



Gas Inquiry 2017–2030

**Interim update on east coast gas
supply-demand outlook for 2023**

March 2023



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Australian Competition and Consumer Commission
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ACCC 03/2023
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Introduction

Key points

- The east coast gas market is forecast to have sufficient supply to meet forecast demand in 2023, if the LNG producers commit at least an additional 3 PJ of gas to the domestic market in 2023 over already contracted levels. The east coast market is not expected to face a material shortfall under these circumstances.
- The supply-demand outlook has improved by 27 PJ since the forecast in our January 2023 report due to:
 - an increase in production estimates
 - a reduction in LNG producers uncontracted gas that may potentially be exported.
- The seasonal outlook is mixed. Our forecasts show that the domestic market will need at least an additional 11 PJ of gas over currently contracted levels to ensure there is sufficient supply to meet demand in the third quarter of 2023. However, there is forecast to be 18 PJ surplus of gas available in the fourth quarter of 2023.
- The east coast LNG producers are expected to have uncontracted gas in each of the quarters of 2023 that could be used to prevent any shortfalls. They have firmly committed 45 PJ of their uncontracted gas to LNG spot cargoes or additional sales.
- If gas supply is brought forward (e.g., through gas swaps), or if LNG producers commit further gas to the domestic market, then there should be sufficient supply to fulfil demand in the third quarter of 2023.
- The southern states need at least 26 PJ of additional gas from Queensland or from local storage to avert a shortfall between July and September.
- The domestic demand forecast in this report is based on the Orchestrated Step Change scenario from Australian Energy Market Operator's (AEMO) 2023 Gas Statement of Opportunities (GSOO). AEMO has advised that this forecast reflects the best near-term continuation of observed trends impacting residential, commercial, and industrial consumption, and is the focus of their analysis in the 2023 GSOO. We have accepted AEMO's preferred demand forecast in this report.

This is the March 2023 interim report of the Australian Competition and Consumer Commission's (ACCC) inquiry into gas supply in Australia (the Inquiry). This report focuses on forecast supply and demand for gas in the east coast gas market, with further breakdowns for Queensland and the southern states.¹

The report provides an update to the ACCC's supply-demand outlook for 2023, previously published in our July 2022 and January 2023 interim reports. It also provides a seasonal supply outlook, with a key focus on winter and the third calendar quarter of 2023 (July, August, and September, referred to also as 'Quarter 3'). Supply data is based on information obtained in January 2023.

The quarterly outlook provides information relevant to the Government in assessing whether there is likely to be a supply shortfall for the purposes of the Australian Domestic Gas Security Mechanism. Under currently proposed reforms to this, the Minister for Resources

¹ 'Southern states' refers to New South Wales, Australian Capital Territory, South Australia, Victoria, and Tasmania.

will make assessments on whether there is likely to be a shortfall of gas for domestic buyers in each quarter of the year.²

Methodology for comparing supply and demand

The supply-demand outlook for 2023 compares:

1. total forecast supply, including information collected by the ACCC on production from 2P developed and undeveloped reserves, net storage withdrawals, and expected gas flows from the Northern Territory into Queensland, and
2. total forecast demand, including domestic demand and the quantities of gas required by the Liquefied Natural Gas (LNG) producers to meet their long-term LNG Sale and Purchase Agreement (SPA) commitments.

Supply data is based on information obtained directly from producers in response to compulsory information notices issued in January 2023. This is the latest forecast of supply for 2023 and is an update to information previously obtained in August 2022 and updated in November and December 2022.

Demand data is based on:

- forecasts of LNG sales under long-term SPAs and contracted LNG spot cargoes or additional LNG sales, obtained from LNG producers
- forecasts of domestic gas demand obtained from AEMO that is included in its March 2023 Gas Statement of Opportunities (GSOO) report
- the ACCC's calculation of uncontracted gas available to LNG producers that could be supplied internationally or domestically.

These 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 available estimates of the outlook for the east coast market in 2023 at present.

LNG producers' contracted and uncontracted gas

LNG producers are a major source of supply in the east coast market. LNG producers sell their gas to the international and domestic east coast markets.

Our report includes forecasts of the volumes of gas LNG producers are committed to selling under pre-existing contracts with international and domestic buyers. These are:

- Long-term LNG Sale and Purchase Agreements (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 spot cargoes and additional LNG sales. We include volumes of contracted and scheduled LNG spot cargoes or additional LNG sales for 2023. This is the first supply outlook that has included actual contracted volumes of spot or additional cargoes.
- Domestic gas supply agreements (GSAs). We include volumes of committed gas to domestic buyers on the east coast under contract.

