



# Gas Inquiry 2017–2030

**Interim update on east coast gas  
supply-demand outlook for  
quarter 1 of 2024**

September 2023



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Australian Competition and Consumer Commission  
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# Forecast Quarter 1 2024 – Key Points

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## **1.4 PJ surplus gas if all uncontracted gas is exported**

The current outlook is for an overall east coast surplus of 1.4 PJ in quarter 1 2024, even if all uncontracted gas is exported.

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## **485 PJ of forecast gas supply**

This reflects a 5.9 PJ increase to supply on the June 2023 forecast, and 13% higher than actual supply in quarter 1 2023.

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## **111.4 PJ of forecast domestic demand**

This level of demand is typical of what is seen in summer months. Demand is typically higher in quarter 2 and quarter 3 due to higher domestic heating demand in winter.

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## **353.7 PJ of LNG export demand**

This is an 8.2 PJ increase to long term contract LNG export demand on the June 2023 forecast and a 4 PJ reduction in anticipated spot sales. It is 9% higher than actual LNG exports in quarter 1 2023.

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## **18.5 PJ of uncontracted gas held by LNG producers**

7.5 PJ increase to uncontracted gas (excluding anticipated spot sales) compared to our June forecast. Uncontracted gas can be made available to the domestic market, or exported as additional LNG, or held in storage. LNG producers have also entered into gas swap arrangements and will provide additional gas back to the domestic market in winter.

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## **Regional breakdown**

The southern states are forecast to have 2.8 PJ surplus over quarterly demand. Surplus gas produced in the southern states over this quarter is typically placed into storage or transported. If all uncontracted gas is exported, Queensland is expected to need an additional 1.4 PJ gas to meet domestic demand.

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## **Increased pipeline capacity**

Recent investment in key pipeline infrastructure has improved the east coast gas market's ability to transport gas from the northern states to the southern states, with further upgrades to be ready for winter 2024.

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# Introduction

This is the September 2023 interim report of the Australian Competition and Consumer Commission's (ACCC) inquiry to improve transparency and monitor gas supply in Australia (the Inquiry).

The report provides information on whether there is forecast to be sufficient gas supply to meet demand on the east coast in quarter 1 2024. This is an update on our June 2023 interim report<sup>1</sup>, with breakdowns of the outlook regionally, for Queensland and the southern states<sup>2</sup> and for the Queensland Liquefied Natural Gas (LNG) producers. This information provides transparency to the market on short term gas supply and can be used to inform stakeholder decision making including on the Australian Domestic Gas Security Mechanism or other matters.

In quarter 1 2024 there is expected to be 1.4 PJ of surplus gas in the market even if the LNG producers export all their uncontracted gas. However, if the LNG producers only export their long term contract commitments and current anticipated LNG spot or additional sales, then there will be 19.9 PJ of gas available to the east coast gas market during the quarter.

The market outlook is based on a consideration of:

- **total forecast supply of gas on the east coast**, including net withdrawals from storage and expected gas flows from the Northern Territory into Queensland
- **total forecast demand**, including domestic demand and the quantities of gas required by the LNG producers to meet their long term LNG Sale and Purchase Agreement (SPA) commitments and LNG spot sales.

This quarterly report also provides information on transmission pipeline and storage flows in the east coast gas market, as well as known market events that may have an impact on our current and previous forecasts. Appendix A provides a comparison of quarter 1 2023 forecasts, published in the ACCC's March 2023 report, with actuals from the Australian Energy Market Operator's (AEMO) Gas Bulletin Board.<sup>3</sup>

## The Gas Market Code of Conduct

We note that data on forecast gas supply was collected for this report February and June 2023. This was during a changing policy environment, including the implementation of the Gas Market Emergency Price Order and consultation on the Gas Market Code of Conduct.

The code commenced on 11 July 2023 and will come fully into effect from 11 September 2023. Under the code, producers may receive an exemption from reasonable pricing requirements in exchange for making domestic supply commitments. However, as data was collected before the code was finalised, forecast supply in quarter 1 2024 does not reflect possible supply commitments producers may make to gain an exemption from the code.

The purpose of the code is to ensure the domestic wholesale gas market supplies adequate gas at reasonable prices and on reasonable terms for both suppliers and buyers. There are several factors that can affect the adequate supply of gas in the domestic market, including additional supply arising from producers that receive an exemption to the code. The full

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<sup>1</sup> ACCC, *Gas inquiry June 2023 interim report*, Gas Inquiry 2017–2030, ACCC, June 2023.

<sup>2</sup> 'Southern states' refers to New South Wales, Australian Capital Territory, South Australia, Victoria, and Tasmania.

<sup>3</sup> AEMO, Gas Bulletin Board, accessed at <https://aemo.com.au/energy-systems/gas/gas-bulletin-board-gbb/data-gbb/gas-flows> as at 1 August, 2023.

implications of the code on domestic supply, as well as the impact of the broader policy environment, will become apparent over time and will be closely monitored by the ACCC.

### **The role of LNG producers on the east coast market**

The east coast LNG producers (APLNG, GLNG and QGC)<sup>4</sup> sell their gas to international LNG buyers but are also a major source of supply in the east coast market. We report uncontracted gas as the difference between their incomings (their gas production, contracted purchases from other domestic producers and LNG producers' net gas swaps) and outgoings (their contracted sales to the domestic market and to international LNG buyers). These uncontracted quantities of gas could be:

- sold to the domestic market, including through flexibility arrangements within existing contracts with domestic customers
- sold as LNG spot cargoes on the international market
- sold as additional volumes to long term SPA customers, including through customers' ability to call on additional volumes above minimum take-or-pay volumes
- placed or sold into gas storage facilities
- sold to other producers, including as part of swap arrangements.<sup>5</sup>

The volumes of gas potentially sold as spot or additional cargoes are subject to Heads of Agreement commitments with the Australian Government.<sup>6</sup> These commitments require that uncontracted gas is first offered with reasonable notice on competitive market terms to the Australian domestic market before being offered to the international market as LNG spot cargoes.

### **Sources of supply and demand data**

Our supply and demand forecasts are based on data obtained from east coast gas producers and AEMO.

Supply data reflects east coast gas producers' forecasts of production from 2P (proven and probable) developed and undeveloped reserves, net withdrawals from storage, and flows from the Northern Territory. This is based on information obtained directly from producers in response to compulsory information gathering notices issued in February and June 2023.

Demand data is based on:

- LNG producers' forecasts of gas that will be exported under long term LNG SPAs with international buyers. We include volumes of LNG SPA demand based on 'expected commitments' under take-or-pay requirements in long term LNG supply contracts, which typically reflect minimum annual contracted quantities required under these long term contracts.
- LNG producers' forecasts of gas that will be exported as spot or additional LNG cargoes.

<sup>4</sup> Throughout this report, any reference to the LNG producers refers only to these three LNG producers in Queensland.

