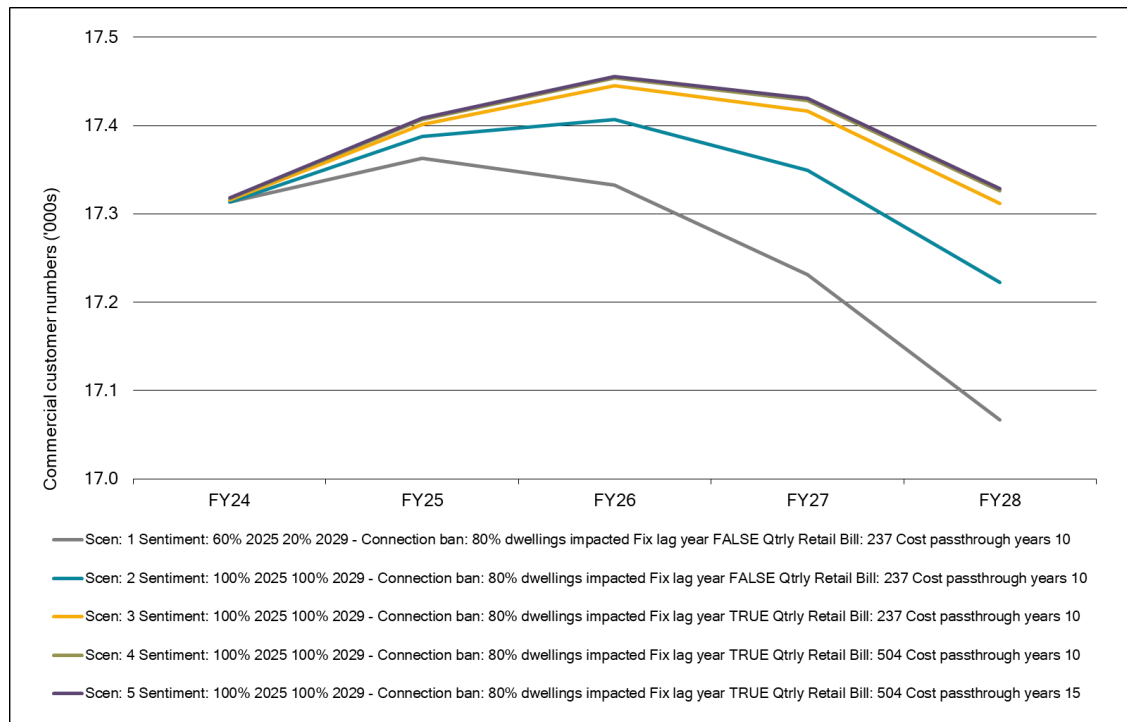


Table 7: AusNet commercial gas connections sensitivity scenario results

Scenario	FY24	FY25	FY26	FY27	FY28
1	17,314	17,363	17,332	17,231	17,067
2	17,314	17,388	17,407	17,350	17,222
3	17,316	17,401	17,445	17,416	17,312
4	17,317	17,407	17,454	17,428	17,326
5	17,318	17,408	17,456	17,431	17,329

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For completeness, we note that we consider CIE’s approach of linking commercial customer numbers to residential customer numbers as being reasonable, as generally, increasing residential customer numbers leads to increased demand for the products and services offered by commercial customers in a region (e.g., retail shopping, restaurants, cafes etc), making it more economic to undertake commercial developments. Hence, we are not recommending any change to that component of their forecasting methodology.