Final decision

Multinet Gas Networks
Gas distribution access arrangement
1 July 2023 to 30 June 2028

Attachment 12 – Demand

June 2023

AUSTRALIAN
ENERGY
REGULATOR

Amendment record

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12 Demand

This attachment sets out our assessment of MGN's demand forecast for the 2023–28 access arrangement period (2023–28 period). Demand is an important input into the derivation of MGN'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 Final decision

Our final decision is to not accept MGN's proposed demand forecast for the 2023–28 period, and substitute with a demand forecast based on the Australian Energy Market Operator's (AEMO) 2023 Gas Statement of Opportunities (GSOO). We are satisfied this approach is consistent with rule 74 of the National Gas Rules (NGR).[1] Tables 12.1 and 12.2 set out our final decision for MGN's forecast demand.

Table 12.1   AER's final decision for Tariff R and C for the 2023–28 access arrangement period

	2023–24	2024–25	2025–26	2026–27	2027–28
Total residential connections	699,840	698,704	697,207	688,348	673,737
Residential consumption per connection (GJ)	50.5	49.5	47.9	45.8	42.7
Residential demand (TJ)	**35,338**	**34,580**	**33,375**	**31,529**	**28,756**
Commercial connections	14,742	14,290	14,260	14,230	14,200
Commercial consumption per connection (GJ)	364.9	368.4	356.3	337.3	308.3
Commercial demand (TJ)	**5,380**	**5,264**	**5,081**	**4,800**	**4,378**

Source: AER analysis.

Table 12.2   AER's final decision for Tariff D (Industrial) and Tariff L (large volume user) for the 2023–28 access arrangement period

	2023–24	2024–25	2025–26	2026–27	2027–28
Tariff D Connections	272	272	272	272	272
Maximum Hourly Quantity (GJ)	3545	3501	3457	3413	3370
Tariff L connections	11	11	11	11	11

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[1]   Rule 74 of the NGR specifies requirements for forecasts and estimates, which must be arrived at on a reasonable basis and must represent the best forecast or estimate possible in the circumstances.

Consumption <5GJ (TJ)	19.8	19.8	19.8	19.8	19.8
Consumption >5GJ (TJ)	48.6	48.6	48.6	48.6	48.6

Source: MGN, Revised proposal – post tax revenue model.

12.2 MGN's revised proposal

MGN provided updated forecasts of residential and commercial demand (Tariff R & C) in its revised proposal. MGN did not alter its forecast for industrial demand (Tariff D) or large volume users (Tariff L).

MGN engaged CORE Energy & Resources (CORE) to prepare the demand forecast for its Victorian network for the 2023–28 period. A summary of the key aspects of MGN's demand forecast is set out in Table 12.3 (Tariff R & C – residential and commercial) and Table 12.4 (Tariff D – industrial, Tariff L – Large volume user).[2]

In summary, CORE forecasts:

- combined residential and commercial demand to fall by an average of 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 Victorian Gas Substitution Roadmap (the Roadmap) on usage in this sector.

Table 12.3   MGN's demand forecast for Tariff R and C for the 2023–28 access arrangement period

	2023–24	2024–25	2025–26	2026–27	2027–28
Total residential connections	696,086	687,765	675,686	658,635	638,210
Residential consumption per connection (GJ)	49	48	46	44	42
Residential demand (TJ)	**34,115**	**32,672**	**31,023**	**29,066**	**27,116**
Commercial connections	14,742	14,290	14,260	14,230	14,200
Commercial consumption per connection (GJ)	363	360	357	353	349
Commercial demand (TJ)	**5,351**	**5,144**	**5,090**	**5,021**	**4,954**

Source: MGN – revised proposal post tax revenue model.

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

Table 12.4   MGN's demand forecast for Tariff D (Industrial) and Tariff L (large volume user) for the 2023–28 access arrangement period

	2023–24	2024–25	2025–26	2026–27	2027–28
Connections	272	272	272	272	272
Maximum Hourly Quantity (GJ)	3545	3501	3457	3413	3370
Tariff L connections	11	11	11	11	11
Consumption <5GJ (TJ)	19.8	19.8	19.8	19.8	19.8
Consumption >5GJ (TJ)	48.6	48.6	48.6	48.6	48.6

Source: MGN – revised proposal post tax revenue model.

12.3 Assessment approach

Under the NGR, MGN 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;[3]

- 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.[4]

The NGR also require that forecasts and estimates:[5]

- 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.

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, and

- whether or not relevant factors have been considered in developing demand forecasts.

To determine whether MGN'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 MGN

- the data inputs used to implement the forecasting methodology.