² These ADGSM reforms are intended to commence on 1 April 2023. At the time of drafting these reforms have recently finished a period of consultation. See Department of Industry, Science and Resources, 'Reforming Australia's Domestic Gas Security Mechanism: guidelines', *Consultation Hub*, February 2023.

LNG producers are forecast to have excess gas that is not committed under pre-existing contracts with international and domestic buyers. As in previous interim reports, the ACCC calculates the amount of uncontracted gas available over 2023 through calculating the sum of LNG inputs into the domestic market – through 2P production, net storage withdrawals and third-party purchases – and subtracting the quantity which has been contractually committed under LNG SPAs and domestic sales agreements.

The uncontracted quantities of gas belonging to LNG producers can be:

- sold to the domestic market, including through flexibility arrangements within existing contracts with domestic customers, which could address any potential domestic shortfall in supply over 2023
- 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.

The volumes of gas that will be sold as spot cargoes or domestically are subject to Heads of Agreement requirements. This requires 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.

Note that the quantities of gas for each of the above categories, and the resulting quantity of uncontracted gas, is not equal and varies for each of the LNG producers. Furthermore, the amount of uncontracted gas individual producers may consider themselves to have may vary due to swaps, customer flexibility, or buffers to account for contingencies.

Use of AEMO's Demand Scenarios

AEMO produces 20-year forecasts for domestic demand annually for their GS00. Forecasts are broken down by the source of demand, namely 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 its 'Orchestrated Step Change' scenario from the 2023 GS00. AEMO's GS00 states that this "scenario reflects observed trends impacting residential, commercial and industrial consumption and the likely near-term continuation of these trends".

AEMO's 2023 GS00 includes several demand scenarios. Table 1 summarises these scenarios, the impacts on the near-term demand, and how they differ from previous scenarios adopted in the 2022 GS00.

Table 1: Scenarios for the 2023 GSOO and how they impact the short-term demand outlook

Scenario	Relationship to GSOO 2022	Impact on short term demand
1.5°C Green Energy Exports	Refines the 2021 Hydrogen Superpower scenario.	Higher economic growth internationally (and locally) increases global demand for natural gas in the short run. In the long run, this demand is shifted to renewables, including hydrogen.
1.8°C Orchestrated Step Change	Refines the 2021 Step Change scenario.	Moderate outlook for economic growth, population, and gas connections, resulting in a central scenario.
1.8°C Diverse Step Change	Varies the 2021 Step Change scenario.	Moderate economic growth with varying assumptions around decarbonising the gas sector. Assumes gas prices are slightly higher in some regions in the short term than Orchestrated Step Change.
2.6°C Progressive Change	Extends the 2021 Progressive Change scenario regarding slower pace of decarbonisation (but meeting the long-term objective of current net-zero policy), with slower economic growth like 2021's Slow Change scenario.	Slower economic growth results in lower demand, particularly for industrial users, with greatest consideration of closure risks.

Note: the impacts on short term demand are illustrative only to give the reader an understanding of what is driving differences in each scenario, it is not exhaustive of all factors or assumptions driving changes for the 2023 supply-demand outlook.

This report focuses on the Orchestrated Step Change scenario based on AEMO's recommendation and analysis within the GSOO. As outlined in the 2023 GSOO, the Orchestrated Step Change demand scenario:

- adopts a 'central view of economic outlook' relative to other scenarios
- is the focus of AEMO's supply adequacy assessments and commentary in 2023
- is broadly consistent with the underlying assumptions in the Progressive Change and Step Change scenarios in previous reports (which the ACCC adopted as demand forecasts), although the Progressive Change scenario considers a delay to decarbonisation action, resulting in increased near-term demand over the other scenarios.

We have not used the Progressive Change scenario from the 2023 GSOO in this report. While this scenario shares the same name as the demand forecast we adopted from the 2022 GSOO, AEMO has outlined that the Progressive Change scenario has changed significantly and is no longer seen as a central scenario:

"...the 2023 Progressive Change (2.6°C) scenario is no longer a scenario linked to central or moderate economic activity, it applies weaker commercial outcomes and therefore lower industrial consumption, relatively lesser effective connections growth, and other downside drivers affecting overall gas consumption. It is not appropriate to extend the 2022 Progressive Change scenario into the Progressive Change (2.6°C) scenario."