<sup>5</sup> In this report, when we refer to uncontracted gas, we refer to an aggregated quantity calculated using the sum of inputs and outputs for each of the LNG producers. However, the amount of uncontracted gas individual producers may consider themselves to have varies for each of the LNG producers and may vary from our calculations for them individually. The amounts may vary due to, for example, swaps, customer flexibility, or buffers to account for contingencies.

<sup>6</sup> Department of Industry, Science and Resources, Heads of Agreement - The Australian East Coast Domestic Gas Supply Commitment, September 2022.

- LNG producers' uncontracted gas, with further information on this figure provided by LNG producers' forecasts of gas that they anticipate exporting as LNG spot cargoes or additional LNG sales, in addition to their expected sales under SPAs. Our calculation of the LNG producers' uncontracted gas now accounts for gas swap agreements – gas that the LNG producers expect to receive on a net basis through gas swaps in quarter 1.
- Forecasts of domestic gas demand obtained from AEMO as published in the 2023 Gas Statement of Opportunities (GSOO) report.

AEMO annually produces 20 year forecasts for domestic gas demand for their GSOO. Forecasts are broken down by the source of demand, including residential and commercial demand, industrial demand, and gas power generation (GPG) demand. In this report, we have used AEMO's forecast of domestic gas under the 'Orchestrated Step Change' scenario from the 2023 GSOO. AEMO's 2023 GSOO states that this "scenario reflects observed trends impacting residential, commercial and industrial consumption and the likely near term continuation of these trends". For further discussion on why we are using this demand scenario from AEMO's 2023 GSOO, please see the ACCC's March 2023 Gas Inquiry interim report.

Demand forecasts that are more aimed at a short term outlook may become available (including by AEMO) and we will continue to consider what source of demand forecast information we will use in the future.

These information sources reflect a forecast of supply and demand at a point in time. There is an element of forecasting risk and actual supply or demand may differ. However, these reflect the best estimates available to the ACCC of the outlook for the east coast gas market in quarter 1 2024.

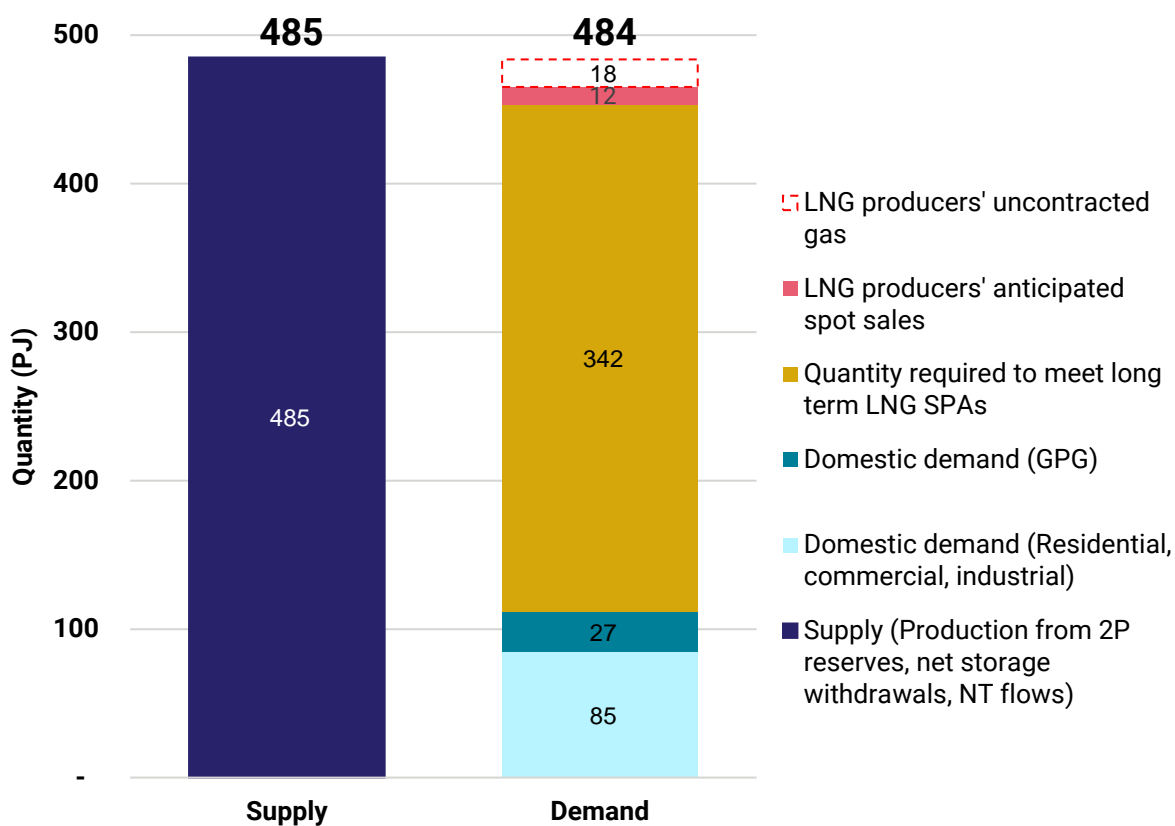


# Supply-demand outlook for quarter 1 2024

## East coast gas market outlook

Chart 1 sets out the forecast supply-demand outlook for the upcoming summer and autumn months of January, February, and March 2024 (quarter 1). There is expected to be 1.4 PJ of surplus gas in the market even if the LNG producers export all their uncontracted gas. However, if the LNG producers only export their long-term contract commitments and current anticipated LNG spot or additional sales, then there will be 19.9 PJ of gas available to the east coast market during the quarter.

**Chart 1: Quarterly supply demand outlook for quarter 1 2024 (PJ)**



Source: ACCC analysis of data obtained from gas producers in June 2023 and of the domestic demand forecast (Orchestrated Step Change scenario) from AEMO, Gas Statement of Opportunities (GS00), AEMO, April 2023.  
 Note: may not sum due to rounding.



Our June 2023 interim report found that there would be sufficient gas supply to meet demand in quarter 1 of 2024 with a forecast surplus of 7.2 PJ if all uncontracted gas is exported.<sup>7</sup> Our latest forecast is a surplus of 1.4 PJ for quarter 1 2024 if all uncontracted gas is exported. This change in the supply-demand outlook is due to several factors including:

- a 5.9 PJ increase in supply from east coast producers
- an 8.2 PJ increase in demand from long term LNG exports
- a 4 PJ reduction in LNG producers' anticipated spot sales
- a 7.5 PJ increase in LNG producers' uncontracted gas (excluding anticipated spot sales). The increase is largely a result of incorporating new information on net gas swaps, which has led to an increase in the volume of uncontracted gas available to LNG producers in this quarter.

