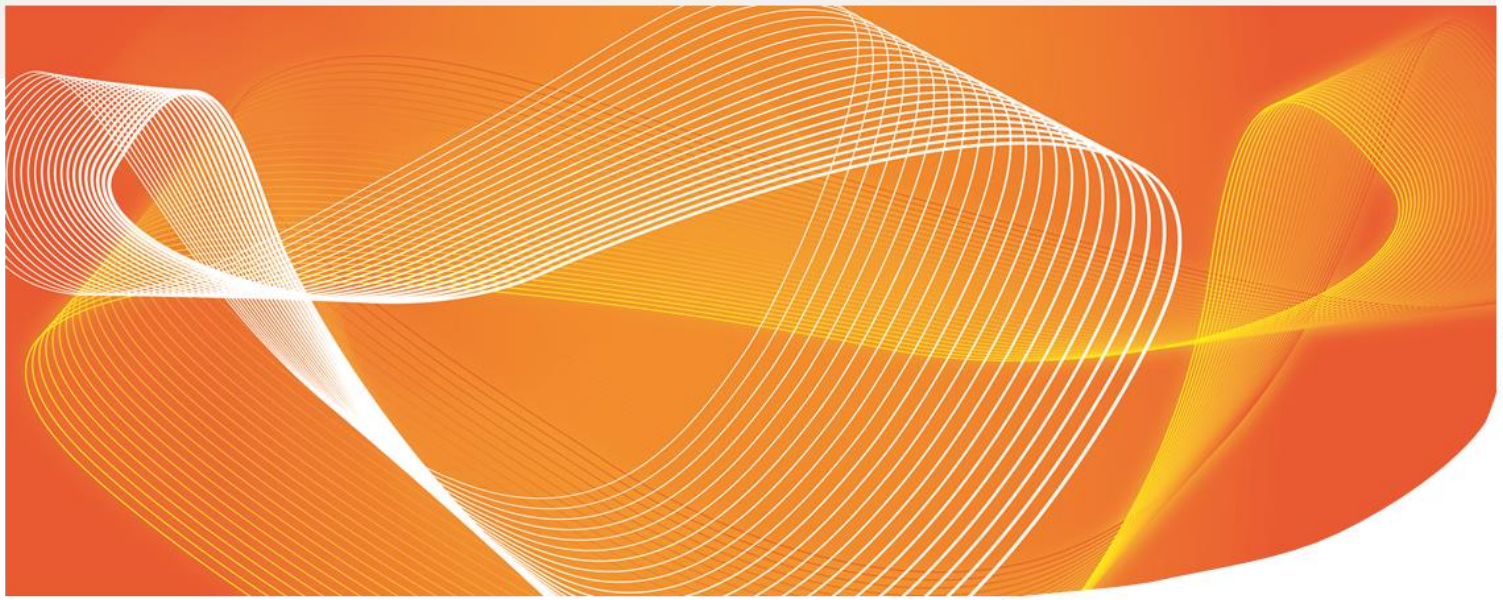
GAS STATEMENT OF OPPORTUNITIES UPDATE

Published: **May 2014**



AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

1.1 Responding to a changing market

The eastern and south-eastern Australian gas industry is undergoing a period of marked change. The domestic market is increasingly influenced by liquefied natural gas (LNG) exports, and total gas demand is expected to treble over the next two decades to 2033.

This update to AEMO's Gas Statement of Opportunities (GSOO) highlights recent changes to infrastructure and demand that could influence natural gas investment on Australia's east coast. It is based on new information as at March 2014.[1]

Since the GSOO was published in November 2013, the short-term outlook remains unchanged to 2017; however, the medium-term outlook shows shortfalls could reduce, particularly in New South Wales and Queensland.

AEMO welcomes stakeholder feedback on the frequency and content of this update by email at planning@aemo.com.au.

Short-term changes (2014 to 2017)

Short-term projected gas shortfalls remain unchanged to 2017, and reach up to two petajoules per year (PJ/year) across Gladstone and Mount Isa.

