LNG

Trade map | June 2020

- United States 11%
- EU 25%
- Qatar 21%
- South Korea 11%
- China 17%
- India 7%
- Russia 8%
- Taiwan 5%
- Japan 22%
- Australia 22%

Top 6 importers
Top 5 exporters
Australia's export earnings, by destination

Data is for 2019

Gas | Resources and Energy Quarterly June 2020

7.1 Summary

- Australian LNG export prices have fallen to record lows, due to the sharp decline in both oil-linked contract prices and Asian LNG spot prices. Both spot and contract LNG prices are forecast to gradually recover from these lows over the next two years.
- The rapid expansion of Australia’s LNG capacity is coming to an end. Australia’s LNG exports reached an estimated 79 million tonnes in 2019–20, and are forecast to edge up to 80 million tonnes by 2021–22.
- Australia’s LNG exports earnings are forecast to decline from an estimated $47 billion in 2019–20 to $35 billion in 2020–21, weighed down by low contract and spot prices, before edging up to $36 billion by 2021–22.

7.2 Prices

Plunging oil prices will weigh on LNG contract prices

Almost three-quarters of the LNG traded in Asia is sold on long-term contracts, which link the price of LNG to the price of oil with a time lag of several months (commonly the Japanese customs-cleared crude, JCC). Oil prices began declining sharply in March 2020, due to the combined impact of falling consumption and inadequate production cuts (see the oil chapter).

Consequently, the indicative LNG contract price is expected to reach a near record low in the September quarter, before making a modest recovery over 2021 and 2022 (Figure 7.1). However, LNG contract prices could remain below the average in the period between 2015 and 2019, due to the ongoing impacts of COVID-19 on oil prices.

Some Asian LNG contracts include a varying pricing slope known as an ‘s-curve’, which lowers the sensitivity of LNG prices to oil price changes at very high and very low oil prices, and could act to cushion the impact of low oil prices on LNG contract prices.

There is substantial uncertainty surrounding the outlook for oil prices — and consequently LNG contract prices. This uncertainty is explored further through scenario analysis (Box 8.1 in the oil chapter).

Figure 7.1: LNG spot and contract prices, quarterly

Notes: The ANEA (Argus Northeast Asia) spot price is shown. LNG prices are DES (Delivered Ex Ship). DES prices include shipping and insurance. The long-term oil-linked contract price is indicative only, and is estimated at 14 per cent of the 3-month lagged Japan Customs-cleared crude oil price plus shipping.

Source: Argus (2020); Bloomberg (2020); Department of Industry, Science, Energy and Resources (2020)

Asian LNG spot prices at record lows

While falling LNG spot prices — due to an oversupplied global LNG market — have been anticipated for some time, Asian LNG spot prices have repeatedly dipped to unprecedented lows in the first half of 2020. The Asian LNG spot price fell to a record low of US$1.70 per mmBtu at the end of April, and remained below the US$2.50 per mmBtu mark in May and the first half of June.

COVID-19 containment measures have resulted in gas and LNG demand falling substantially across the power, industrial and transport sectors around the world. The demand destruction as a result of COVID-19 has exacerbated the supply glut in global LNG markets, and placed further downward pressure on LNG spot prices. The extent to which a demand response to low prices and the build-up of gas in storage can support spot prices is expected to become increasingly limited. There are constraints to how much coal-to-gas switching can occur. Further, many North East...
Asian customers purchase the bulk of their LNG on long-term contracts, with little room to move to the spot market. Lastly, storage capacity has filled up faster than usual, particularly in Europe, due to the recent mild winter. As a result, supply cuts are appearing increasingly likely.

Asian LNG spot prices are expected to gradually recover as the impacts of COVID-19 ease, to average US$5.60 per mmBtu by 2022 (Figure 7.1). Demand growth, supported by global economic recovery, combined with slowing supply growth is expected to help rebalance the market in 2021 and 2022. However, the outlook for global LNG markets is subject to considerable uncertainty, with the pace and shape of the global economic recovery a key risk (see the macroeconomic outlook chapter).