#### **Gas swaps increase the volumes of gas available to LNG producers in quarter 1 2024.**

A key change in our approach for this report is that we have included the net effect of LNG producers' gas swap arrangements. A gas swap arrangement allows two or more gas market participants to swap gas, for instance between times (gas is given at one time to be received at a later time) or location.<sup>8</sup> LNG producers' net gas swaps represent the difference between the gas received by LNG producers and the gas supplied by LNG producers through gas swap agreements.

In quarter 1 2024, LNG producers are expected to have an additional 9.2 PJ of gas available to them through these gas swaps.

This means that LNG producers have more gas available to them that is not currently contracted to domestic or international buyers (as 'uncontracted gas'). This gas can be exported or sold back into the domestic market or placed into storage. This gas will then be returned by the LNG producers in other time periods, likely in winter months when domestic gas demand is higher.

In future ACCC reports, we will examine how the LNG producers' gas swap arrangements affect the supply-demand balance in the east coast market at different times of the year.

While the overall outlook is positive there remains risk that the outlook could worsen, particularly from higher-than-expected gas demand.

If additional uncontracted gas is exported and there is an upswing in GPG demand, then gas supply could be insufficient to meet demand. It is important to recognise that GPG demand is dependent on prevailing weather and other uncertainties in the electricity market. As such demand for GPG fluctuates significantly which poses a risk to the gas market of a possible surge in GPG demand.<sup>9</sup> However, such factors could also work in the opposite direction, reducing GPG demand.

The anticipated gas surplus for quarter 1 2024 has decreased since the previous forecast. However, gas producers have also forecast an increase in supply. In addition, as shown in Table 1, the total volumes of gas that producers have told us they will supply in quarter 1 2024 is higher than what was actually produced at the same time in 2023. This is partially required to meet higher volumes of LNG export demand, which is also higher than previous levels of actual exports.

<sup>7</sup> ACCC, *Gas inquiry June 2023 interim report*, Gas Inquiry 2017–2030, ACCC, June 2023, p 22.

<sup>8</sup> ACCC, *Gas inquiry June 2023 interim report*, Gas Inquiry 2017–2030, ACCC, June 2023, p 93.

<sup>9</sup> ACCC, *Gas inquiry June 2023 interim report*, Gas Inquiry 2017–2030, ACCC, June 2023, p 24–27.

**Table 1: Comparison of quarter 1 2023 actuals with quarter 1 2024 forecast (PJ)**

|                 | <b>Quarter 1 2024<br/>forecast</b> | <b>Quarter 1 2023<br/>actual</b> | <b>Difference</b> |
|-----------------|------------------------------------|----------------------------------|-------------------|
| Supply total    | 485.0                              | 429.6                            | 55.4              |
| LNG exports*    | 353.7                              | 325.2                            | 28.5              |
| Domestic demand | 111.4                              | 103.2                            | 8.2               |

Source: ACCC analysis of data obtained from producers in February 2023 and AEMO Gas Bulletin Board data as at 1 August 2023.

Note: \* For comparative purposes only forecast LNG exports are the aggregate of committed spot sales and LNG SPA volumes. Demand does not account for gas losses. Totals may not sum due to rounding.

# Regional outlook

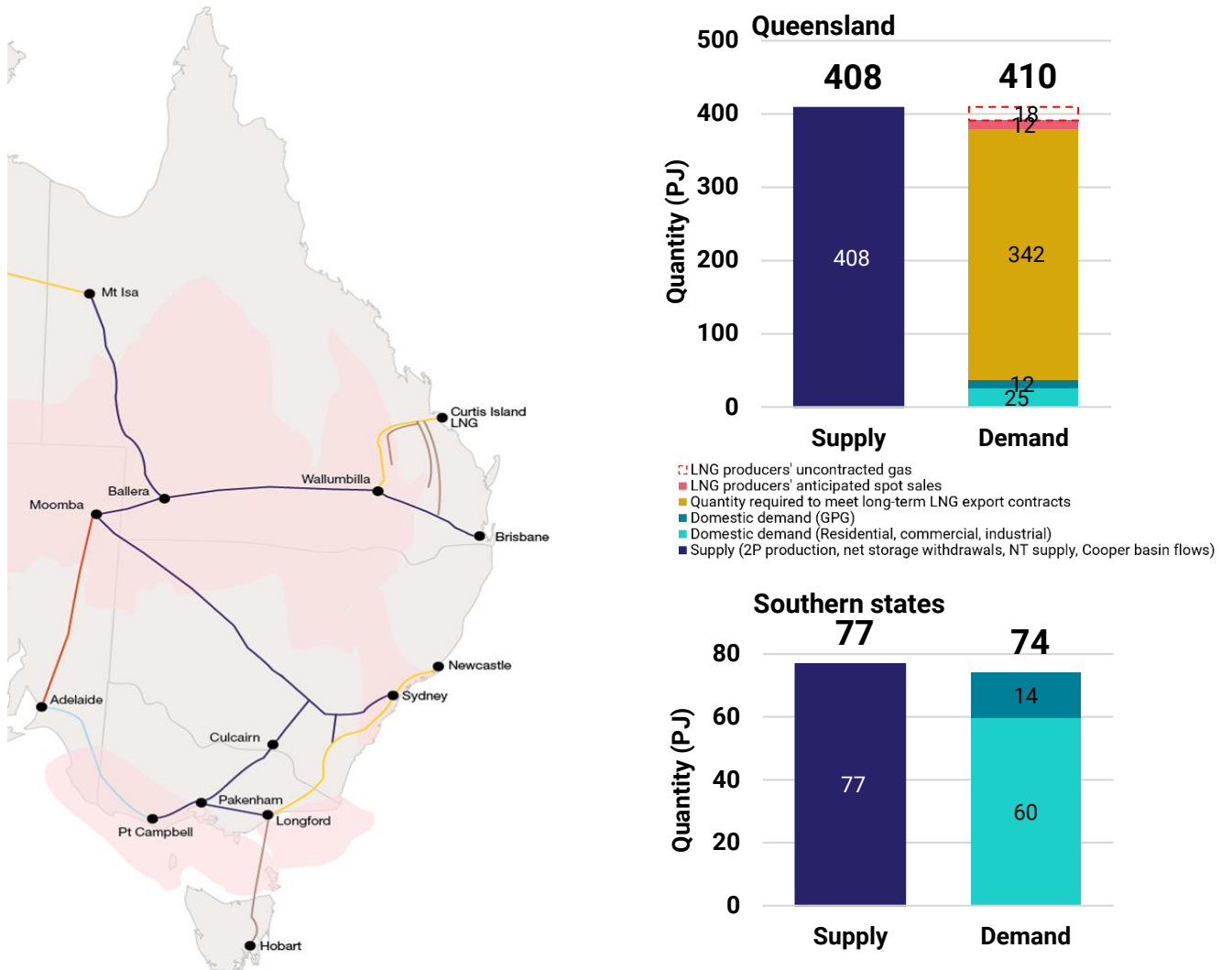
Chart 2 shows the regional supply-demand outlook for quarter 1 2024.