Announced delays in the timing of gas production facilities for LNG export mean additional gas will need to be sourced in the short term. However, this is offset by:

- Changes to forecast gas demand for LNG export (both the initial output and ramp rates), resulting in an average reduction of 123 terajoules per day (TJ/day) between 2014 and 2015, and an average increase of 92 TJ/day between 2016 and 2018.
- A five-year supply agreement for up to 100 PJ between Origin Energy and Gladstone Liquefied Natural Gas (GLNG) from 2016.
- Decreased demand for gas-powered generation due to Stanwell Corporation announcing its intended withdrawal of the Swanbank E Power Station for up to three years from October 2014. This reduces domestic gas demand by approximately 17 PJ over the three-year period.

Medium-term changes (2018 to 2020)

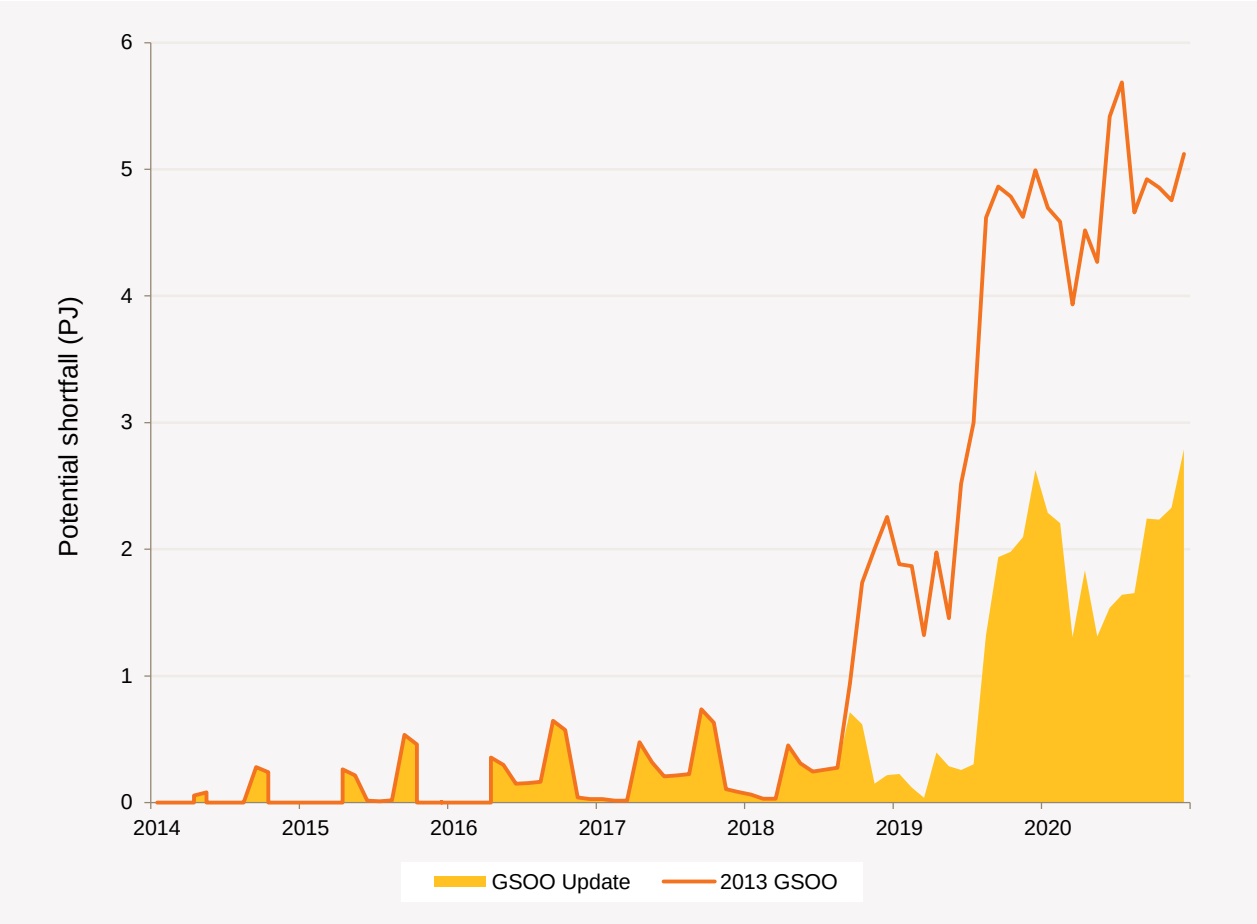
Medium-term modelling shows projected gas shortfalls could reduce by almost 66 PJ compared with similar modelling in November 2013.