We consider AEMO's GSOO forecasts to represent the best continuation of observed trends. All demand forecasts have a degree of uncertainty, as demand is driven by many factors including population growth and economic growth. In the near term, there is economic uncertainty regarding competing forces affecting household spending, and other factors as noted by the Reserve Bank of Australia.³ Uncertainty may create some risk that could result in demand being different to the Orchestrated Step Change scenario. We see Orchestrated Step Change to represent a conservative view of the economy, that does not anticipate demand destruction driven by external economic forces.

At the same time, the GSOO is intended as a forecast of gas consumption over a 20-year period, and not as a short-term forecast. We are examining options for appropriate short-term demand forecasts that we will adopt for our future reports. We will work closely with AEMO in identifying and developing short-term demand forecasts.

We note that AEMO's powers and functions are expanding to provide it with tools to monitor, signal and manage gas supply shortfalls on an intra-year basis.⁴ Under these responsibilities, AEMO can issue notices, conduct conferences to obtain a market response, or intervene by issuing directions or trading in natural gas services. These new functions are expected to be in operation for winter 2023.

To undertake these functions, AEMO will seek to develop near-term demand and supply forecasts (i.e., a rolling 7-day outlook and rolling 6-month outlook), which may or may not be published. In addition, as part of the development of the next stage of the reliability and supply adequacy reforms, consideration is also being given to AEMO developing a Project Assessment of System Adequacy (PASA) and 'lack of reserve' framework for gas similar to that used in the electricity market.⁵ Under this process, AEMO will assess and publish the results of its assessment of gas system adequacy on a short-term basis (rolling 7-day period published on a daily basis) and/or a medium-term basis (rolling 12 month or 24 month period published on a weekly or monthly basis).⁶

³ Reserve Bank of Australia, 'Statement on Monetary Policy – February 2023', *Statement on Monetary Policy*, February 2023.

⁴ AEMO, 'Information Paper', *Extending AEMO's functions and powers to manage east coast gas system reliability & supply adequacy*, February 2023.

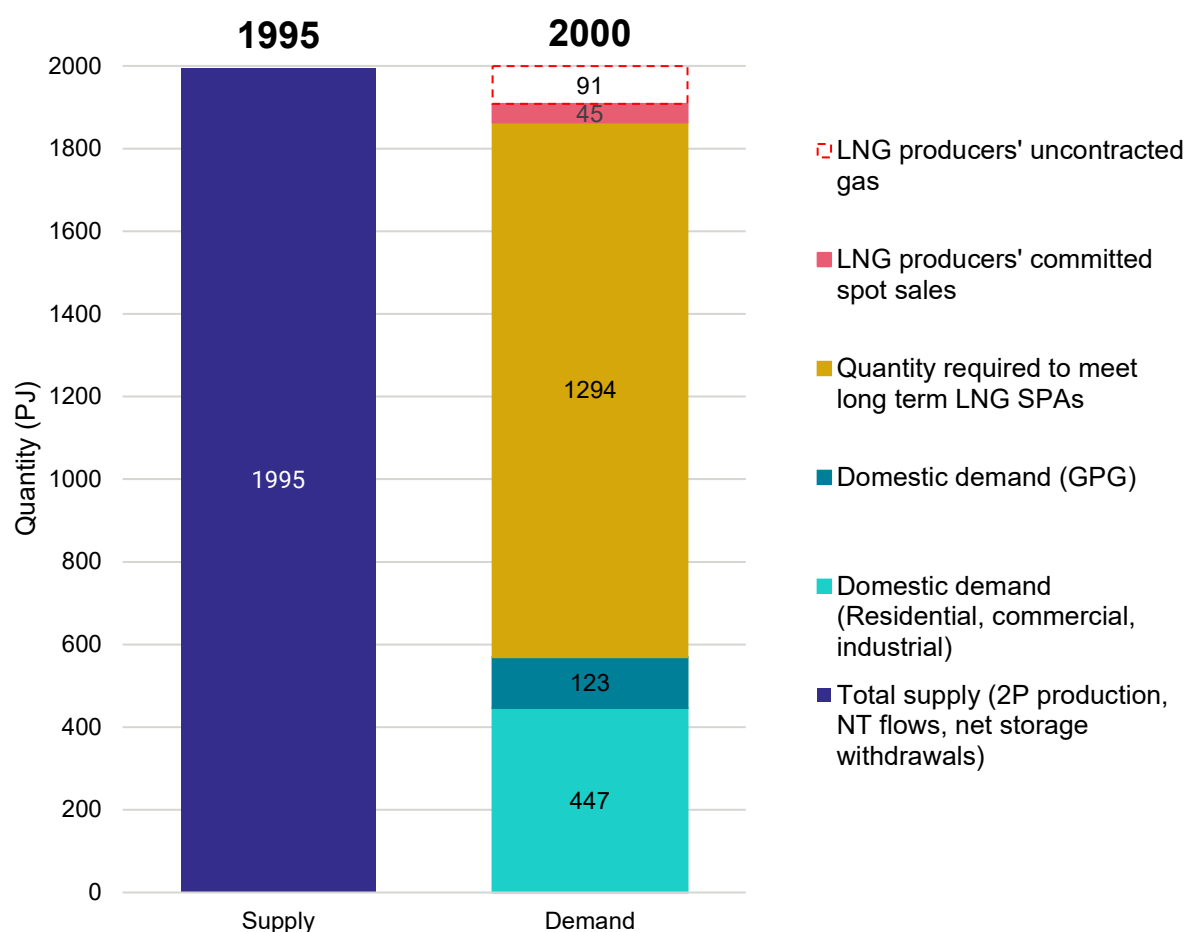
⁵ Department of Energy, Climate Change, Energy, the Environment and Water, 'Extending AEMO's functions and powers to manage supply adequacy in the east coast gas market, Consultation Paper', September 2022, 31.