7.3 World trade

In 2019, LNG trade totalled an estimated 353 million tonnes, an increase of 43 million tonnes, or 14 per cent, from 2018. Growth in global LNG supply capacity — primarily from the US, Russia and Australia — has rapidly outpaced demand growth in the last few years. This has resulted in a supply glut, which has been exacerbated in 2020 by the impacts of COVID-19 on LNG demand. With the exception of China, LNG imports from most major Asian buyers fell on a year-on-year basis in April and May (Figure 7.2). In the meantime, global LNG capacity has continued to grow, largely driven by the ongoing ramp up of new projects in the US.

Global LNG trade is expected to grow by 1 per cent in 2020 — a substantially slower rate than initially expected in the March 2020 Resources and Energy Quarterly, due to the impacts of COVID-19 on LNG demand. While global gas consumption is forecast to decline by 4 per cent in 2020, the first contraction in 11 years, LNG trade is still expected to grow, at the expense of both pipeline gas and domestic production. Growth in LNG trade is expected to be supported by the ongoing ramp up of new LNG projects and the associated growth in contracted supply, and low LNG spot prices. The expansion in global LNG supply capacity is expected to slow dramatically in 2021 and 2022, and the global LNG market is expected to become less oversupplied, as demand recovers and absorbs the available capacity (Figure 7.3).
7.4 World imports

China to remain a key driver of LNG demand growth

The impacts of COVID-19 on LNG demand in China — the world’s second largest LNG importer — were largely concentrated in February and March 2020, with LNG imports declining by an estimated 7.1 per cent relative to the same period in 2019 (Figure 7.4). LNG imports rebounded sharply in April and May, as restrictions eased and economic activity picked up. In April, China imported its first US LNG cargo since March 2019. The recommencement of Chinese imports of US LNG will contribute to China’s commitment under the Phase One trade deal to buy US$52 billion of energy products from the US in 2020 and 2021. However, low oil and LNG spot prices will make meeting this target a challenge.

Despite the impacts of COVID-19 at the start of the year, China’s LNG imports are forecast to reach 68 million tonnes (up 12 per cent) in 2020. As China is ahead of the global recovery curve, it presents LNG exporters with the best prospects to absorb some excess supply in 2020. Smaller uncontracted Chinese buyers have reportedly raised spot LNG purchases to take advantage of low prices. However, the impact of slowing global economic growth on China’s export-oriented sectors, and the risk of further COVID-19 containment measures presents a downside risk to the outlook.

Beyond 2020, China’s gas demand is expected to be driven by the industrial sector and a policy-driven expansion of gas-fired power generation to reduce air pollution. China is expected to remain the key source of global LNG demand growth, with LNG imports forecast to reach 83 million tonnes by 2022 — making China the world’s largest importer of LNG by the end of the outlook period (Figure 7.5).

While LNG imports are expected to play a major role in meeting China’s growing demand for gas, LNG is expected to face competition from domestic gas and pipeline imports. The Power of Siberia pipeline opened in December 2019, and is expected to ramp up over the next five years. The outlook for China’s LNG demand is also sensitive to future energy and environmental policies, which are subject to considerable uncertainty as government priorities change due to the impacts of COVID-19.
Japan’s LNG imports forecast to stagnate in 2020

The impact of COVID-19 on LNG imports by Japan — the world’s largest buyer of LNG in 2019 — was limited in the March quarter, with imports increasing by 15 per cent year-on-year. Several buyers reportedly sought deferrals of cargoes for April-June 2020 delivery in anticipation of weaker demand. A national state of emergency from 7 April to 25 May resulted in declining power demand, and Japan’s LNG imports consequently fell by 5.4 per cent in April and 25 per cent in May on a year-on-year basis.

Despite the recent sharp falls, Japan’s volume of LNG imports in 2020 is expected to decline only marginally by 3 per cent to 74 million tonnes (Figure 7.5), given countering trends. The impact of lower power demand on LNG imports due to the COVID-19 pandemic is expected to be largely offset by nuclear reactor shut downs, which results in greater gas-fired power generation. Four reactors are expected to be shut in 2020 to complete anti-terrorism upgrades. A fifth reactor is also expected to remain offline until the end of 2020, due to a court injunction.

Beyond 2020, Japan’s LNG imports are forecast to remain largely flat at around 74-75 million tonnes. The return of nuclear power generation and declining share of gas in Japan’s energy mix are expected to weigh on future LNG demand in Japan. However, there are significant risks of delays and slippages in nuclear restarts, which remains the key uncertainty affecting the outlook for Japan’s LNG imports.