- Gladstone shortfalls are projected to be 16,578 TJ spread evenly across the year in 2020 (down from 48,356 TJ). This reduction is driven by the new five-year Origin–GLNG supply agreement, which replaces 55 TJ/day of gas in Queensland that was drawn from other sources in the 2013 GSOO.
- New South Wales shortfalls of 47 TJ are projected across four winter days in 2020 (down from 2,083 TJ across 86 days, with 75 in winter). This reduction is driven by a proposed 100 TJ/day development at Narrabri in New South Wales from 2018.

Figure 1 compares market-wide results on a monthly basis across the forecast period.

[1] The GSOO update has not considered any change to mass market and large industrial gas demand.

Figure 1 — Gas Shortfalls: May 2014 GSOO Update compared to 2013 GSOO



1.2 LNG export market changes to supply and demand

Changes announced in the timing of new gas production facilities have seen some LNG export businesses secure third-party supply agreements to meet their export commitments in the short-term (2014–17).

New LNG demand projections

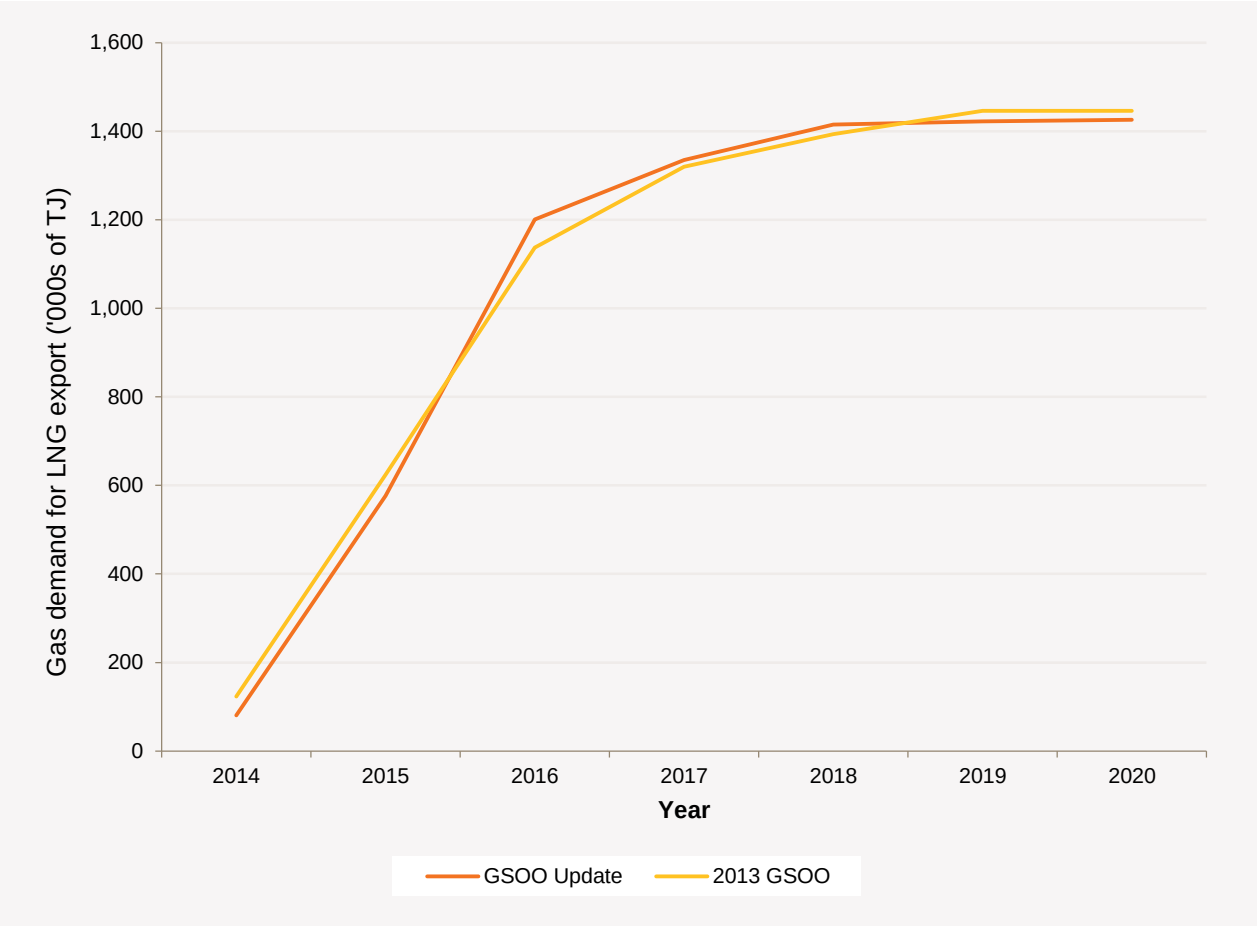
Since publication of the 2013 GSOO, AEMO has updated its projections of LNG exports and associated gas and electricity consumption. The new projections show changes in the expected ramp-up profile for the Queensland Curtis LNG (QCLNG), GLNG, and Australia Pacific Liquefied Natural Gas (APLNG) projects.