⁶ Department of Energy, Climate Change, Energy, the Environment and Water, 'Extending AEMO's functions and powers to manage supply adequacy in the east coast gas market, Consultation Paper', September 2022, 31.

East Coast Supply-Demand Outlook for 2023

Chart 1 sets out the forecast supply-demand outlook in the east coast gas market for the 2023 supply year, based on the latest available information. The east coast gas market is forecast to have sufficient supply to meet demand, if the LNG producers commit at least 3 PJ of gas to the domestic market in addition to the gas they have already committed.⁷

Chart 1: Forecast east coast supply-demand balance in 2023 (PJ)



Source: ACCC analysis of data obtained from gas producers in January 2023 and the domestic demand forecast (Orchestrated Step Change scenario) from AEMO's 2023 GS00. Note: Totals may not add up due to rounding.

Our January 2023 interim report found that there would be sufficient supply to meet demand if LNG producers committed 30 PJ of uncontracted gas to the domestic market in addition to their existing commitments. The latest forecast of at least 3 PJ of gas needed is a material improvement in the supply-demand outlook.

The change in the supply-demand outlook is due to several factors including:

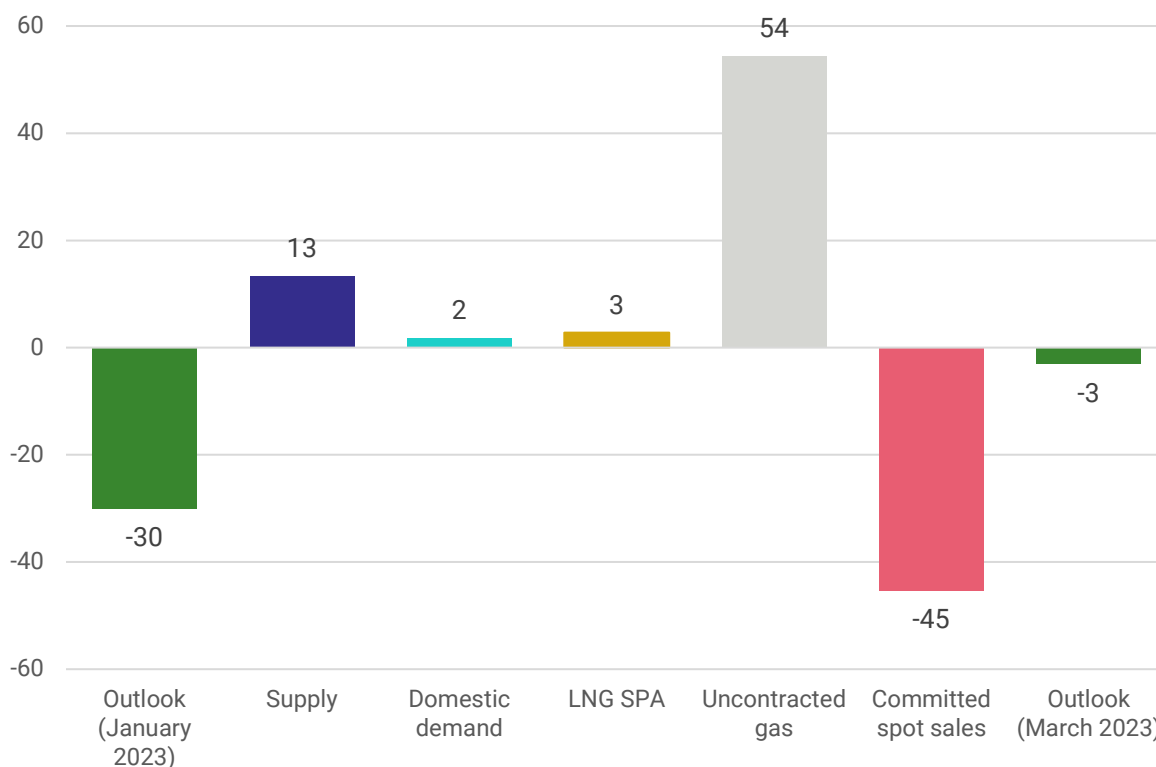
- a 13 PJ increase in supply from east coast producers