LNG to play a larger role in Taiwan’s energy mix

Taiwan’s LNG imports appear to have been relatively resilient amidst the COVID-19 pandemic. Taiwan appears to have contained the COVID-19 outbreak early, and also avoided the lockdowns seen in many countries. As a result, energy consumption has remained relatively robust, consistent with overall economic activity in Taiwan. LNG imports have decreased marginally by 2.0 per cent year-on-year in the first five months of the year.

Taiwan’s LNG imports are forecast to increase over the next two and a half years. Taiwan’s energy plan envisages the share of gas in the energy mix rising from 34 per cent to 50 per cent by 2025, to be supported by an additional 6 mtpa of LNG import capacity. However, there is some uncertainty regarding this target, given the history of significant delays to major infrastructure projects, including LNG import terminals.

South Korea’s LNG imports forecast to recover after 2020

South Korea’s LNG imports declined by 22 per cent year-on-year in April and May (Figure 7.2), due to a decline in power demand as a result of COVID-19. Kogas — South Korea’s largest LNG buyer — reportedly requested delays to shipments for May to October, in anticipation of weaker demand. South Korea’s LNG imports are forecast to decline to 37 million tonnes in 2020, due to the impacts of COVID-19 and higher nuclear power generation, with an addition of a new nuclear reactor in October.

South Korea’s LNG imports are forecast to recover in 2021 and 2022 (Figure 7.5), supported by an assumed economic recovery and supportive government policies. These policies include lower consumption taxes on gas relative to coal, a fine dust policy — which reduces coal-fired power generation in winter, resulting in higher gas demand — and a long-term goal to boost the share of gas in its energy mix. South Korea’s draft ninth Basic Energy Plan was released on 7 May, which includes plans to shut 15.3 GW of coal-fired capacity by 2034, with 12.7 GW of this capacity to be switched to run on LNG.

India’s LNG imports have dropped sharply after a strong start to the year

Indian LNG buyers took advantage of low LNG spot prices at the start of 2020, absorbing much of the excess supply. In February and March, India’s LNG imports increased by 7.2 per cent relative to the same period in 2019 (Figure 7.2). India’s lockdown — which began on 24 March and was extended to 30 June for key containment zones — has since reduced gas demand, and resulted in several buyers and ports declaring ‘force majeure’ on LNG cargoes. India’s LNG imports declined by 25 per cent year-on-year in April and May. India is expected to return to opportunistically purchasing LNG at record low spot prices after the lockdown is lifted. However, this is subject to considerable uncertainty, and will largely depend on the speed and shape of India’s economic recovery and subsequent growth in energy demand.
From 2021, India is expected to be a major source of LNG demand growth (Figure 7.5). The Indian government is aiming to lift the share of gas in its energy mix from around 6 per cent currently to 15 per cent in 2030, although the target is considered to be ambitious. While India’s domestic gas production is expected to grow, it is unlikely to keep pace with demand, with the country’s gas sector facing a range of challenges. LNG imports are expected to help fill the gap. A key constraint to LNG import growth will be inadequate pipeline infrastructure, which is needed to move LNG from coastal ports to inland demand centres.

Europe’s LNG imports projected to decline from record highs

Europe imported a record 87 million tonnes of LNG in 2019, 71 per cent higher than 2018 volumes. Europe — known as the ‘destination of last resort’ for LNG, due to its extensive storage capacity — absorbed a large share of the increase in global LNG production in 2019.

Strong import growth appears to have continued in early 2020, despite the impacts of COVID-19: Europe’s LNG imports increased by 37 per cent year-on-year in the first five months of the year, largely at the expense of pipeline imports and production from Norway and the Netherlands.

Despite the strong start to the year, Europe’s LNG imports in 2020 are forecast to be only slightly higher than 2019 levels. Gas storage capacity was close to full at the seasonal peak in October 2019, and will likely reach full capacity at an earlier stage in 2020: the level of gas in storage was already 35 per cent higher year-on-year in March. The high levels of gas in storage is expected to limit opportunities for Europe to further absorb excess global LNG supply. Opportunities for coal-to-gas switching are also beginning to be exhausted.