If all of the LNG producers' uncontracted gas is exported, Queensland is expected to need at least an additional 1.4 PJ of gas to meet domestic demand and export demand. This will need to be withdrawn from storage, or flow from the southern states or the Northern Territory. It is typical at this time of the year for gas to flow north from the southern states. However, if only anticipated spot sales are exported, Queensland will have a 10.5 PJ surplus.

In contrast, the southern states are forecast to have 2.8 PJ surplus gas supply to meet local demand (residential, commercial and industrial users and gas-powered generation). This is typical of the outlook in summer months where the demand for residential gas heating in the southern states is at its lowest.

Note that data was collected prior to the Code being finalised. As such it does not reflect any possible supply commitments producers may make to gain an exemption from the Code.

**Chart 2: Regional supply outlooks for quarter 1 2024 (PJ)**



Source: ACCC analysis of data obtained from gas producers in February 2023 and June 2023 and of the domestic demand forecast (Orchestrated Step Change scenario) AEMO, GS00, April 2023. Note: may not sum due to rounding.

# LNG producers' outlook

## LNG producers' supply-demand

This section provides information about the east coast LNG producers' supply-demand, including gas that has not yet been committed.

Table 2 shows the forecast aggregated supply-demand breakdown for the LNG producers in quarter 1 2024. The table also shows the changes in the supply-demand forecasts for quarter 1 2024 since our June 2023 report.<sup>10</sup>

**Table 2: LNG Producers forecast supply and contracted sales in quarter 1 2024 (PJ)**

|   | Q1 2024     | Change in Q1 2024 forecast |
|---|-------------|----------------------------|
| <b>Supply</b>   |             |                            |
| Production from 2P reserves + net storage withdrawals   | 356.9       | + 6                        |
| 3rd party purchases from suppliers other than LNG projects                                      | 41.9        | - 1.8                      |
| LNG producers' net gas swaps  | 9.2         | Not reported               |
| Total supply available to LNG producers   | 408.0       |                            |
| <b>Demand</b>   |             |                            |
| Contracted east coast market demand   | 35.8        | + 1.6                      |
| Contracted LNG export demand  | 341.8       | +8.2                       |
| Total contracted LNG demand   | 377.6       |                            |
| <b>LNG producers' uncontracted gas</b>  | <b>30.4</b> | <b>+3.5</b>                |
| <b>LNG producers' anticipated LNG spot and additional sales (out of their uncontracted gas)</b> | <b>11.9</b> |                            |
| <b>LNG producers' net uncontracted gas</b>  | <b>18.5</b> |                            |

Source: ACCC analysis of data obtained from LNG producers in February 2023 and June 2023

Note: Totals may not add up due to rounding. The quantity required to meet the contractual obligations under long term SPAs include the feed gas required to produce LNG (such as fuel).

<sup>10</sup> Reflects information underlying the forecast for quarter 1 2024 in ACCC, *Gas inquiry June 2023 interim report*, Gas Inquiry 2017–2030, ACCC, June 2023, p 22.

## LNG producers' production capacity outlook

The purpose of this section is to better understand the potential for the LNG producers to convert their uncontracted gas into LNG for sale as spot cargos.

Table 3 shows the LNG producers' expected feed gas alongside the LNG that can be produced with this feed gas. Note that these amounts do not include any potential commitments to domestic supply that may be made by LNG producers to gain an exemption from the Code. Feed gas refers to the total amount of gas that is fed into the LNG trains, with some of this gas used as fuel to turn the remainder into LNG.

**Table 3: LNG producers forecast feed gas and LNG production for quarter 1 2024 (PJ)**

| Type of sale   | Feed gas     | LNG produced |
|--|--------------|--------------|
| SPA exports  | 341.8        | 316.1        |
| Anticipated LNG spot and additional sales                  | 11.9         | 11.4         |
| Uncontracted gas that could be used for further spot sales | 18.5         | 17.7*        |
| <b>Total if all uncontracted gas is exported</b>           | <b>372.2</b> | <b>345.2</b> |

Source: ACCC analysis of data obtained in June 2023 from producers.

Note: \* 17.7 PJ is an estimated amount of LNG production using all uncontracted gas as feed gas. It assumes a conversion factor of 96% efficiency for marginal feed gas. This is a high-level estimate only. Totals may not add up due to rounding.

Using the information provided in Table 3 and Gas Bulletin Board Medium Term Capacity Outlook data<sup>11</sup>, we can determine whether the LNG producers will have spare capacity to export more than their SPA volumes.

Estimating the possible spare capacity is useful to establish whether LNG producers may be able to export their uncontracted gas or whether it is likely to be retained for the domestic market. For instance, if LNG producers had little estimated spare capacity after exporting SPA volumes and anticipated spot sales then it would be highly unlikely that any uncontracted gas could be exported. On the other hand, LNG producers with spare capacity may be incentivised to export uncontracted gas if LNG prices are sufficiently high relative to domestic prices.

Combined, all LNG producers have an estimated maximum capacity for the quarter to produce 401.6 PJ of LNG. Subtracting the total volume of the pre-Code forecast LNG production from the total capacity results in the following estimates of aggregate spare capacity:

- 56.3 PJ of spare capacity if all uncontracted gas is exported (86.0% LNG plant capacity utilisation).<sup>12</sup>
- 74.1 PJ of spare capacity if all SPA sales and anticipated spot sales are exported (81.6% LNG plant capacity utilisation).

<sup>11</sup> This estimate is based on ACCC analysis of Gas Bulletin Board data provided under AEMO's medium term capacity outlook and nameplate capacity outlook data sheets. AEMO, <https://aemo.com.au/energy-systems/gas/gas-bulletin-board-gbb/data-gbb/gas-flows> as at 1 August 2023.

<sup>12</sup> High level estimate based on uncontracted gas being converted to LNG at an assumed marginal 96% rate of efficiency across all LNG projects in aggregate. Note also that LNG plant utilisation is the ratio of LNG production to the estimated maximum capacity.

- 85.5 PJ of spare capacity if only SPA sales are exported (78.7% LNG plant capacity utilisation).