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3   NGR, r. 72(1)(a)(iii)

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

5   NGR, r. 74.

In making our final decision, we had regard to:

- information provided by MGN as part of its proposed access arrangement and revised proposal

- AEMO's 2023 Victorian Gas Planning Report (VGPR) and Gas Statement of Opportunities (GSOO)

- additional information provided by MGN in response to the VGPR and GSOO

- stakeholder submissions.

12.3.1 Interrelationships

We have considered the relevant interrelationships between the different components of MGN'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 and abolishment opex – the number of new connections drives the volume of connections capex, while the number of customers exiting the network drives abolishment opex

- opex output growth – 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 and total customer numbers. Tariffs are determined by dividing a portion of the service provider's efficient cost (revenue) by number of customers (fixed component) and the remainder by the quantity of service delivered (variable component). This means that an increase in customer numbers or demand per connection will reduce the tariff price (provided revenue stays the same).

12.4 Reasons for final 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 MGN's forecast methodology and assumptions

We consider MGN's initial demand forecast methodology and assumptions[6] 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.

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[6]   That is, MGN's approach to demand forecasting before the release of the Victorian Gas Substitution Roadmap and the 2023 Gas Statement of Opportunities.

Prior to the draft decision, MGN amended this approach to accommodate the 2022 Victorian Gas Substitution Roadmap (the Roadmap). In doing so, MGN reduced its earlier forecast of demand using post-model adjustments to reflect falling levels of consumption predicted by the Roadmap. In our draft decision, we accepted this approach was reasonable.[7] However, we noted that MGN's revised proposal should be updated to accommodate the latest data, including the outcome of the 2023 GSOO.

MGN updated its forecast demand in the revised proposal. AEMO had not published the 2023 GSOO at the time MGN's revised proposal was submitted. MGN did not submit a revised forecast in response to the GSOO. Instead, it made a submission, noting why it did not consider this necessary.

12.4.1.1   AEMO's 2023 Gas Statement of Opportunities and Victorian Gas Planning Report

On 16 March 2023, AEMO released its Gas Statement of Opportunities (GSOO) and the related Victorian Gas Planning Report (VGPR). Among other things, the GSOO provides a forecast of gas consumption over the next 20 years, while the VGPR provides a more detailed consideration of Victoria's gas supply and demand situation over the next five years.

AEMO typically considers several different demand scenarios in its GSOO and VGPR, including a central or most probable scenario. In 2022, amid growing uncertainty in future gas demand and policy, AEMO included two very different central scenarios, called progressive change[8] and step change[9]. These both predicted falls in gas consumption in the lead-up to 2050, with step change predicting stronger policy intervention to curb demand, while progressive change predicted a slower drop based on improving energy efficiency and changes in customer preference over time.

In the 2023 GSOO and VGPR, AEMO has reverted to a single central scenario that sits somewhere between the two 2022 scenarios. It has called this an orchestrated step change. The orchestrated step change builds on the 2022 step change scenario, but considers a slower uptake of electrification. That is, it assumes that policy intervention will ramp up, but customers will be slower to convert from gas appliances to electric equivalents. Figure 12.1 illustrates the difference between AEMO's new central scenario, and the two central scenarios from 2023.

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[7]   Our full consideration of MGN's response to the Roadmap is provided in Attachment 12 of the draft decision.

[8]   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.

[9]   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.

Figure 12.1 – GSOO central scenarios for residential and commercial gas users in Victoria
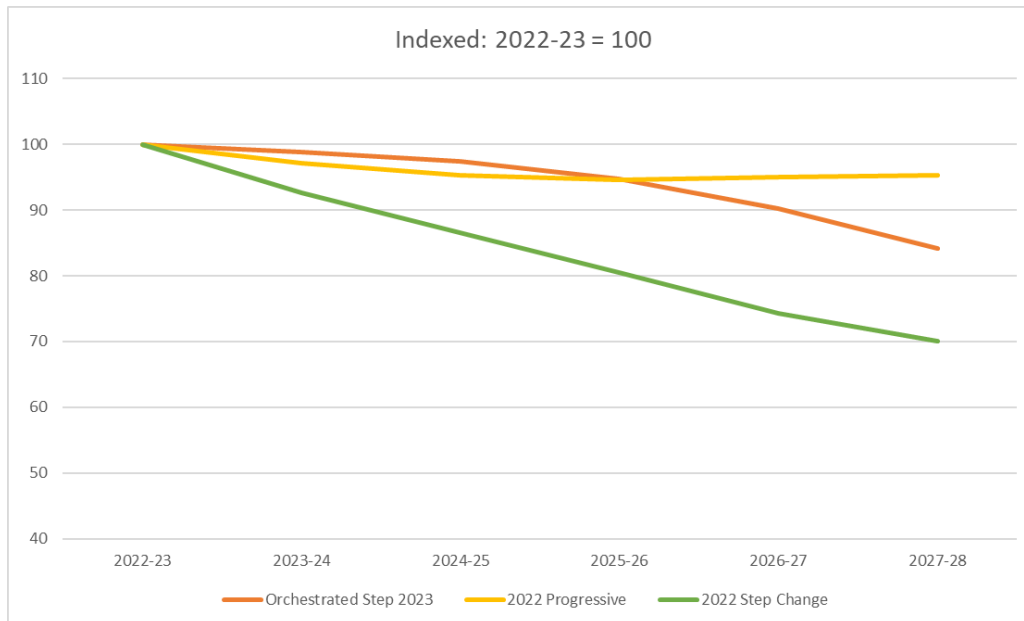
Source: AEMO 2023 Gas Statement of opportunities.