⁷ Note that due to rounding, Chart 1 shows a 4 PJ difference between supply and demand. Total supply for 2023 is 1996.46 PJ and total demand is 1999.57 PJ.

- a 3 PJ decrease in LNG long-term LNG exports
- a 2 PJ decrease in domestic demand
- a 54 PJ decrease in the LNG producers' uncontracted gas. However, the majority of this decrease is because the LNG producers have firmly committed 45 PJ to spot LNG cargoes and additional sales. This means there has only been a 9 PJ net decrease in potential demand due to LNG spot cargoes.

These changes in the supply outlook are shown in Chart 2 below.

Chart 2: Reasons for change in supply outlook in 2023 (PJ)



Source: ACCC analysis of data obtained from gas producers in January 2023 and the domestic demand forecast (Orchestrated Step Change scenario) from AEMO's 2023 GS00. Note: Totals may not add up due to rounding.

While we anticipate that the east coast gas market could experience a small supply shortfall in 2023, the magnitude of the shortfall will be determined by several key supply and demand factors. These factors could result in an improving or deteriorating supply-demand outlook.

As mentioned above, our analysis of the supply-demand outlook relies on the domestic demand forecasts produced by AEMO in its 2023 Gas Statement of Opportunities. The forecast for demand for the remainder of 2023 may differ due to variations in demand for GPG or other factors.

The key risks to supply could come from lower-than-expected gas production, and lower-than-expected gas flows from the Northern Territory into Queensland. These are set out in more detail in our January 2023 gas inquiry report.⁸

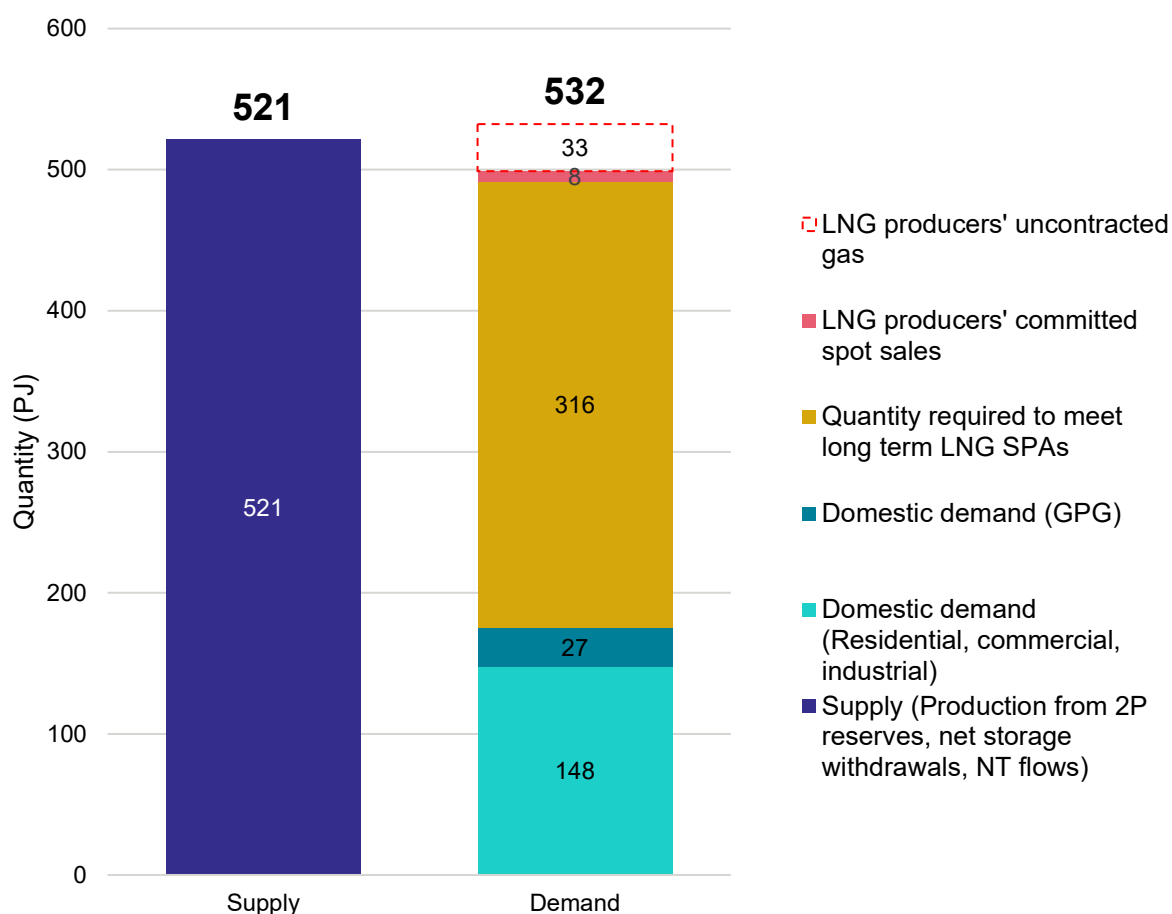
⁸ ACCC, 'Gas inquiry January 2023 interim report', *Gas Inquiry 2017-2030*, January 2023, 24-27.

