

Australia ready to reap rewards

Despite high development costs the country will soon be the world's biggest LNG exporter – and offers plenty more in the upstream too

AUSTRALIA is richly endowed with natural resources. The country has huge amounts of gas – estimated at 133 trillion cubic feet (cf) or 2% of global reserves. But its reputation as an investment destination has been tarnished lately as soaring development costs and project delays, particularly in the liquefied natural gas (LNG) sector, grabbed international headlines.

However, the cost blowouts and delays mask a remarkable achievement. Over the next four years Australia will add over 60 million tonnes of new annual LNG export capacity – equal to one-fifth of global production.

That is more processing capacity than has ever been built simultaneously in a single country. This alone makes Australia a suitable subject for *Petroleum Economist's* survey this month.

Rising exports

Exports will more than treble to over 80 million tonnes a year (t/y) in 2018, and Australia will overtake Qatar as the world's largest exporter of LNG.

But this wave of LNG projects has triggered a surge in development costs – hitting a record A\$60 billion (\$56 billion) in 2013 – which has stalled new schemes. Total spending on oil and gas development was a staggering A\$155 billion from the start of 2010 to the end of 2013.

The problem for Australia is trying to wind back these inflationary pressures.

Analysis from the Oxford Institute of Energy Studies concluded that inflation of plant costs in Australia was 200% over the 2005-2012 period, twice the average rate of inflation elsewhere.

In neighbouring Papua New Guinea (PNG), ExxonMobil has just commissioned its greenfield PNG LNG plant, which despite being the Pacific nation's first export facility, and not forgetting its remote location in the PNG Highlands, is expected to come in around 20% cheaper than similar Australian projects, highlighting the threat of emerging competition.

However, projects in Siberia, East Africa and Canada are likely to be closer to the higher Australian cost

base, says Australian consultancy EnergyQuest.

Fortunately, oil and gas development spending appears to have peaked in 2013. Australian projects will also benefit from the fall in the country's dollar, as well as a weakening economy, although this combination won't be quite enough to make Australian costs competitive. Further LNG expansion is only expected to be economical through brownfield projects or new floating LNG (FLNG) technology.

Anglo-Dutch supermajor Shell is pioneering the world's first major FLNG scheme offshore Australia, aptly named Prelude. Significantly, the waters off northern Australia will become a test-bed for this groundbreaking technology, with developers hoping to slash costs. Aside from Shell, several other operators are keen to pursue FLNG. But all eyes are on Prelude, which could make or break the future of Australian LNG.

Based on development spending so far, by 2018 Australia is likely to more than double its petroleum output from 514 million barrels of oil equivalent (boe) in 2013. An extra 665 million boe of production is in the pipeline, data from EnergyQuest shows. The LNG projects under construction will account for most future production, adding around 525 million boe of gas and 45 million boe of liquids.

This expansion has economic implications. As an economy, Australia is considerably oil short, consuming 346 million barrels of crude and products in 2012-13, but pumping only 140 million barrels of oil and liquids. Even with oil-linked LNG exports, Australia still ran a petroleum trade deficit of A\$14.1 billion in 2013. But as LNG exports balloon, this deficit will likely flip into a surplus and will probably push the national current account deficit into the black for the first time since 1975.

The surge in LNG production will boost the value of LNG exports from A\$14.7 billion in 2012-13 to A\$57 billion by 2018, similar to the value of Australia's number one export, iron ore, EnergyQuest said.

Deloitte Access Economics estimates that by 2025 building and operating these projects will have added

more than A\$260 billion to Australia's GDP and will have boosted the oil and gas industry's total tax revenues by more than one-third to A\$12 billion a year.

The growth in LNG illustrates how an economy like Australia can successfully make structural changes. Australia used to have eight oil refineries, built in the 1950s and 1960s. But by the middle of next year only four will be operational, squeezed out of business by rising competition from mega-refineries in Asia and the Middle East. The remaining refineries will cover only 47% of Australia's refined products consumption, so import reliance will increase sharply. In parallel, the petroleum industry is expanding with new multi-billion dollar LNG plants, seeing industry professionals move from refining into LNG.

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But the problems facing Australia's refiners are the same as those facing operators in much of Europe: their facilities are too small and they do not make enough diesel.

Fortunately Australia is relatively close to Asia's emerging refiners. International trading companies, too, have been eager to invest in Australia's downstream sector. Earlier this year Vitol, the world's largest oil trader, sealed a multi-billion dollar deal with Shell to buy the major's downstream business.

Further upstream, fewer exploration wells are being drilled despite significantly higher expenditure, as the easiest acreage has gone. At the same time international explorers are starting to prioritise value over volume, which has led to a change in exploration focus.

Investors assessing Australian opportunities are increasingly concerned about high discovery costs and expected declining returns – estimated to be less than 10% compared with global industry averages of 12-15%.