QCLNG and APLNG are expected to reach full capacity in 2016 and 2017 respectively; however, the latest LNG demand projections show a reduced demand from these facilities during the ramp-up phase.

In contrast, the GLNG project is now expected to reach full capacity in 2018, six months earlier than previously assumed.

Figure 2 compares total 2013 GSOO LNG demand with this GSOO Update. The updated projections show an average demand reduction of 123 TJ/day between 2014 and 2015, and an average demand increase of 92 TJ/day between 2016 and 2018.

Figure 2 — Gas demand for LNG export comparison: 2013 GSOO and GSOO Update



QCLNG production delays

In January 2014, QCLNG publicly announced that gas production at its facilities had been delayed until the final quarter of 2014, representing a five-to seven-month delay compared with earlier assumptions. This announcement, combined with the revised LNG demand projections, has a negligible impact on the 2013 GSOO modelling results.

QCLNG advised that third-party gas arrangements will be used to meet its export commitments until its production facilities are fully operational.

New GLNG supply agreement

In December 2013, Origin Energy announced it would supply up to 100 PJ of gas to the GLNG project from Wallumbilla over a five-year period commencing January 2016. This represents 55 TJ/day of processing capacity at Spring Gully in Queensland, in addition to the existing Origin supply contract of 100 TJ/day that was included in the 2013 GSOO.

In the 2013 GSOO, some gas originally intended for domestic supply was prioritised for LNG export. The new 55 TJ/day commitment to GLNG allows this gas to be redirected to the domestic market. This could alleviate up to 30 PJ of projected shortfall in Gladstone from 2018, once the LNG ramp-up phase is complete.

GLNG advises it also has an option to obtain an additional 94 PJ of gas from Origin over a five-year period. This option has not been included in this GSOO Update analysis.

Santos have advised they are installing additional compression capacity at Wallumbilla to increase the Comet Ridge Pipeline capacity to 910 TJ/d by the fourth quarter 2014. While this changes the flow of gas in meeting demand at GLNG, it does not affect the 2013 GSOO supply shortfalls.

1.3 Temporary withdrawal of Swanbank E

In February 2014, Stanwell Corporation announced its intention to withdraw the gas-powered Swanbank E Power Station for a three-year period from October 2014. Stanwell attributes this to decreased electricity consumption and increased gas prices, prompting it to sell gas into the market rather than use it for electricity generation.

While this reduces modelled gas demand in Queensland by approximately 17 PJ over the three-year period and makes the resulting gas available to the market, it does not alleviate the projected shortfalls at Mount Isa and Gladstone, which are limited by pipeline capacity constraints.

In the 2013 GSOO, Jemena advised that a minor augmentation of Queensland Gas Pipeline capacity is planned, with commissioning expected in 2015.