From 2021, LNG imports are expected to face increasing competition from imports of pipeline gas, offsetting the impacts of declining European gas production. Though the project has been subject to numerous delays, the Nord Stream II gas pipeline, with a capacity of 55 bcm per annum (40 mtpa), is expected to commence operations in early 2021.

7.5 World exports

Global LNG exports in 2020 have been revised down

The rapid expansion in global LNG supply capacity seen over the last few years is expected to continue in 2020, driven by the continued ramp up of new operations in the US, Australia and Russia. Five new large scale LNG projects — with a combined nameplate capacity of 42 million tonnes — commenced production in 2019.

However, exports will likely grow at a slower pace than originally expected, with global LNG trade in 2020 revised down by 4 per cent from the March 2020 Resources and Energy Quarterly to 356 million tonnes. With spot and oil prices below breakeven costs of many LNG producers, producers have been responding with production cuts, extended maintenance schedules, and slowed construction or ramp up of new projects.

Growth in global LNG capacity is set to slow dramatically in 2021 and 2022, as LNG projects finish ramping up (Figure 7.6). The outlook for investment in new LNG projects has weakened substantially. The impact of low oil prices could result in the deferral of final investment decisions (FIDs) which could result in a supply deficit by the mid to late-2020s.

Figure 7.6: LNG supply capacity and global demand

Notes: Nameplate capacity is the theoretical maximum annual production capacity
Source: Department of Industry, Science, Energy and Resources (2020); Nexant (2020)
World Gas Model
Qatar’s LNG exports are expected to hold steady
Qatar exported an estimated 75 million tonnes of LNG in 2019, making it the world’s second largest exporter after Australia. LNG exports were largely resilient in the first five months of 2020, growing by an average of 2.7 per cent year-on-year (Figure 7.7). Qatar’s LNG exports are forecast to remain largely steady over the outlook period, at about 75 million tonnes. Qatar Petroleum officials reaffirmed plans to construct another two LNG ‘mega trains’ — to raise LNG production capacity to 126 million tonnes by 2027 — but have postponed the start of production by 3-6 months to 2025.

The US is expected to be the key source of LNG export growth
US exports surged by 47 per cent to 34 million tonnes in 2019, driven by the ramp up of three new LNG projects. US LNG exports grew by 96 per cent year-on-year in the first five months of 2020 (Figure 7.7). However, the pace of growth slowed substantially in May, and US LNG output cuts appear likely. In May, Henry Hub futures settled above both Asian and Europe benchmarks, meaning that the price of procuring feed-in gas for US LNG is above the price US exporters may achieve in Asia and Europe. US LNG exports are expected to grow at a slower-than-expected pace in 2020, as a result of persistently weak global demand and low prices. US LNG export growth is expected to bounce back in 2021, in line with global demand, and reach 58 million tonnes by 2022. Weak market conditions have resulted in (and may continue to drive) FID deferrals, which could impact on the pace of US LNG exports in the longer term.

Mixed results from other major exporters
Despite an outbreak of COVID-19 cases at several Russian LNG facilities, Russian exports have been relatively resilient. Russia’s LNG exports are forecast to rise from 29 million tonnes in 2019 to 33 million tonnes by 2022, driven by the ramp up of new projects (Figure 7.8). LNG exports have been declining from other major LNG exporters. Malaysia’s Petronas has reportedly curtailed some LNG production, and Egypt’s LNG shipments have been paused since March (Figure 7.7).
7.6 Australia

Australia’s LNG capacity expansion has come to an end

The latest wave of LNG investment in Australia saw over US$200 billion invested in seven new LNG projects, commissioned between 2009 and 2012. The ramp up of these projects has seen Australia’s annual LNG nameplate capacity reach 88 million tonnes in 2019 (Figure 7.9), and LNG export volumes reach 77 million tonnes worth $49 billion. This has made Australia the world’s largest LNG exporter in 2019.

In April 2020, Arrow Energy (a Shell and PetroChina joint venture) took a positive FID on the Surat Gas Project in Queensland, with first gas sales expected in 2021. Gas from the project will be sold domestically and exported through the QCLNG plant at Gladstone.