There are other some positives though. Promising offshore gas finds could push some projects towards

development, while progress in the onshore unconventional space in the Cooper basin is another area to watch.

While frontier exploration may attract less interest, Australia's established unconventional gas industry is likely to rank highly when benchmarked against other unconventional plays outside North America, says energy research firm Wood Mackenzie.

Queensland's coal-bed methane (CBM) sector is the largest unconventional resource business outside North America. Australia is planning to export a large proportion of those reserves as LNG. CBM production is expected to hit 4 billion cf/d to feed Queensland's three LNG export plants – being built with a cumulative total export capacity of 25 million t/y.

The year of shale

Australia's shale plays are still far from achieving such scale, but Wood Mackenzie forecasts that 2014 will be the most active year for international shale drilling yet. Australia, having had some success in the Cooper basin, will rank third of 18 countries this year, behind only Argentina and China, with plans to drill 25 shale exploration wells, says the research firm.

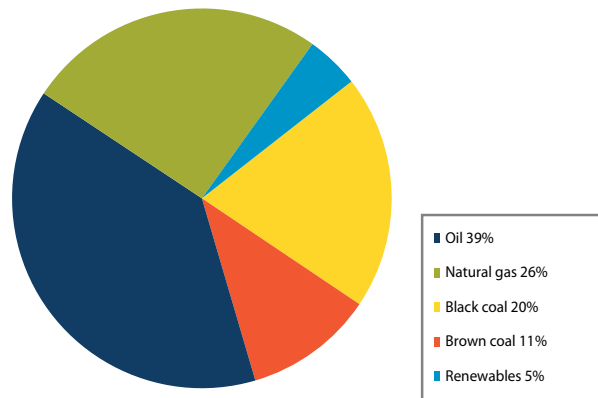
But in contrast to its notable success developing its LNG industry, Australia is having difficulty grappling with the transition to a low-carbon economy.

The government is seemingly heading backwards with its approach to climate policy. Last September, prime minister Tony Abbott's business-oriented Liberal-National coalition took power with a slogan promising to axe a contentious price on carbon. Ever since, the coalition has been busy repealing climate and environmental laws, while simultaneously trying to slash renewable energy targets. In Canberra there seems to be little enthusiasm about fighting global warming, unlike in Washington and Beijing, where concrete policies are starting to take shape.

Elsewhere, the Australian government and its impoverished northern neighbour Timor-Leste are locked in a fresh legal battle over billions of dollars worth of oil and gas locked beneath the Timor Sea.

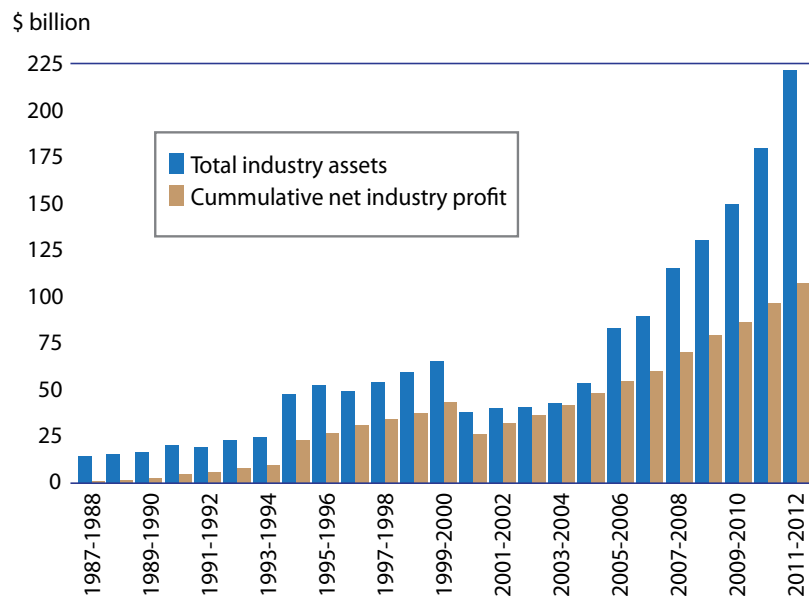
The Timorese claim Canberra gained an unfair commercial

Figure 1: Share of primary energy consumption



Source: BREE Australian Energy Statistics 2013

Figure 2: Asset values and cumulative profits



Source: APPEA

advantage after Australia allegedly spied on Timor-Leste's negotiating team 10 years ago. At the time the two countries were hammering out agreements to share a wealth of hydrocarbons in the waters separating them. The claims and counter-claims will be aired at an international tribunal in The Hague later this year.

Under international legal principles,

the Greater Sunrise fields, which collectively mark the biggest-ever discovery in the Timor Sea, and are estimated to hold at least 5 trillion cf of gas, or about 4% of Australia's proved gas reserves, would belong to Timor-Leste. But Australia has a history of being a formidable opponent when it comes to deciding wealth beneath the water. **DE** ●