Other gas-powered plant operators are also considering diversifying their portfolios by making gas available to the market which may be used for domestic or export supply. For example, Alinta Energy sells gas that is not required for its Braemar Power Station through the Wallumbilla Gas Supply Hub.

1.4 New South Wales supply shortfalls

The 2013 GSOO highlighted potential shortfalls within New South Wales driven by increasing gas requirements, LNG exports and slow development of local coal seam gas reserves, particularly during peak demand times in winter.

In a move that may reduce these shortfalls, Santos and the New South Wales Government signed a Memorandum of Understanding (MOU) for the Narrabri gas project in February 2014.[2] Under the MOU, the New South Wales Government assures streamlined approvals process coordination, with Santos agreeing to provide a high quality environmental assessment and a comprehensive community consultation. This project was referred to as the Gunnedah project in the 2013 GSOO.

In this GSOO Update, Narrabri is represented as a 100 TJ/day processing facility and a 100 TJ/day pipeline from Narrabri to Young, commencing from 2018.

The Narrabri project, combined with proposed new production in the Gloucester Basin, could reduce shortfalls in New South Wales to 47 TJ across four winter days in 2020, down from 2,083 TJ across 86 days projected in the 2013 GSOO.

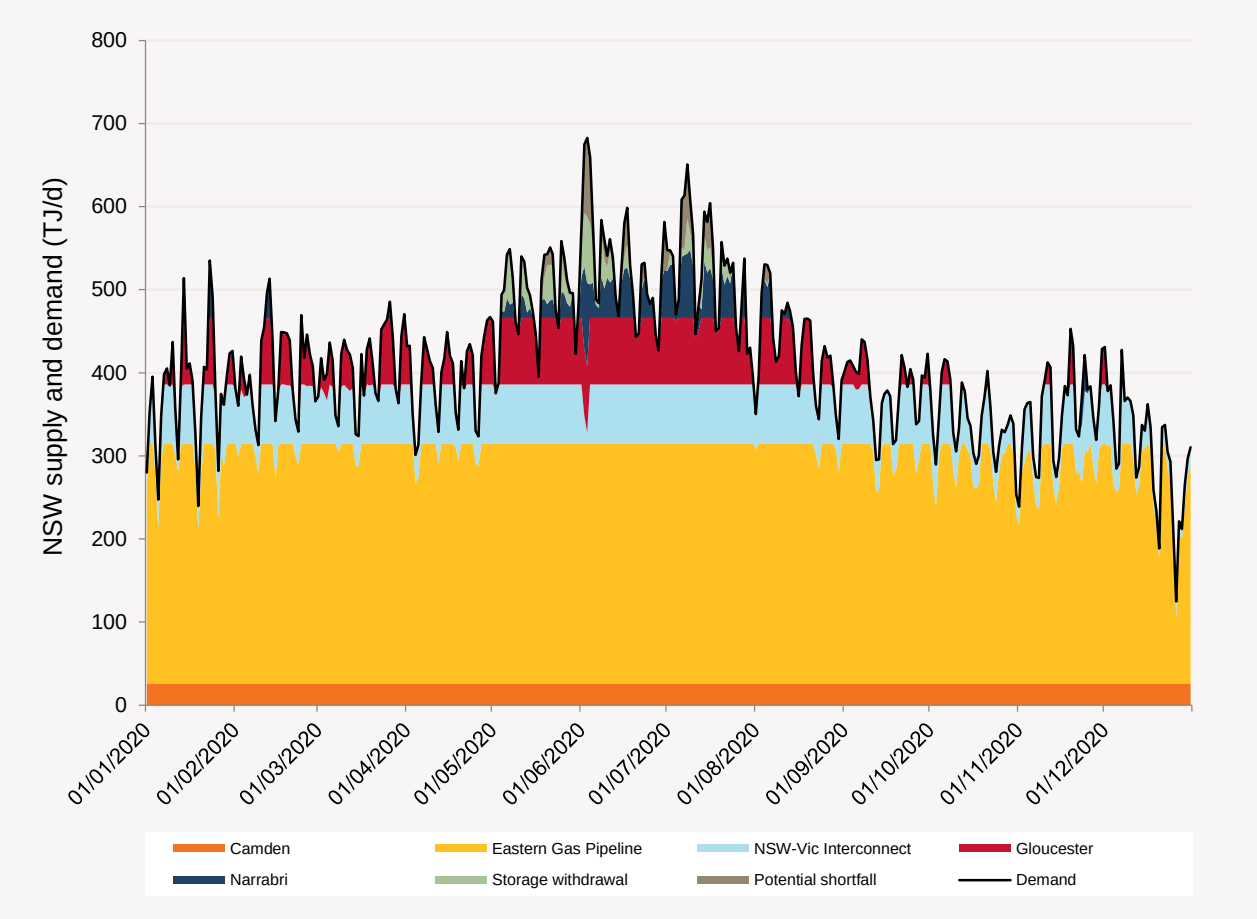
However, if production in Queensland and South Australia is prioritised for export—which restricts flows on the Moomba to Sydney Pipeline (MSP)—potential shortfalls in New South Wales could increase to 1,330 TJ across 53 days in 2020.

