

Draft Decision

AusNet Gas Services

Access Arrangement 2023 to 2028

(1 July 2023 to 30 June 2028)

Attachment 12
Demand

December 2022

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Note

This attachment forms part of the AER’s draft decision on the access arrangement that will apply to AusNet Gas Services (AusNet) for the 2023–28 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

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12 Demand

This attachment sets out our assessment of AusNet’s demand forecast for the 2023–28 access arrangement period (2023–28 period). Demand is an important input into the derivation of AusNet’s reference tariffs. This is because tariffs are set by dividing total revenue by forecast demand. It also affects operating expenditure (opex) and capital expenditure (capex), which are linked to network growth via new connections.

12.1 Draft decision

Our draft decision is to accept AusNet’s proposed demand forecast for the 2023–28 period. We are satisfied that AusNet’s proposed demand forecast, as applied by its consultant, the Centre for International Economics (CIE), complies with rule 74 of the National Gas Rules (NGR).

12.2 AusNet’s proposal

AusNet has provided two forecasts of demand for the 2023–28 period. The first was submitted as part of its access arrangement proposal. AusNet subsequently updated this forecast to include the impact of the Victorian Gas Substitution Roadmap (the Roadmap). AusNet engaged CIE to prepare a demand forecast for its Victorian network for the 2023–28 period. A summary of the key aspects of AusNet’s demand forecast is set out in Table 12.1 (Tariff V – residential and commercial) and Table 12.2 (Tariff D and M – industrial).¹

In summary, CIE forecasts:

- combined residential and commercial demand to fall by an average of 0.5% a year, driven by falling usage per connection and lower than expected connections growth
- industrial demand to remain relatively steady, based on the difficulty in electrifying this load, and the uncertainty of the impact of the Roadmap on usage in this sector.

¹ Tariff D is a gas customer who consumes more than 10 terajoules per annum.

Table 12.1 AusNet’s demand forecast for Tariff V for the 2023–28 access arrangement period

	2023–24	2024–25	2025–26	2026–27	2027–28
Total residential connections (average)	775,783	783,255	787,570	787,612	785,044
Residential consumption per connection (GJ)	39.7	38.8	38.3	38.3	38.2
Residential demand (TJ)	30,773	30,362	30,199	30,130	29,971
Commercial connections	16,754	16,808	16,864	16,918	16,970
Commercial consumption per connection (GJ)	370	365	363	365	367
Commercial demand (TJ)	6,200	6,130	6,125	6,167	6,220

Source: AusNet, *AusNet Access Arrangement Information – Addendum to proposal*, 2 September 2022.

Table 12.2 AusNet’s demand forecast for Tariff D and M (Industrial) for the 2023–28 access arrangement period

	2023–24	2024–25	2025–26	2026–27	2027–28
Connections	n/a ^a				
Maximum Hourly Quantity (GJ)	6996	6881	6765	6702	6672

Source: AusNet, *AusNet Access Arrangement Information*, 1 July 2022, p. 61.

^a AusNet is not required to forecast the number of connections. However, at the end of 2021, AusNet had 291 Tariff D and 35 Tariff M customers

AusNet’s initial demand forecast was submitted before the release of the Roadmap. This forecast was developed using a standard approach of trending forward a weather corrected historical demand dataset. AusNet revisited the forecast in light of the Roadmap. The Roadmap contains policies to reduce gas consumption, most notably:

- expansion of the Victorian Energy Upgrades (VEU) scheme with enhanced incentives to switch to electric appliances
- phasing out existing rebates for the installation of natural gas appliances by the end of 2023
- changes to Victoria Planning Provisions in 2022 to remove the requirement for new housing developments to be connected to gas

- adopting the 7-Star Standard for new home construction in the new National Construction Code which takes account of home energy appliances in addition to the thermal shell of the building.²

To address these changes, AusNet adjusted its forecast of total connections (which reflects the number of new customer connections, minus the number of customer disconnections), and the demand per connection for residential and commercial customers. As the Roadmap represents a change in the operating environment for gas network service providers, there is no observable historical trend to inform the forecast changes. In order to reflect the changes, AusNet has estimated the likely impact of the Roadmap, and applied post-model adjustments to its original forecast.

AusNet's amended demand forecast shows a fall in residential demand of 2.6% in total consumption over the five-year period. Pre-Roadmap, AusNet had forecast residential consumption to grow by around 9%, driven by strong predicted growth in customer connections.

AusNet has forecast consumption per commercial connection will remain stable over the access arrangement period. Its consultant, CIE, considered most of the changes in the Roadmap were directed at residential customers. However, it adjusted consumption down by 0.1% per annum from the initial proposal to account for the effect of the electrification incentive programs.³

Industrial demand is not forecast to change in response to the Roadmap. This is due to industrial gas load being more difficult to electrify.