12.4.1.2   MGN's response to the 2023 GSOO

MGN did not submit an update to its demand forecast in response to the 2023 GSOO. Instead, it submitted a document stating why its forecast was preferable to one based on the 2023 GSOO orchestrated step change. MGN's key arguments are:

- MGN is surrounded by the AGN and AusNet networks, and does not have access to the same growth corridors as these networks, meaning the Victoria-wide trend in growth from the 2023 GSOO is not appropriate

- the difference in demand between MGN's forecast and a trend based on AEMO's Melbourne specific forecast from the 2023 VGPR is small, and driven by a difference in connection values

- changes to energy efficiency standards for new dwellings will lower the uptake of gas connections for new homes.[10]

12.4.1.3   Our assessment

As noted above, we remain of the view that MGN's base forecasting approach is sound. That is, the process MGN applied to modelling was reasonable, based on historical trends, the accepted process of weather normalisation, and growth in new connections.

The focus of our draft decision was on MGN's post-model adjustments to account for the impact of the Roadmap. As these adjustments were included in response to new policy, they needed to be based on assumptions rather than on observed historical trend.

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[10]   MGN, *AGIG Demand Forecast GSOO 2023 – Cover Note Final*, 29 March 2023.

At the draft decision, we accepted these adjustments were reasonable, but stated they should be updated for the GSOO. In the final decision, we have focussed on the new aspects of the forecast, namely the impact of AEMO's latest forecast in the 2023 GSOO, and whether this represents a better forecast of demand than MGN's revised proposal. [11]

As a starting point for our assessment, we considered whether MGN's revised proposal resulted in a significantly different demand trend than the orchestrated step change trend in the 2023 GSOO. Figure 12.2 shows MGN and AEMO's demand trends for residential and commercial customers.

Figure 12.2 – Comparison of MGN and AEMO's demand trends
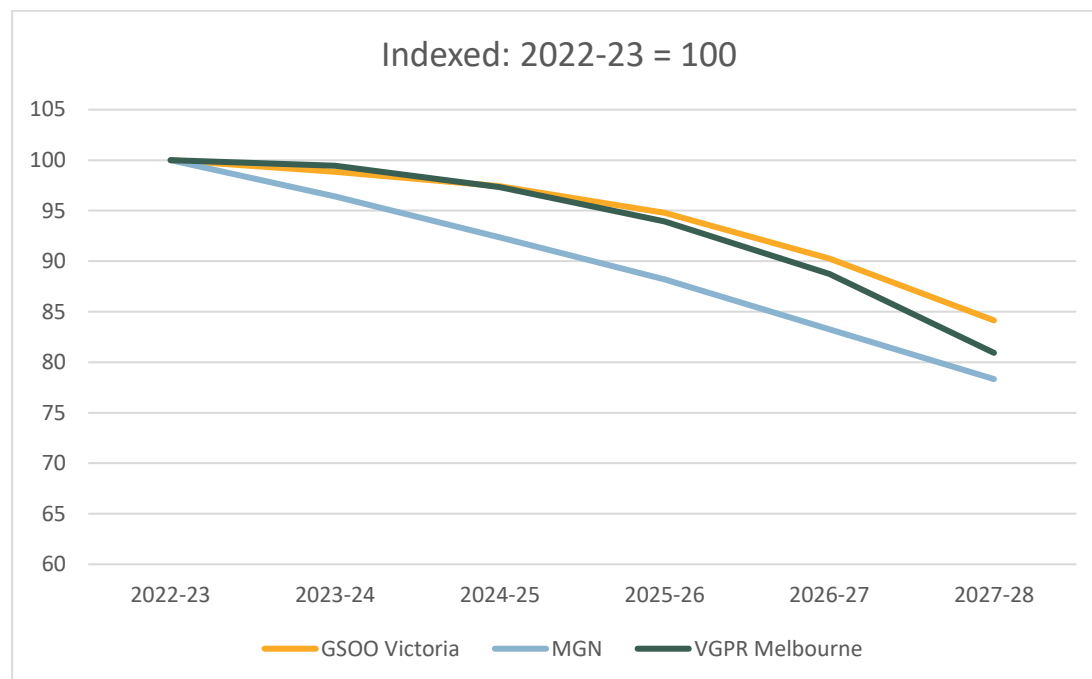
Source: AEMO 2023 Gas Statement of opportunities, AER analysis.