Figure 3 shows projected daily supply and demand for New South Wales in 2020 under conditions of reduced flow availability on the MSP.

Santos indicates that the Narrabri project has the potential to supply an additional 100 TJ/day to the domestic market over and above the 100 TJ/day outlined in the MOU. This is not included in this GSOO Update.

[2] Available at: http://www.resourcesandenergy.nsw.gov.au/__data/assets/pdf_file/0005/506912/memorandum-understanding-narrabri-project.pdf.

Figure 3 — Projected daily supply and demand for New South Wales in 2020 under reduced flow on the MSP[3]



1.5 Addressing information gaps

Recent gas market reviews, including a joint report by the Department of Industry (DOI) and Bureau of Resources and Energy Economics (BREE), and a report by the Victorian Government Gas Market Taskforce, conclude that there are information gaps in the east coast gas market, and that greater transparency is required.

In particular, these reviews recommend that the GSOO include a comprehensive forecast of gas market data and that it more specifically target potential investor requirements. The 2013 GSOO began to address these recommendations by publishing more detailed reserve and demand data, and reporting on a broader range of investment scenarios and solutions.

In 2014, AEMO is continuing to address the identified information gaps by:

- **Preparing a National Gas Forecasting Report (NGFR)**

  This annual publication will support efficient investment in the gas market by providing greater transparency of gas demand assumptions and more granular analysis of gas consumption data. Industry consultation is currently underway and the NGFR will be published by 31 December 2014.

[3] Supply sources in this figure are stacked according to assumed production and transport costs. It does not represent the expected contribution or operating behaviour of these sources in the physical market.

- **Increasing the frequency of gas market updates**

  Improving the GSOO's usefulness to investors is a key recommendation from the DOI and BREE 2013 gas market study. In response, AEMO now publishes GSOO Updates to provide timely information about changes that may impact investor decisions.

- **Aligning the GSOO and Victorian Gas Planning Report publications**

  In March 2014, the Australian Energy Market Commission (AEMC) approved Rule Changes that align publication of the GSOO and Victorian Gas Planning Report (VGPR) to 31 March from 2015. This change improves consistency between the reports, removes duplicated effort, and allows them to utilise the most recent winter demand trends. The next GSOO and VGPR will be published by 31 March 2015.

- **Launching the Wallumbilla Gas Supply Hub**

  The Wallumbilla Gas Supply Hub, the first gas commodity market of its type in Australia, commenced on 20 March 2014. The new voluntary market is expected to increase transparency and competition in the gas market, and provide a reference point for gas prices in the longer term.

- **Improving the Gas Market Bulletin Board**

  The Gas Market Bulletin Board (GBB) delivers a range of near-term gas market information to increase market transparency. In March 2014, the Standing Council on Energy and Resources (SCER) directed AEMO to improve GBB accessibility, coverage, and data quality.

  AEMO is redeveloping the GBB in consultation with industry, and will deliver a scoping document to the SCER by mid-June 2014. Key milestones include an improved GBB interface by the end of 2014, implementation of a capacity listing service by early 2015, and any additional data collection and publications to be in place by early 2016.

AEMO welcomes stakeholder feedback on these initiatives by email at planning@aemo.com.au.