Quarterly Supply-Demand Outlook for 2023

This section breaks down the supply-demand outlook for 2023 into the quarters of the calendar year. This quarterly outlook provides insights into the expected availability of gas throughout the year to meet forecast demand, including identifying whether there are specific seasons that are at risk of material supply shortfalls.

Chart 3 sets out the forecast supply-demand outlook for the upcoming winter months of July, August, and September (Quarter 3). There is expected to be sufficient supply to meet forecast demand supply in the third quarter if the LNG producers commit 11 PJ of uncontracted gas to the domestic market in addition to their existing commitments.

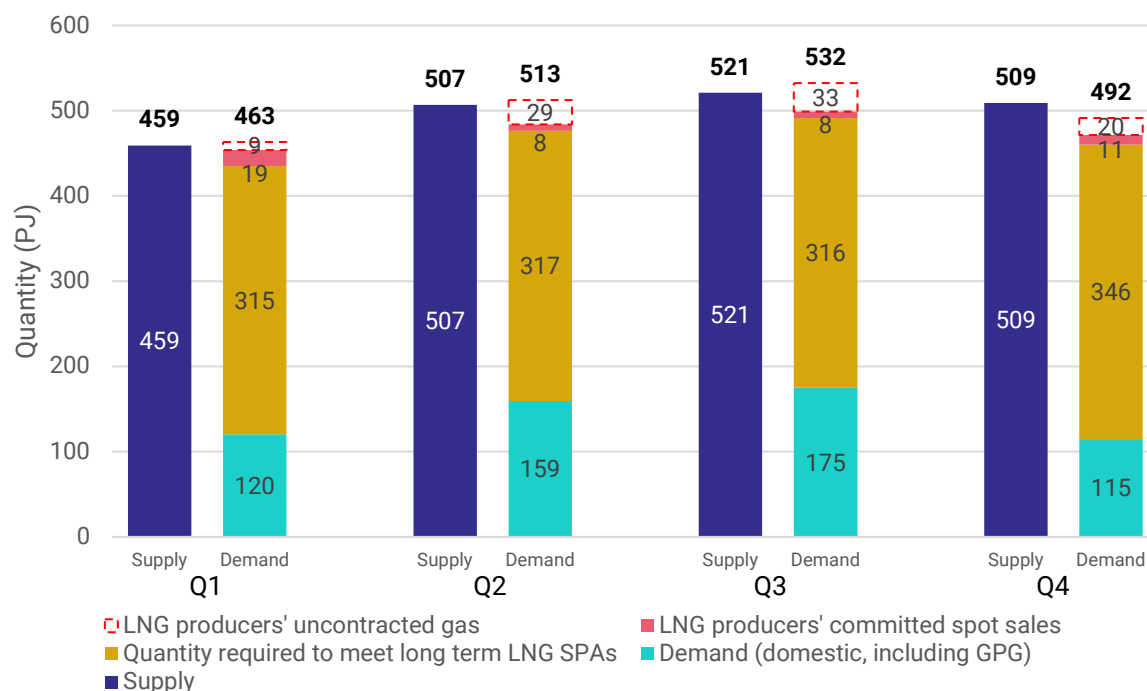
Chart 3: Supply-Demand Outlook in July to September (Quarter 3) of 2023 (PJ)



Source: ACCC analysis of data obtained from gas producers in January 2023 and of the domestic demand forecast (Orchestrated Step Change scenario) from AEMO's 2023 GS00. Note: Totals may not add up due to rounding.