12.3 Assessment approach

Under the NGR, AusNet must submit, as part of its access arrangement information:

- usage of the pipeline over the earlier access arrangement period showing minimum, maximum and average demand; and customer numbers in total and by tariff class;⁴
- to the extent that it is practicable to forecast pipeline capacity and utilisation of pipeline capacity over the access arrangement period, a forecast of pipeline capacity and utilisation of pipeline capacity over that period and the basis on which the forecast has been derived.⁵

The NGR also require that forecasts and estimates:⁶

- be supported by a statement of the basis of the forecast or estimate;
- are arrived at on a reasonable basis; and
- represent the best forecast or estimate possible in the circumstances.

² AusNet Services: *Access Arrangement Information - Gas access arrangement review, 2024-28-Addendum to proposal*, 2 September 2022, p.6.

³ AusNet, *Access Arrangement Information – Addendum to proposal*, 2 September 2022, p. 27.

⁴ NGR, r. 72(1)(a)(iii)

⁵ NGR, r. 72(1)(d)

⁶ NGR, r. 74.

There are two important considerations in assessing whether these requirements are met:

- the appropriateness of the forecast methodology – this involves consideration of how the demand forecast has been developed
- whether or not relevant factors have been considered in developing demand forecasts.

To determine whether AusNet's proposed demand forecast was arrived at on a reasonable basis and are the best possible forecast in the circumstances, we reviewed:

- information provided by AusNet
- the data inputs used to implement the forecasting methodology.

In making our draft decision, we had regard to:

- information provided by AusNet as part of its proposed access arrangement
- additional information provided by AusNet in response to the Roadmap
- stakeholder submissions.

12.3.1 Interrelationships

We have considered the relevant interrelationships between the different components of AusNet's access arrangement as part of our analysis.

Several interrelationships exist. This includes the effect of forecast demand on the efficient amount of capex, opex and tariffs in the 2023–28 period. In particular, demand forecasts impact:

- residential and commercial connections capex – the number of new connections drives the volume of connections capex
- opex – the forecast total connections volume and total consumption (output growth) are used to determine additional opex required to service a larger network
- reference tariffs – prices are based on forecast consumption (demand) per connection. Tariffs are determined by dividing the service provider's efficient cost (revenue) by quantity of service delivered (demand per connection). This means that an increase in demand per connection will reduce the tariff price (provided revenue stays the same).

12.4 Reasons for draft decision

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.

12.4.1 AusNet's forecast methodology and assumptions

We consider AusNet's pre-Roadmap demand forecast methodology and assumptions are a reasonable starting point to forecast future demand. In particular, they:

- are based on the analysis of historic trends in gas volumes and key drivers of demand
- utilise a weather normalisation method that is well established and that has previously been accepted by the AER.

We consider that, in response to the Roadmap, it was reasonable for AusNet to revise this forecast with post model adjustments. The Roadmap contains measures designed to influence customer fuel choice and behaviour. In particular, it will:

- reduce the number of new customers connecting – new building energy efficiency standards will disincentivise new residential dwellings from installing gas appliances
- reduce the amount of gas each user consumes – the incentive program that subsidised the purchase of new gas appliances will end, and a new incentive program to encourage electrification will commence. This would be expected to lead to the progressive change of heat load from gas to electricity, and to a greater number of disconnections from the network.

There remains significant uncertainty regarding the extent to which demand will change in Victoria in response to the Roadmap. Consequently, there is also much uncertainty around whether these post model adjustments are sufficient to capture the change, or conversely, whether they overstate a likely fall in demand.

AusNet's forecast is more consistent with the Australian Energy Market Operator's (AEMO) Progressive Change⁷ forecast scenario for gas consumption than its Step Change scenario.⁸ This is similar to APA's proposal for the Victorian Transmission System (VTS), and somewhat different to the other Victorian distributors, Multinet Gas Network (MGN) and Australian Gas Network (AGN), which forecast future consumption between AEMO's two scenarios.

Pre-Roadmap, AusNet had forecast strong growth in residential connections, leading to overall consumption growth of 9% in the sector. AusNet's post-Roadmap demand forecast is for consumption to fall by 2.6%, driven by relatively flat connections growth. Forecast consumption per connection is predicted to fall by roughly the same amount with or without the Roadmap.

We note the reason for the discrepancy between AusNet and the other Victorian distribution businesses, who proposed large falls in consumption per user, appears to be because AusNet's consultants had considered the impact of future policies to reduce gas consumption in the initial proposal. AusNet's consultant, CIE, stated that:

... energy efficiency, housing design, weather and gas prices can all be incorporated into CIE's statistical model, because there is a long history of data to 'train' the model on. However, historic trends and correlations are not adequate where the future is not expected to reflect history. This is an important

⁷ The Progressive Change scenario represents a future that delivers action towards net zero emissions through technology advancements and based on current state and federal government environmental and energy policies. Key drivers include energy efficiency savings schemes and a continuing increase in the number of new connections during the outlook period.