The Arrow Energy FID stands in contrast to current trends. The outlook for the next wave of investment in Australian LNG projects is shrouded by considerable uncertainty, with low oil prices resulting in capital expenditure reductions and FID deferrals. At the time of writing, FIDs for four gas and LNG projects had been flagged for deferral (Table 7.1). These FID postponements could be a longer term issue for Australia’s LNG exports, as new gas field developments are necessary to backfill LNG projects.

Production at the North West Shelf project is likely to decline from about 2022 onwards, requiring backfill from the Browse Basin project fields of Calliance, Torosa and Brecknock, or a combination of other fields. The FID for the Browse Basin project was initially delayed from late 2020 to late 2021, and has since been delayed to an unspecified date, due to low oil prices. The Darwin operation will require backfill from the Barossa project to continue production, although infill drilling at Bayu-Undan may extend its lifespan and narrow the time between its closure and the start-up of the Barossa project. The FID for the Barossa project has been delayed from the June quarter 2020 to an unspecified date.

![Figure 7.9: Australia’s LNG exports and export capacity](source)

**Table 7.1: Status of gas and LNG projects in Australia**

<table>
<thead>
<tr>
<th>Project</th>
<th>Companies</th>
<th>State</th>
<th>Type</th>
<th>Initial expected FID date</th>
<th>Current FID status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barossa backfill to Darwin LNG</td>
<td>Santos, SK, ENI, INPEX, JERA, Tokyo Gas</td>
<td>NT</td>
<td>Sustaining</td>
<td>Q2 2020</td>
<td>Delayed to unspecified date</td>
</tr>
<tr>
<td>Scarborough/Pluto Train 2</td>
<td>Woodside, Kansai Electric, Tokyo Gas, BHP</td>
<td>WA</td>
<td>Expansion</td>
<td>2020</td>
<td>Delayed to 2021</td>
</tr>
<tr>
<td>Crux backfill to Prelude FLNG</td>
<td>Shell, Osaka Gas, SGH Energy</td>
<td>WA</td>
<td>Sustaining</td>
<td>2020</td>
<td>Delayed to unspecified date</td>
</tr>
<tr>
<td>Browse to North West Shelf</td>
<td>Woodside, BP, PetroChina, Shell, Japan Australia LNG</td>
<td>WA</td>
<td>Sustaining</td>
<td>H1 2021</td>
<td>Delayed to unspecified date</td>
</tr>
</tbody>
</table>

Notes: FID is final investment decision. mtpa is million tonnes per annum. Backfill is the supply of natural gas from a new source that will support the ongoing operation of an existing LNG facility. Source: Company reports and announcements

Resources and Energy Quarterly  June 2020
Australia’s LNG export volumes forecast to flatten

Despite the impacts of COVID-19 on global LNG demand, Australia’s LNG export volumes have been relatively resilient. Exports in the first four months of 2020 were 11 per cent higher compared to the same period in 2019. Shipping data shows that Australian LNG shipments have largely held steady on a year-on-year basis in May, growing marginally by 0.7 per cent per cent (Figure 7.10).

However, there may be growing downward pressure on Australian LNG export volumes. Several companies have reported that some buyers have exercised their rights to reduce contracted purchases in 2020. The ‘downward quantity tolerance’ in most contracts typically allows a buyer to reduce purchases by around 10 per cent. Combined with fewer export cargoes into spot markets, delayed shipments and changes to maintenance schedules, this could marginally reduce Australian LNG exports volumes in the second half of 2020. APLNG has reportedly extended its maintenance schedule, originally planned for 27 to 31 May, to end on 18 June. Despite challenging market conditions, at the time of writing, Australian LNG producers have not flagged major output cuts in 2020, with the exception of Prelude.

The Prelude FLNG project — which shipped its first cargo in June 2019 — was temporarily shut in February 2020, due to technical issues. At the time of writing, Prelude remains offline, with no official restart date announced.

Australia’s LNG exports volumes totalled an estimated 79 million tonnes in 2019–20, an increase of 4.3 million tonnes from 2018–19. The ramp up of Ichthys — with 2020 marking the first full year of the project producing at nameplate capacity — has supported growth in export volumes.