Chart 4 shows the supply outlook for the remaining quarters of 2023 across the east coast gas market. In the first three quarters supply will be sufficient to meet forecast demand if the LNG producers commit more uncontracted gas to the domestic market. However, there is likely to be sufficient surplus gas in the fourth quarter (October to December), even if LNG producers export all uncontracted gas.

Chart 4: Quarterly Supply-Demand Outlooks for 2023 (PJ)



Source: ACCC analysis of data obtained from gas producers in January 2023 and of the domestic demand forecast (Orchestrated Step Change scenario) from AEMO's 2023 GS00. Note: Totals may not add up due to rounding, including to the totals shown in Chart 1.

To avert a shortfall in the third quarter of 2023, producers could bring forward supply (including using seasonal swaps) or LNG producers could supply some of their uncontracted gas into the domestic market.

Regional breakdown of supply and demand

Figure 1 shows a regional break down of supply and demand. This shows that:

- The southern states are expected to need at least an additional 26 PJ to be withdrawn from storage or to flow from Queensland to avoid a shortfall in the third quarter of 2023.
- Queensland is forecast to have at least a 15 PJ surplus in the third quarter of 2023, without considering any sales to the southern states.

The ACCC's January 2023 inquiry report identified potential transportation issues in delivering gas from Queensland to southern markets. This report showed that there is limited uncontracted southerly capacity (around 6 PJ) on the South West Queensland Pipeline (SWQP) from May to September 2023.

The SWQP's total nameplate capacity over the third quarter of 2023 is approximately 37 PJ.⁹ However, the first stage of APA's east coast grid expansion is due to be completed in March 2023, and will increase the SWQP's capacity by 12%, or approximately 4.5 PJ over the third quarter.^{10,11} If the SWQP's capacity is utilised, it should be sufficient to avoid a shortfall in the southern states.

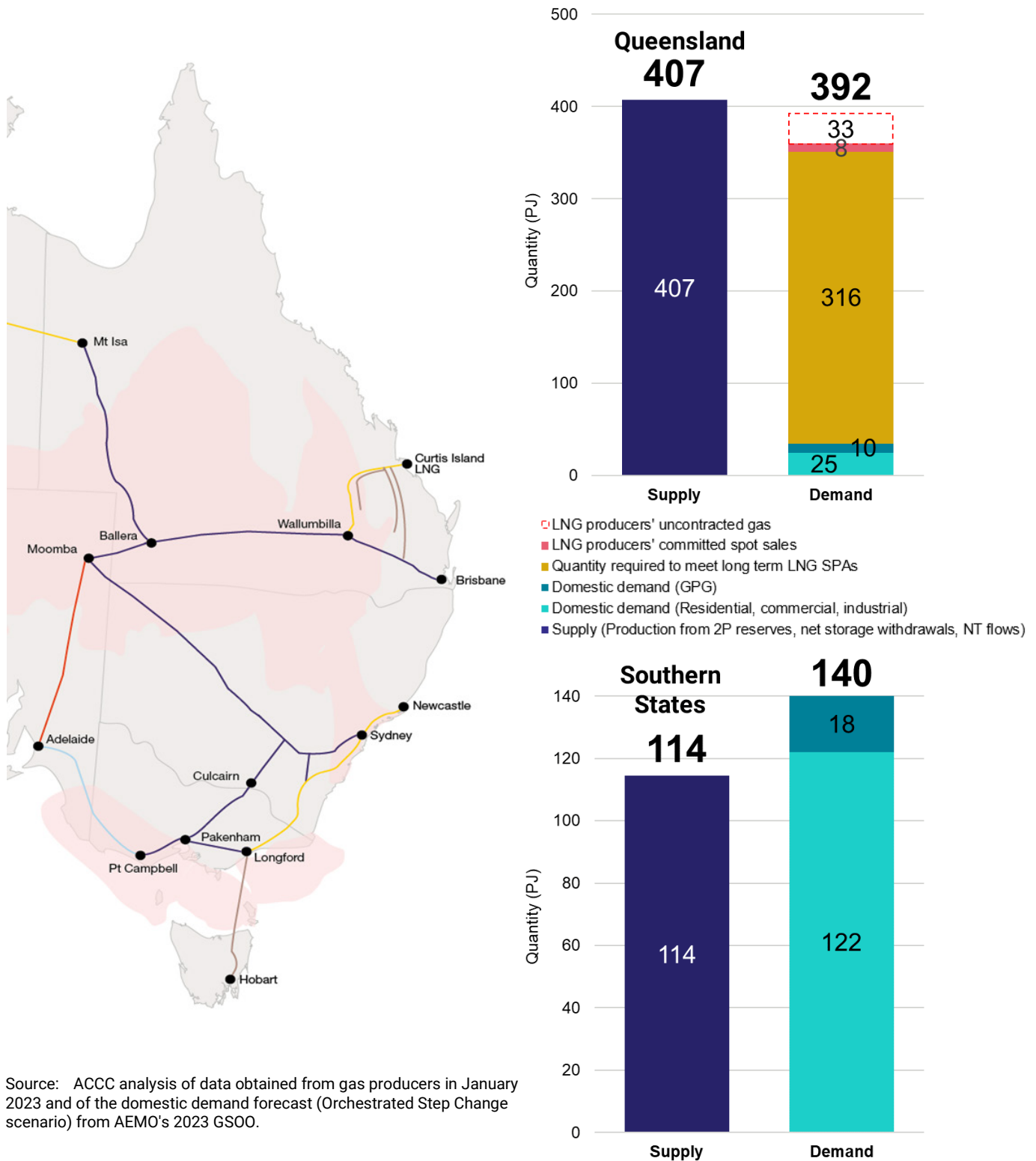
⁹ APA, 'SWQP Vertigan Schematics: South West Queensland Pipeline', *South West Queensland Pipeline*, March 2023.