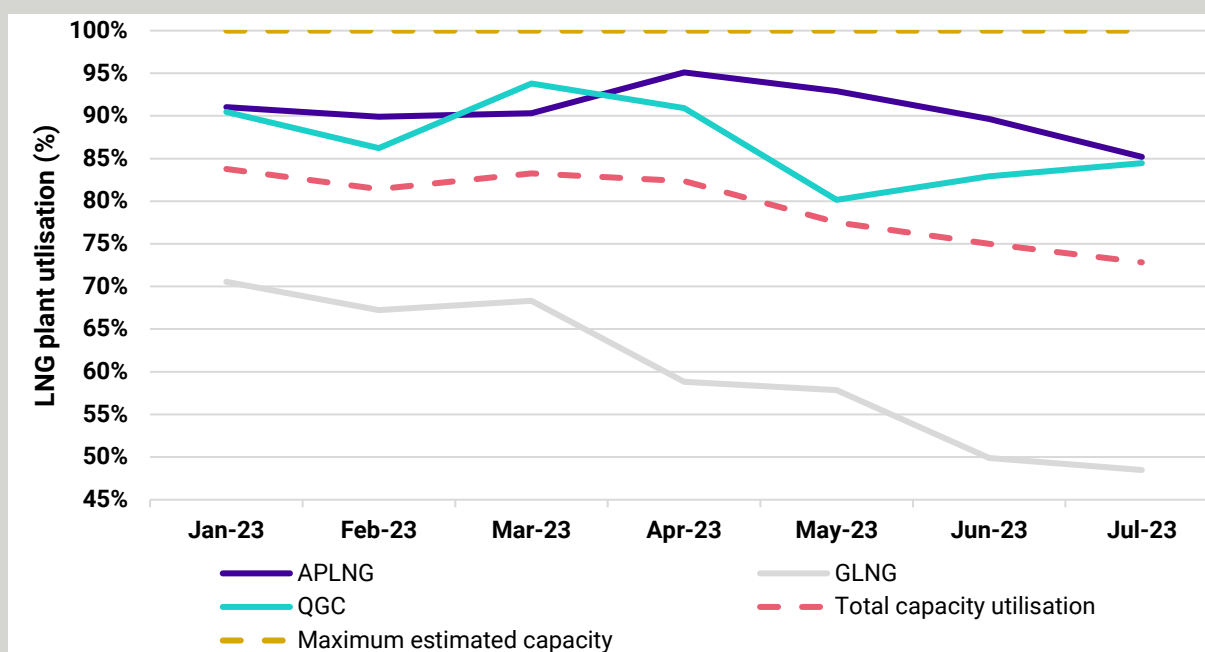
As such, LNG producers will have a choice between diverting their uncontracted gas to the domestic market or exporting their uncontracted gas. These figures represent the aggregate spare capacity.

These are high-level estimates only, based on analysis of public information reported to the AEMO Gas Bulletin Board. LNG trains may undergo unanticipated maintenance that may result in less available capacity. Likewise, SPA volumes may increase or decrease closer to the date which may result in lower or higher spare capacity than estimated. All these factors may result in there being less or more spare capacity than expected.

### Estimated LNG plant utilisation

LNG plant utilisation for each producer can vary considerably. Chart 3 examines the historical plant utilisation of each LNG producer based on Gas Bulletin Board data between January to July 2023. Utilisation is the ratio of estimated LNG production, to estimated maximum LNG production capacity. LNG production capacity has been adjusted for maintenance or other events causing capacity downgrades reported to AEMO. Over 2023 QGC and APLNG combined have had an average capacity utilisation of 88.9%. However, the average utilisation over this period for all LNG producers is 79.3%. This was due to GLNG having considerably lower utilisation rates than their counterparts, lowering the average.

**Chart 3: Estimated historical LNG plant utilisation over January to July 2023 (% of maximum estimated capacity)**



Source: ACCC analysis of data obtained in June 2023 from producers. ACCC analysis of Gas Bulletin Board data including the short term capacity outlook, Gas Bulletin Board pipeline flows and export information. AEMO, Gas Bulletin Board, <https://aemo.com.au/energy-systems/gas/gas-bulletin-board-gbb/data-gbb/gas-flows> as at 1 August 2023. Efficiency rates were estimated at a high level using Origin, 31 July 2023, Quarterly Report June 2023, <https://www.originenergy.com.au/about/investors-media/quarterly-report-june-2023/>, Santos, 20 July 2023, 2023 Second Quarter report, <https://www.santos.com/news/2023-second-quarter-report/> and ACCC analysis of data provided by LNG producers'.

Note: Timing differences between LNG production and export volumes or the accuracy of the conversion factor applied between units of LNG production from tonnes to PJ may result in the estimated aggregate average efficiency rates being higher or lower than estimated. Rates of utilisation are an estimate based on historical data only based on aggregate rates of efficiency of LNG production and are not actuals.

# Pipeline and Storage capacity

This section provides information on:

- the net flows of gas through transmission pipelines that connect the northern and southern states, and ACCC's expectations for quarter 1 2024 net flows through these pipelines
- Iona underground storage and other storage facility's 2023 position at the end of July and their expected behaviour through quarter 1 2024.

Unlike previous reports, we have not considered the maximum capacity of these pipelines and whether there is expected to be sufficient capacity to transport gas to where it is needed. We will report on pipeline capacity as necessary in future reports.

## Pipeline flows between Queensland and southern states

Two major pipelines enable gas flow to travel from Queensland and Northern Territory gas fields to the southern states – the Moomba to Sydney Pipeline (MSP) and the South-west Queensland Pipeline (SWQP). These pipelines also allow gas to flow from gas fields in the southern states to Queensland.

Chart 4 and chart 5 demonstrate historical flows of gas (actuals) on these major pipelines between 2020 and 2023. Historically, gas through these pipelines flows primarily south from May to September, to transport gas to address gas supply shortfalls in the southern states during the cooler months of the year (including all of winter). Through the lower demand warmer period of September to May, net gas flows have exhibited both northerly and southerly flows. Surplus gas production in the southern states and higher levels of LNG exports support more gas flowing into Queensland, while filling gas storage in the southern states supports more gas flowing into these states.

2022 experienced higher-than-usual levels of northerly gas flows from January to May. Net southerly gas flows via the SWQP and MSP did not occur until 28 May 2022, with the trend apparent from 1 June 2022, when AEMO issued a threat to system security notice.<sup>13</sup> AEMO issued two further threat to system security notices on 11 July and 18 July 2022 to reduce the depletion rates at the Iona storage facility, as well as activating the Gas Supply Guarantee (in effect from 19 July to 30 September 2022) to increase gas supply to Victoria.<sup>14</sup> The effect of these actions by AEMO on net southerly pipeline flows in 2022 can be seen in charts 4 and 5.

While we do not forecast actual pipeline flows in this report, we anticipate net flows through the MSP and SWQP in quarter 1 2024 will likely follow a similar pattern as seen in 2023. This will include a combination of northerly and southerly gas flows. The flow of gas north into Queensland may be required given the potential gas shortfalls through this quarter (see above regional outlook, chart 2).