Australia’s LNG export volumes are forecast to edge up to 80 million tonnes in 2020–21, reflecting the assumed resumption of production at Prelude from the September 2020 quarter onwards. LNG exports are then forecast to decline marginally in 2021–22, due to a production halt at the Darwin LNG plant from 2022 as gas from the Bayu-Undan field is exhausted.
Australia’s LNG export earnings forecast to decline from record highs

Australia exported an estimated $47 billion of LNG in 2019–20, 4.6 per cent lower than 2018–19 (Figure 7.11). Export earnings have been weighed down by low contract and Asian LNG spot prices, offsetting higher export volumes.

Australia’s LNG export earnings are forecast to fall back sharply by 26 per cent to $35 billion in 2020–21, due to weak contract and Asian LNG spot prices, as well as an expected rise in the Australian-US dollar exchange rate. The impact of the slide in oil prices is expected to be concentrated in the second half of 2020, due to the several month lag of the flow-on effects for oil-linked contract prices (at which most Australian LNG is sold). Export earnings are forecast to edge up to $36 billion in 2021–22, tracking a forecast rise in contract and spot prices.

The outlook for oil prices is a key risk

Oil prices are a key sensitivity for Australian LNG export earnings, and there is substantial uncertainty underpinning the outlook for oil prices.

While this chapter provides point forecasts for Australia’s LNG export earnings, scenario analysis of oil prices (see Box 8.1 in the oil chapter) highlights that these forecasts are underpinned by considerable uncertainty. Based on scenario analysis using different oil price forecasts, LNG export earnings could fall anywhere between $29 and $37 billion in 2020–21, and $30 and $42 billion in 2021–22.

Australia’s LNG export earnings have been revised down

The forecast for Australian LNG export earnings has been revised down from the March 2020 Resources and Energy Quarterly: by $10 billion in 2020–21 and $12 billion in 2021–22.

The substantial downward revision reflects exchange rate revisions, lower oil price forecasts (see the oil chapter) and lower Asian LNG spot prices. LNG spot prices have fallen to unprecedented lows in the first half of 2020, due to weak demand as a result of the COVID-19 pandemic. The unexpected shut down of Prelude has also contributed to the downward revision in export earnings.
### Table 7.2: World gas outlook

<table>
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<th>Unit</th>
<th>2019</th>
<th>2020(f)</th>
<th>2021(f)</th>
<th>2022(f)</th>
<th>Annual percentage change</th>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2020(f)</td>
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<tr>
<td><strong>JCC oil price</strong></td>
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<tr>
<td>– nominal</td>
<td>US$/bbl</td>
<td>66.4</td>
<td>45.9</td>
<td>44.9</td>
<td>52.8</td>
<td>-30.9</td>
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<tr>
<td>– real(h)</td>
<td>US$/bbl</td>
<td>67.8</td>
<td>45.9</td>
<td>44.0</td>
<td>50.5</td>
<td>-32.3</td>
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<tr>
<td><strong>Asian LNG spot price</strong></td>
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</tr>
<tr>
<td>– nominal</td>
<td>US$/MMbtu</td>
<td>5.4</td>
<td>2.9</td>
<td>4.4</td>
<td>5.6</td>
<td>-46.8</td>
</tr>
<tr>
<td>– real(h)</td>
<td>US$/MMbtu</td>
<td>5.6</td>
<td>2.9</td>
<td>4.3</td>
<td>5.4</td>
<td>-47.9</td>
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<td><strong>LNG trade</strong></td>
<td>Mt(c)</td>
<td>352.7</td>
<td>356.0</td>
<td>376.3</td>
<td>393.3</td>
<td>0.9</td>
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<td>Gas production</td>
<td>Bcm</td>
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<td>3,931</td>
<td>4,097</td>
<td>4,224</td>
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<td>Gas consumption</td>
<td>Bcm</td>
<td>4,056</td>
<td>3,897</td>
<td>4,109</td>
<td>4,234</td>
<td>-3.9</td>
</tr>
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</table>

**Notes:**
- **a** JCC stands for Japan Customs-cleared Crude;
- **b** Historical data is the North Asia SLnG weekly spot price;
- **c** 1 million tonnes of LNG is equivalent to approximately 1.36 billion cubic metres (bcm) of gas;
- **f** Forecast;
- **g** 1 MMBtu is equivalent to 1.055 GJ;
- **h** In 2020 US dollars.