⁸ The Step Change scenario represents a future with rapid consumer-led transformation of the energy sector, and a coordinated economy-wide approach that efficiently and effectively tackles the challenge of rapidly lowering emissions (including electrification of gas heating load), driven by consumer-led change with a focus on energy efficiency, digitalisation and step increases in global emissions policy above what is already committed.

consideration for two crucial drivers of future gas consumption: accelerating energy efficiency and appliance switching.⁹

CIE stated further that:

There is strong reason to expect that both energy efficiency and appliance switching will accelerate into and during the next access arrangement period. The Victorian Government, for example, foreshadows that its Victorian Energy Upgrades program will reduce gas consumption by nine per cent in 2025.¹⁰

CIE incorporated a post-model adjustment within its original model to account for the likely impact of increased appliance switching and energy efficiency adjustments, based on assumptions contained in AEMO's 2021 Gas Statement of Opportunities (GSOO).

Given an explicit adjustment was made pre-Roadmap, we consider it reasonable that this assumption would remain relatively unchanged post-Roadmap.

We note that the impact of changes to the National Construction Code (NCC) to introduce 7-star building standards were not anticipated or included in the initial forecast. We accept that these new dwelling standards will lower the number of new residences connecting to AusNet's network, leading to an overall fall in consumption. We consider CIE and AusNet have made reasonable endeavours to reflect the impact of the Roadmap in their forecast, and it constitutes the best forecast under the circumstances. Consequently, we propose to accept AusNet's demand forecast.

Notwithstanding this, we consider AusNet should update its demand forecast in the revised proposal to take account of any material changes in assumptions or data between now and the revised proposal, and should also update the forecast to take account of AEMO's 2023 GSOO.

We are open to AusNet submitting an application mid-period to vary its 2023–28 access arrangement if the trajectory of its demand is substantially different to our final decision. We would expect AusNet to engage with its customers if actual demand turns out to be materially higher than our final decision by mid-period.

12.4.2 Tariff D and M demand forecast

We are satisfied that AusNet's forecast for Tariff D and M demand represents the best forecast under the circumstances. In particular, we accept that the methodology is consistent with recent AER decisions, and AEMO's forecasting approach.

Demand for industrial customers is forecast on:

- the maximum amount of capacity that industrial customers are expected to require on a day (MDQ); and
- the total amount of gas industrial customers are expected to consume in a year (ACQ).

⁹ AusNet, *Access Arrangement Information*, 1 July 2022 p. 52.

¹⁰ AusNet, *Access Arrangement Information*, 1 July 2022 p. 52.

AusNet's forecast MDQ is derived from AEMO's industrial gas consumption forecasts as set out in the 2021 GSOO.¹¹

Overall, AusNet is forecasting a small decline in the MDQ over the 2023–28 access arrangement period, stable customer numbers and a small increase in overall consumption.

We note that, unlike smaller customers, there is currently not a clear path to electrify industrial load, so we consider the Roadmap will not impact Tariff D and M forecast outcomes.

We are satisfied with AusNet's forecast Tariff D and M for industrial numbers and associated demand.

12.4.3 Minimum, maximum and average demand

The NGR requires that access arrangement information includes minimum, maximum and average demand for each receipt or delivery point for the earlier access arrangement period.¹² AusNet's access arrangement information and its response to our regulatory information notice (RIN) satisfy these requirements.

12.4.4 Forecast pipeline capacity and utilisation

The NGR requires that, to the extent it is practicable to forecast pipeline capacity over the access arrangement period, the access arrangement information should include forecast pipeline capacity and utilisation of pipeline capacity over the access arrangement period.¹³

AusNet did not provide this information in its access arrangement information. However, AusNet's distribution network is a meshed network made up of interconnected pipes, meaning that calculating forecast capacity and utilisation is not practicable.

¹¹ AusNet, *Access Arrangement Information*, 1 July 2022 p. 59.

¹² NGR, r. 72(1)(a)(iii)(A).

¹³ NGR, r. 72(1)(d).

Glossary

Term	Definition
ACQ	Annual contract quantity
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AGN	Australian Gas Network
AusNet	AusNet Gas Services
Capex	Capital expenditure
CIE	Centre for International Economics
GSOO	Gas Statement of Opportunities
MDQ	Maximum daily quantity
MGN	Multinet Gas Networks
NCC	National Construction Code
NGR	National Gas Rules
Opex	Operating expenditure
RIN	Regulatory information notice
The Roadmap	The Victorian Gas Substitution Roadmap
VEU	Victorian Energy Upgrades
VTs	Victorian Transmission System