AUSTRALIA

The rise of Australian LNG

Australia is poised to overtake Qatar as the world's leading exporter of LNG. *Mark Davis*, Natural Gas Product Manager, ION Commodities, ION Allegro, reports.

Over the past decade, natural gas market participants deliberately set the stage for the rise of the global LNG market – an immense opportunity as countries like China and India turn to cleaner-burning fuel sources. The race to the top has been an expensive investment, years in the making, as countries race to build out expensive infrastructure. While Qatar was historically the dominant global exporter, the LNG market will likely see the first of several major shifts within the next year as Australia overtakes Qatar as the world's leading exporter of LNG.

Australia has added eight LNG export projects since 2012, pushing LNG capacity above Qatar's. The last of these, Prelude FLNG, which is the largest floating LNG production unit in the world, has a capacity of 3.6mn tonnes.

Now, the world waits for Australia – whose LNG industry hit $35bn this year – to outpace Qatar consistently by exporting a projected 81mn tonnes. This is likely to happen within the next year. Already, in November 2018 and April and June 2019, Australia demonstrated its ability to outpace Qatar in exports.

While experts predict Australia may not hold the position of leading LNG exporter through the mid-2020s, the country will significantly impact the global supply of LNG for decades to come.

Abundant resources

Since the 1970s, Australia has benefited from abundant supplies and ongoing discoveries of conventional and coal seam gas resources, which have served both domestic purposes and set the stage for LNG exports.

In the last decade, the country's natural gas industry was bolstered by the discovery of substantial unconventional shale gas reserves located in Australia's north-western provinces. Combined, the Australian government estimated in 2015 that Australia's total identified gas resources were close to 257tn cf. However, with technological advances in unconventional production, it's likely those numbers are now higher.

While the country has abundant resources, most of Australia's gas lies in the north-west Bonaparte, Browse and Carnarvon basins.

Market uncertainty

While abundant, the location of these resources has played an ongoing role in the push and pull between domestic and international demand throughout Australia's rise to the world's preeminent LNG exporter.

To be sure, Australia has a bountiful supply of natural gas, bolstered by the advances of shale technology. There are forecasts that 80% of the country's natural gas supply will be exported by next year. But the rise in export facilities in Australia's south and south-east provinces coincided with the rapid decline of the region's coal seam gas. Five export facilities that came online in 2015 and 2016 in Queensland rely on the area's dwindling supply of coalbed methane – driving intense pressure on eastern Australia's access to natural gas.

As these LNG export facilities came online, exporters looked for the best opportunity to make long-term profits. As the Asian LNG import market stands now, demand is growing but has yet to catch up with supply. To limit uncertainty, LNG marketers locked in long-term contracts with Asian LNG importers. However, as LNG feedstock from coal seam gas dwindled, these long-term contracts had unintended consequences on Australia's domestic natural gas market.

To alleviate their feedstock problem, producers turned to pulling natural gas out of the region's wholesale market. Prices in the south-east – a region which serves 80% of Australia's population – soared in the face of this shortfall.

Currently, there is no cross-continental pipeline infrastructure to move natural gas from the abundant supply in the western and northern provinces to the southern and eastern gas markets. While some analysts argue in favour of building cross-country pipelines, the fact is that cross-country pipelines are cost prohibitive. So, in a remarkable twist, Australian power markets have realised that they may have to meet regional demand with import facilities to move natural gas from one side of the country to the other.

Now, after completing eight LNG export facilities, the country has five proposed import terminals to address this problem. These potential import facilities could

Australia is the largest LNG supplier to Japan and China, shipping to ports such as Shimizu, in Shizuoka, Japan

Photo: ION Group

represent close to 2% of the global LNG trade and may even help Australian producers mitigate risk during periods of price fluctuations in other markets.

However, these domestic constraints on supply and demand will be a long-term issue for Australia's LNG industry – especially as demand for LNG grows across Asia.

Asian LNG demand growth

The high-growth Asian energy market is a juggernaut that will reshape global markets in the coming decades.

Australia exports most of its LNG to Japan, China, and South Korea, followed by smaller-scale exports to Taiwan, Singapore and India. Australia is the largest LNG supplier to Japan and China, and the second largest supplier to South Korea.