**Source:** ABS (2020) International Trade in Goods and Services, Australia, 5368.0; Department of Industry, Science, Energy and Resources (2020); Company reports; Nexant World Gas Model (2020)
### Table 7.3: Australian gas outlook

<table>
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<td><strong>Production</strong></td>
<td>Bcm</td>
<td>145.2</td>
<td>156.5</td>
<td>155.8</td>
<td>159.5</td>
<td>7.8</td>
<td>-0.4</td>
<td>2.3</td>
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<td>– Eastern market</td>
<td>Bcm</td>
<td>55.3</td>
<td>56.9</td>
<td>54.6</td>
<td>54.8</td>
<td>2.9</td>
<td>-4.0</td>
<td>0.3</td>
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<tr>
<td>– Western market</td>
<td>Bcm</td>
<td>82.3</td>
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<td>87.9</td>
<td>90.2</td>
<td>4.1</td>
<td>2.7</td>
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<tr>
<td>– Northern market&lt;sup&gt;†&lt;/sup&gt;</td>
<td>Bcm</td>
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<td>14.6</td>
<td>14.5</td>
<td>14.5</td>
<td>92.5</td>
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<td>0.0</td>
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<td><strong>LNG export volume</strong></td>
<td>Mt&lt;sup&gt;†&lt;/sup&gt;</td>
<td>74.8</td>
<td>79.1</td>
<td>80.0</td>
<td>79.7</td>
<td>5.8</td>
<td>1.1</td>
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<td>– nominal value</td>
<td>A$m</td>
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<td>47,426</td>
<td>34,858</td>
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<td>-26.5</td>
<td>4.5</td>
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<td>– real value&lt;sup&gt;†&lt;/sup&gt;</td>
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<td>50,662</td>
<td>47,426</td>
<td>34,183</td>
<td>34,959</td>
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<td>-27.9</td>
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<td></td>
<td></td>
<td>-9.8</td>
<td>-27.3</td>
<td>4.9</td>
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<tr>
<td>– nominal value</td>
<td>A$/GJ</td>
<td>12.6</td>
<td>11.4</td>
<td>8.3</td>
<td>8.7</td>
<td>-11.5</td>
<td>-28.7</td>
<td>2.6</td>
</tr>
<tr>
<td>– real value&lt;sup&gt;†&lt;/sup&gt;</td>
<td>A$/GJ</td>
<td>12.8</td>
<td>11.4</td>
<td>8.1</td>
<td>8.3</td>
<td>-15.6</td>
<td>-26.7</td>
<td>10.7</td>
</tr>
<tr>
<td>– nominal value</td>
<td>US$/MMBtu</td>
<td>9.5</td>
<td>8.0</td>
<td>5.9</td>
<td>6.5</td>
<td>-17.2</td>
<td>-28.1</td>
<td>8.3</td>
</tr>
<tr>
<td>– real value&lt;sup&gt;†&lt;/sup&gt;</td>
<td>US$/MMBtu</td>
<td>9.7</td>
<td>8.0</td>
<td>5.8</td>
<td>6.3</td>
<td>-12.5</td>
<td>-27.3</td>
<td>4.9</td>
</tr>
</tbody>
</table>

Notes: <sup>c</sup> 1 million tonnes of LNG is equivalent to approximately 1.36 billion cubic metres (bcm) of gas; <sup>d</sup> Production includes both sales gas and gas used in the production process (i.e. plant use) and ethane. Historical gas production data was revised in the June quarter 2017 to align with Australian Petroleum Statistics published by the Department of Environment and Energy; <sup>e</sup> In 2019–20 Australian dollars; <sup>f</sup> Forecast; <sup>g</sup> 1 MMBtu is equivalent to 1.055 GJ; <sup>h</sup> In 2020 US dollars; <sup>†</sup> Gas production from Bayu-Undan Joint Production Development Area is not included in Australian production. Browse basin production associated with the Ichthys project is classified as Northern market.

Source: ABS (2020) International Trade in Goods and Services, Australia, 5368.0; Department of Industry, Science, Energy and Resources (2020); Company reports; Nexant World Gas Model (2020)