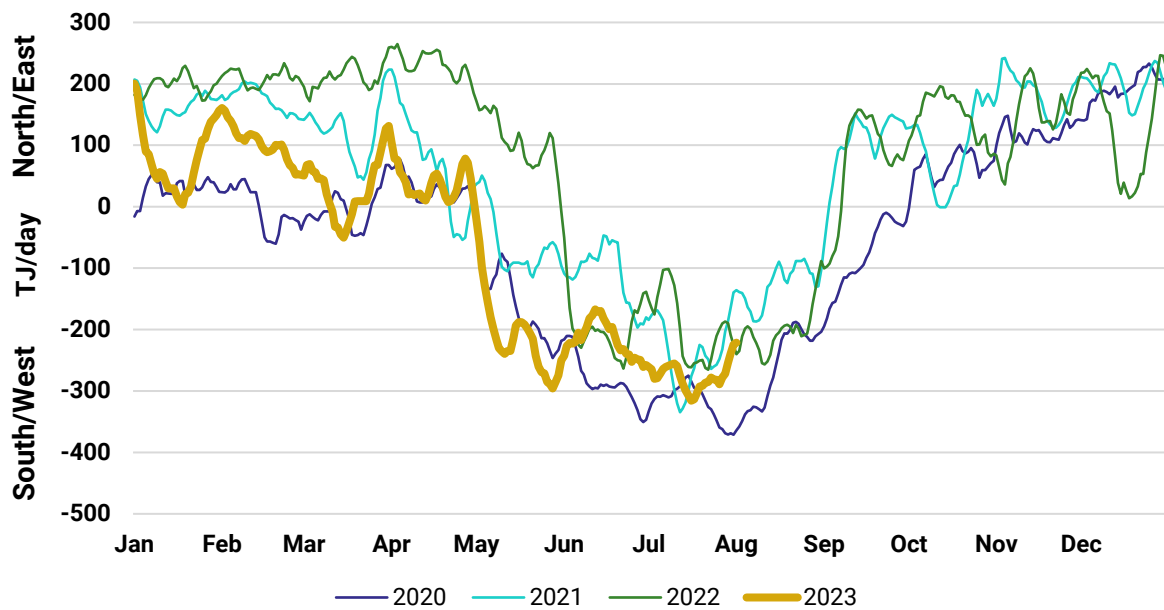
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<sup>13</sup> AEMO *Declared Wholesale Gas Market – Intervention Report*, AEMO, June 2022, accessed at <https://aemo.com.au/-/media/files/gas/dwgm/2022/dwgm-event-intervention-1-june-2022.pdf?la=en>.

<sup>14</sup> AEMO, *Media Release – AEMO takes further steps to manage tight gas supplies*, AEMO, 19 July 2022, accessed at <https://aemo.com.au/en/newsroom/media-release/aemo-takes-further-steps-to-manage-tight-gas-supplies>.



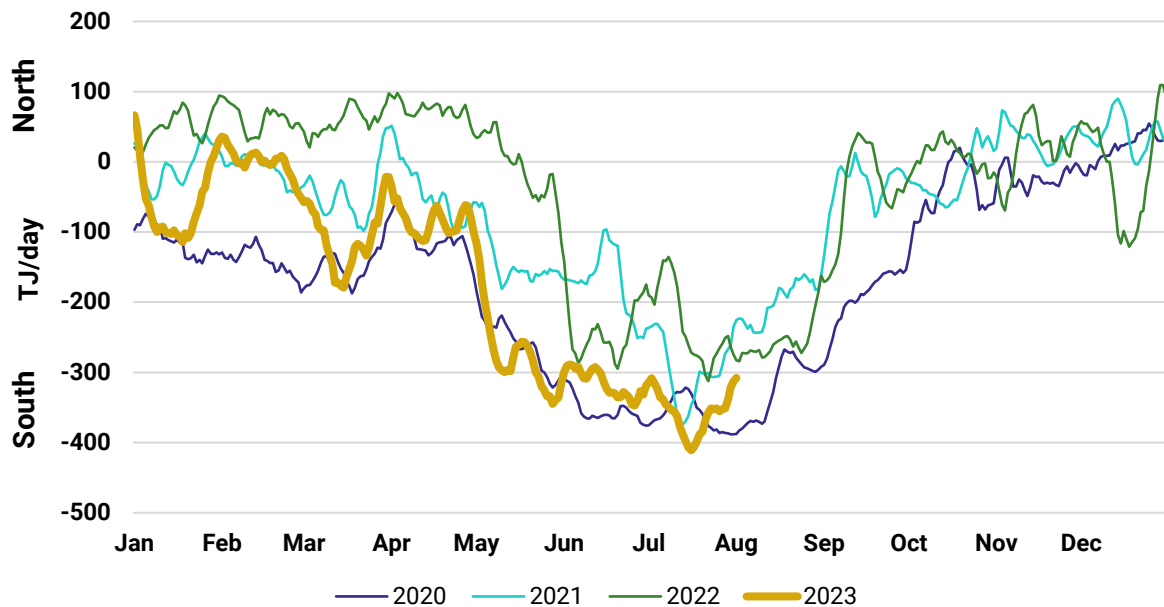
**Chart 4: Year-on-year flows on the Southwest Queensland Pipeline (SWQP)**



Source: AEMO, Gas Bulletin Board <https://aemo.com.au/energy-systems/gas/gas-bulletin-board-gbb/data-gbb/gas-flows> as at 1 August 2023.

Note: The 7-day rolling average net flows are calculated using AEMO’s Gas Bulletin Board. Net flow = Supply – Demand + Transferred In – Transfer Out.

**Chart 5: Year-on-year flows on the Moomba to Sydney (MSP)**



Source: AEMO, Gas Bulletin Board <https://aemo.com.au/energy-systems/gas/gas-bulletin-board-gbb/data-gbb/gas-flows> as at 1 August 2023.

Note: The 7-day rolling average net flows are calculated using AEMO’s Gas Bulletin Board. Net flow = Supply – Demand + Transferred In – Transfer Out.

### Recent and forthcoming pipeline upgrades

APA Group have recently upgraded the operational capacity of southerly gas flow through the MSP and SWQP ready for winter 2023. The upgrades for winter 2023 increased the MSP's capacity from 446 TJ/day to 475 TJ/day for southerly flow, and the SWQP's capacity from 404 TJ/day to 453 TJ/day.<sup>15</sup>

Both pipelines are expecting further upgrades in time for winter 2024, when southern state's demand peaks. The MSP is expected to increase to 565 TJ/day and the SWQP is expected to increase to 512 TJ/day.<sup>16</sup>

Similarly, the South West Pipeline (SWP) compressor upgrade and the Western Outer Ring Main (WORM) extension will enable more gas to flow east from Iona and its underground gas storage to major Victorian demand centres. This upgrade increased the easterly capacity from 447 TJ/day to 530TJ/day ready for winter 2023.<sup>17</sup>

Our future reports will consider the impact of these pipeline upgrades on the capacity to transport gas from Queensland to the southern states during winter 2024 and beyond.

## Changes to storage usage

Storage facilities are key gas market infrastructure that can be used for daily and seasonal balancing of gas supply and demand. In the southern states in particular, storage facilities such as the Iona underground storage facility are important sources of supply.