Japan is currently the world's leading importer of LNG, with plans to invest $10bn in LNG infrastructure. But the country's demand peaked in 2014 as the country began to restart nuclear power plants following the Fukushima disaster (see *Petroleum Review*, November 2019). The International Energy Agency (IEA) predicts that the country's demand will continue to decline, allowing China to replace it as the largest global LNG importer in the next five years.

China began LNG imports in 2006 and, by 2017, was the second largest importer of LNG. China's LNG demand grew 18% in 2018 alone, as the country raced to replace coal in an effort to mitigate environmental concerns about smog in some of its larger cities (see *Petroleum Review*, November 2019).

While the IEA forecasts that the growth of China's gas consumption will lessen due to the country's slowing economy, it still expects demand to grow 8% through 2024 when it will overtake Japan as the largest LNG importer.

Australia is well-positioned to take advantage of a long-term relationship with China. In the first five months of 2019, Australia supplied over half of China's LNG imports, with expectations that the share will continue to increase – especially in the light of the recent China/US trade disputes. Notably, China placed a retaliatory 10% tariff on US LNG in late 2018 – substantially dropping the country's demand for US LNG as Chinese importers turned to other suppliers.

Another potential major Asian consumer of natural gas is India. The country is on track in 2019 to grow LNG demand by 10% over 2018. By 2026, 11 new LNG import terminals are expected to come online, bringing its total facilities to 15. But experts worry that much of this capacity will be under-utilised until India builds out extensive domestic pipeline infrastructure to meet the exponential energy demand of its developing cities and growing middle class. Suppliers in the Asia-Pacific region, such as Australia, will have to wait until India builds out its infrastructure, which could take years if it is ever fully realised.

Risk of global competition

While demand for LNG in Asia will rise over the long term, today there is a glut in the market as long-term projects come online. A byproduct of the global race to meet demand, the glut is driven by two issues. First is the abundant supply from markets like the US, which has a boundless supply of shale gas. Second is that LNG demand in Asia has yet to reach its peak – despite a steady increase over the last decade.

But many of these LNG export facilities take years to plan and build.

Countries like Australia, Qatar, Russia and the US are racing to build these projects, many of which have been in the works for 10 years in anticipation of the booming demand in Asia for natural gas. However, experts predict demand in Asia will eventually catch up and drive up prices to a profitable level – much to the relief of LNG exporters around the world.

The remaining long-term challenge is the enormous influence countries like China have on global demand for LNG. Should the government switch course and pursue alternative energy sources like renewable energy more aggressively, this could devastate exporters who have invested in expensive infrastructure build out.

LNG storage tanks in China
Photo: ION Group

Political opponents

The challenges to Australia's LNG dominance in the Asia-Pacific region aren't just abroad; the LNG industry faces many challenges at home too.

Many dubbed Australia's May 2019 election as 'The Climate Change Election'. While it overwhelmingly wasn't, environmentalists did manage to move the needle on public opinion and oust former Prime Minister Tony Abbott over his stance on climate change. Despite this, the conservative coalition, which favours the expansion of natural gas production and LNG exports, remains in power today.

Still, this election was a wake-up call for Australia's energy sector. Now, the industry is preparing to counteract its environmentalist opponents that argue natural gas production is driving higher carbon dioxide (CO_2) emissions in Australia, in contradiction with the country's pledges to lower emissions at international forums like the Paris Climate Agreement.

These environmental advocates will continue to be a concern in terms of the country's energy infrastructure development. Like many countries, Australia's environmental groups stand determinedly against unconventional methods like fracking and have been successful in passing several fracking bans around the country.

While some regions have successfully lifted moratoriums, there are still various territories prohibiting access to unconventional reserves. This could be an ongoing barrier to realising Australia's full, long-term potential as a leading LNG exporter – especially given the recent political environment.

Like elsewhere in the world, the natural gas industry argues that natural gas is a necessary part of the transition to clean energy. However, it remains to be seen if the industry can be effective at convincing the Australian public in the long-term. ●

Coal seam in Newcastle, Australia
Photo: ION Group