As illustrated by Figure 12.2, AEMO's trend is significantly higher than MGN's over the access arrangement period. In aggregate, applying AEMO's trend will result in higher demand than the forecast put forward by MGN. Other things being equal, this would result in lower reference tariffs if the AEMO GSOO trend was adopted.

We raised this with MGN as part of an information request. In response, MGN reiterated that it lacked growth corridors, its performance was closer to the AEMO 2023 VGPR Melbourne index, and also noted the change in construction standards[12] was likely to reduce new connections.[13]

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[11]   AEMO released its GSOO and VGPR on 16 March 2023. The GSOO covers natural gas supply and demand needs for Australia's east coast, and includes a 20 year forecast for Victoria as a state. The VGPR is specifically related to Victoria, but is based on the same assumptions as the GSOO. As part of the VGPR, AEMO presented a breakdown of gas demand at a regional level, including a Melbourne-specific forecast.

[12]   See AER draft decision for a breakdown on these changes – AER, MGN access arrangement 2023-28, draft decision, Attachment 12, p 9.

[13]   MGN, *AGIG Demand Forecast GSOO 2023 – Cover Note Final*, 29 March 2023.

Unlike AGN and AusNet, MGN's network is almost exclusively Melbourne based, with fewer than 2% of its customers residing outside of the Melbourne tariff zones. Consequently, we compared its demand to AEMO's Melbourne specific forecast from the 2023 VGPR. Figure 12.2 shows the Melbourne specific index is closer to MGN's trend, particularly later in the period. However, the index is still significantly above MGN's forecast trend.

MGN's key argument is that its forecast is lower because it lacks growth corridors and its connections growth will be hampered by the new construction standards. However, we consider that a significant fall in new connections growth for MGN's supply region and the change in new building standards was already well known, having been published in last year's Roadmap, and these policy changes would have been accounted for in AEMO's latest index. We also note that the forecast of new connections capex has already been significantly reduced to account for this policy, and the specific growth in MGN's supply region. As such, we do not consider the difference between MGN's trend and AEMO's Melbourne-specific trend is explained by the lack of new connections likely to occur on MGN's network.

On balance, we consider a forecast based on AEMO's 2023 VGPR Melbourne index provides a better estimate of future demand than MGN's forecast. This results in gas demand being around 5% higher across the access arrangement period.

AEMO's orchestrated step change scenario takes into account the latest information and analysis regarding the adoption of fuel switching and ongoing changes in gas usage over the access arrangement period and beyond. Importantly, it predicts a lag in the large scale adopting of alternative fuels when compared to the 2022 step change scenario, and incorporates this in its latest forecast of gas consumption. We consider the Melbourne index is more appropriate for MGN, as Melbourne's future gas consumption is predicted to decline faster than in other regions of Victoria, and MGN is uniquely exposed to the Melbourne region.

We also note that, in our substitute forecast of demand, we have updated the customer number forecast. This takes account of our decision on abolishments (customer disconnections) in Attachment 6 of this final decision. We consider that, if fewer customers disconnect from the network, total customer numbers will be higher. As our decision includes fewer abolishments than forecast by MGN, we have adjusted total customer numbers upwards by a commensurate amount.

Finally, as noted in the draft decision, we are open to MGN 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 also expect MGN to engage with its customers if actual demand turns out to be materially higher or lower than our final decision by mid-period.

12.4.2 Tariff D and Tariff L demand forecast

We remain of the view from the draft decision that MGN's forecast for Tariff D and Tariff L demand represents the best forecast under the circumstances. Our reasons are outlined in Attachment 12 of the draft decision.

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.[14] MGN'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.[15]

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

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[14]   NGR, r. 72(1)(a)(iii)(A).

[15]   NGR, r. 72(1)(d).

Glossary

Term	Definition
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AGN	Australian Gas Networks (Victoria and Albury)
Capex	Capital expenditure
CORE	CORE Energy & Resources
GSOO	Gas Statement of Opportunities
MGN	Multinet Gas Networks
NGR	National Gas Rules
Opex	Operating expenditure
The Roadmap	Victorian Gas Substitution Roadmap
VGPR	Victorian Gas Planning Report