Historically, Iona underground storage is filled between November and May, and is then discharged over the winter months to meet daily peak demand. We expect quarter 1 2024 to follow a similar pattern, with surplus gas production being used to fill storage.

We note that Iona underground storage has operated differently through 2023, after multiple threats to system security notices issued by AEMO through winter 2022.<sup>18</sup> On 14 April 2023, Iona reached a record level of 25.2 PJ, above their nameplate capacity of 24.4 PJ.<sup>19</sup> At the end of July 2023, Iona's storage levels have remained higher than every year and even received material injections in June. This is shown in chart 6.

In future years, the combination of Iona storage and upgraded capacity southerly gas flows from the MSP and SWQP (as mentioned in the box above) may be needed to address peak demand in the southern states.

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<sup>15</sup> AEMO, *Gas Statement of Opportunities*, AEMO, 16 March 2023, p 59.

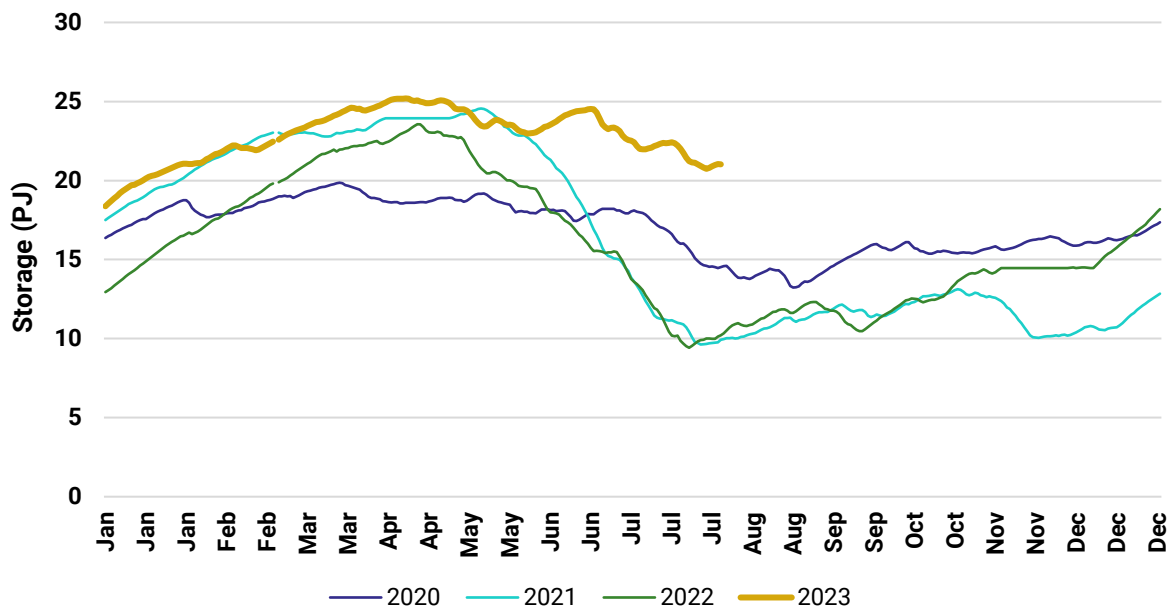
<sup>16</sup> AEMO, *Gas Statement of Opportunities*, AEMO, 16 March 2023, p 59.

<sup>17</sup> AEMO *Victorian Gas Planning Report*, AEMO, 3 March 2023, p 5.

<sup>18</sup> AEMO *Declared Wholesale Gas Market – Intervention Report*, AEMO, June 2022, accessed at <https://aemo.com.au/-/media/files/gas/dwgm/2022/dwgm-event-intervention-1-june-2022.pdf?la=en> and AEMO, *Media Release – AEMO takes further steps to manage tight gas supplies*, AEMO, 19 July 2022, accessed at <https://aemo.com.au/en/newsroom/media-release/aemo-takes-further-steps-to-manage-tight-gas-supplies>.

<sup>19</sup> AEMO, *Gas Bulletin Board*, accessed at <https://aemo.com.au/energy-systems/gas/gas-bulletin-board-gbb/data-gbb/gas-flows> as at 1 August 2023.

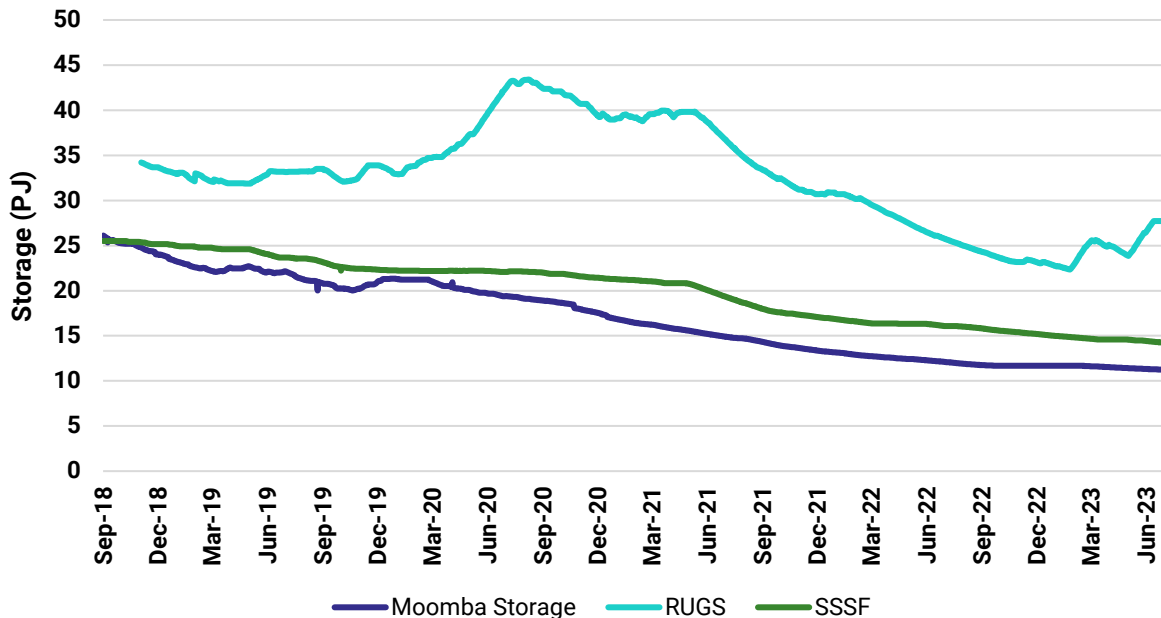
**Chart 6: Year-on-year Iona underground storage levels**



Source: AEMO, Gas Bulletin Board <https://aemo.com.au/energy-systems/gas/gas-bulletin-board-gbb/data-gbb/gas-flows> as at 1 August 2023.