¹⁰ The completion of APA's first stage of their east coast grid expansion is estimated to increase capacity between Wallumbilla and Wilton by 12% before winter (Q3) 2023. This also includes an expansion of the Moomba Sydney Pipeline.

¹¹ APA, '[East Coast Grid Expansion](#)', *Our Projects*, March 2023.

Where gas is also due to be shipped from the southern states to Queensland in the third quarter, there may be opportunities for swaps to occur to bring further gas to the south. This will reduce reliance on the SWQP.

Figure 1: Regional Supply Outlooks in Quarter 3 of 2023 (PJ)



Source: ACCC analysis of data obtained from gas producers in January 2023 and of the domestic demand forecast (Orchestrated Step Change scenario) from AEMO's 2023 GS00.

The LNG Producers

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

Table 2 shows the forecast aggregated supply and demand breakdown for the LNG producers in 2023. This mirrors Table 1.1 in our January 2023 interim report, but now includes committed, instead of expected, LNG spot cargoes and additional sales.

Table 2: LNG Producers Supply-Demand Outlook in 2023 (PJ)

	Q1	Q2	Q3	Q4	2023 total
Supply					
Production from 2P reserves + net storage withdrawals	340	353	360	363	1416
3rd party purchases from suppliers other than LNG projects	41	43	44	49	176
Total supply available to LNG producers	381	396	404	412	1593
Contracted demand					
Quantity required to meet domestic GSAs	38	43	47	35	163
Quantity required to meet LNG SPAs	315	317	316	346	1294
Contracted LNG spot cargoes and additional sales	19	8	8	11	45
Total contracted demand	372	367	371	392	1502
LNG producers' uncontracted gas (total supply – total demand)	9	29	33	20	91

Source: ACCC analysis of data obtained from LNG producers as at January 2023. Note: Totals may not add up due to rounding. The quantity required to meet the contractual obligations under the long-SPAs includes the feed gas required to produce LNG (such as fuel).

The LNG producers are expected to have 91 PJ of uncontracted gas in 2023. This is 54 PJ less than forecast in our January 2023 report and is primarily due to 45 PJ of uncontracted gas being committed as LNG spot cargoes and additional sales.

The LNG producers have also committed an additional 5 PJ of gas to the domestic market.

Quarterly outlook

The LNG producers are expected to have excess uncontracted gas in all quarters of 2023. This could be sold domestically, sold internationally as LNG spot cargoes, or stored. LNG producers expect to have 33 PJ of uncontracted gas in the third quarter of 2023.