In addition, this year we saw Roma underground gas storage (RUGS) returning to operate like a storage system. RUGS received large quantities of injections this year, increasing from a low of 22.3 PJ on 22 February to 27.7 PJ on 30 July.<sup>20</sup> Before this the last significant injection was mid-May 2021, after which RUGS has only been withdrawn from. Chart 7 shows the historical storage levels of RUGS, Moomba and Silver Springs facilities (SSSF).

**Chart 7: Historic storage levels of Moomba, Roma and Silver Springs facilities**



Source: AEMO, Gas Bulletin Board <https://aemo.com.au/energy-systems/gas/gas-bulletin-board-gbb/data-gbb/gas-flows> as at 1 August 2023.

<sup>20</sup> AEMO, Gas Bulletin Board, accessed at <https://aemo.com.au/energy-systems/gas/gas-bulletin-board-gbb/data-gbb/gas-flows> as at 1 August 2023.

# Appendix A: Actuals compared to forecast for quarter 1 2023

In March 2023, the Gas Inquiry began reporting supply and demand in the east coast gas market on a quarterly basis. This section examines the forecast for quarter 1 2023 with the actuals as obtained using AEMO Gas Bulletin Board<sup>21</sup> data.

The comparison of forecast and actuals data provides an acknowledgement of the inherent margin for uncertainty in forecasting. Multiple factors can impact actual supply and demand including weather, conditions in the National Electricity Market (NEM), maintenance and production as well as international and domestic markets and policies. While we provide our forecasts with due diligence and consideration, forecasting is not an exact science and differences are likely.

Further, the quarter 1 2023 data was collected in January 2023, shortly after the implementation of the Gas Market Emergency Price Order. It is unclear what impact the uncertain policy environment had on the difference between the forecast and actuals.

Table 4 compares the quarter 1 2023 forecast published in our March interim report<sup>22</sup> (based on data from January 2023) with quarter 1 2023 actuals. Limited information on the forecast of this quarter was published, meaning the supply data is aggregated.

From this we can observe that:

- Supply was forecast to be higher in our March report for quarter 1 2023 than actuals.
- Demand was forecast to be higher in our March report for quarter 1 2023 than actuals. This was driven by LNG exports being below forecast (in the scenario in which all uncontracted gas is exported) and domestic demand being lower than expected.

As this data represents actual gas consumption it follows that supply must be equal to or greater than demand. This is reflected in previous years where we have observed supply being greater than demand. Table 4 however shows that demand was 0.8 PJ higher than supply in quarter 1 2023. This discrepancy is likely due to either rounding within Gas Bulletin Board data or potential inaccuracies in Gas Bulletin Board data submissions that have not been revised. The observed negative sum is not indicative of gas rationing or anything else that would be characteristic of a shortfall.

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<sup>21</sup> AEMO, Gas Bulletin Board, accessed at <https://aemo.com.au/energy-systems/gas/gas-bulletin-board-gbb/data-gbb/gas-flows> as at 1 August 2023.

<sup>22</sup> ACCC, *Gas inquiry March 2023 interim report*, Gas Inquiry 2017–2030, ACCC, March 2023, p 11.

**Table 4: Comparison of Q1 2023 actuals with Q1 2023 forecast**

|                          | Q1 2023 forecast | Q1 2023 actuals | Difference |
|--------------------------|------------------|-----------------|------------|
| <b>Supply</b>            |                  |                 |            |
| Supply total             | 459.3            | 429.6           | 29.7       |
| <b>Demand</b>            |                  |                 |            |
| LNG exports*             | 333.6            | 325.2           | 8.5        |
| Uncontracted             | 9.2              | -               | 9.2        |
| Net storage injections   | -                | 2.0             | -2         |
| Queensland demand ex LNG | 42.3             | 29.9            | 12.4       |
| Southern states          | 78.1             | 73.3            | 4.8        |
| Demand total             | 463.2            | 430.4           | 32.8       |
| <b>Outlook</b>           |                  |                 |            |
| Surplus/shortfall        | -3.9             | -0.8**          | -3.1       |

Source: ACCC analysis of data obtained from producers in January 2023 and AEMO Gas Bulletin Board data as at 1 August 2023.

Note: \* For comparative purposes only forecast LNG exports are the aggregate of committed spot sales and LNG SPA volumes. Actual demand is reflective of gas consumed and does not account for gas losses. Totals may not sum due to rounding.

\*\* While demand exceeded supply in the Gas Bulletin Board data, it is likely this is a result of either rounding or slight inaccuracies in the Gas Bulletin Board data as gas consumption (actual demand) cannot exceed the gas available to consume (supply actuals).

The difference in forecast domestic demand for gas can be attributed primarily to factors in the NEM affecting demand for GPG. Gas fired generation decreased reaching its lowest quarter 1 level since 2005 to average 1,113 MW.<sup>23</sup> High wholesale gas prices relative to quarter 1 2022 and lower wholesale electricity spot prices contributed to this.<sup>24</sup>

The reduction in wholesale electricity prices is in line with increased uptake and market entry of lower priced variable renewable energy (VRE) in the NEM. Quarter 1 2023 saw an overall increase in VRE electricity generation and converse falls in both GPG and coal fired demand.<sup>25</sup> Increased availability of coal fired power stations due to a reduction in outages also contributed to an overall reduction in GPG demand.<sup>26</sup>

LNG projects were forecast to export 333.6 PJ to meet long term sales contracts and committed spot sales. Actual exports were 325.2 PJ. The 8.5 PJ difference in forecast and actual LNG exports was made available as additional supply to the domestic market<sup>27</sup> and assisted in offsetting a potential shortfall despite actual supply being lower than forecast.

Reductions in LNG exports can be attributed in large part to maintenance related issues. QCLNG experienced LNG train outages across every month of the quarter<sup>28</sup> with parallel reductions in export volumes.<sup>29</sup>

<sup>23</sup> AEMO, *Quarterly Energy Dynamics Q1 2023*, AEMO, April 2023, p 24.

<sup>24</sup> AEMO, *Quarterly Energy Dynamics Q1 2023*, AEMO, April 2023, pp 3 and 24.

<sup>25</sup> AEMO, *Quarterly Energy Dynamics Q1 2023*, AEMO, April 2023, p 20.

<sup>26</sup> AEMO, *Quarterly Energy Dynamics Q1 2023*, AEMO, April 2023, p 21.

<sup>27</sup> AEMO, *Quarterly Energy Dynamics Q1 2023*, AEMO, April 2023, p 44.

<sup>28</sup> AEMO, <https://aemo.com.au/energy-systems/gas/gas-bulletin-board-gbb/data-gbb/lng-maintenance>, accessed 28 July 2023.

<sup>29</sup> AEMO, *Quarterly Energy Dynamics Q1 2023*, AEMO, April 2023, p 43.

Supply was also lower than forecast with a 29.7 PJ difference. A variety of factors may have contributed to this including production and maintenance issues and business rationalisation. As we do not have actual production data available for quarter 1 2023 at this time, we cannot attribute the difference to particular factors.