Australia opens high-stakes exploration game

Firms look to the high risks – and high rewards – of the country's frontier basins as licensing offerings are unveiled, writes Damon Evans

Open season: Vast offshore holds huge potential

AUSTRALIA is opening up more frontier offshore acreage for investors increasingly keen to tap new opportunities that offer the prospect of bigger discoveries and better project economics.

Australia's Resources and Energy minister, Gary Gray, unveiled the nation's 2013 offshore acreage release at the annual Australian Petroleum Production and Exploration Association (APPEA) conference, billing it as "exciting" with "new areas in relatively underexplored basins".

Gray, who took over the federal energy portfolio in April following Martin Ferguson's resignation (Ferguson had backed a challenge to Prime Minister Julia Gillard's leadership), may not display the same verve as his predecessor, but the industry seemed to share his enthusiasm for the round.

Several new frontier blocks are on offer, with the bulk of the offering centered in proven hydrocarbon basins off Western Australia, the Northern Territory and Victoria. But two deep-water tranches offered in the under-explored frontier areas of the Perth basin off Western Australia, were the focus of industry attention at APPEA. The round includes 31 areas – 29 of which were underpinned by industry nominations – across six basins as major companies seek to restock their global exploration portfolio. Australia has been a magnet for explorers chasing large gas finds over the past decade.

Five year study

The remaining two areas in the North Perth basin were nominated by government agency Geoscience Australia as having significant prospectivity, based upon an extensive geological five-year study.

Dr Tom Bernecker, head of Geoscience's acreage release, told *Petroleum Economist* that the study established a third petroleum system in the basin and confirmed the extension of the proven onshore system into the offshore.

Even more significantly, Bernecker added that the systems, including the proven Hovea member of the Kockatea shale, extended over a much wider offshore area than previously thought.

Five of six exploration wells drilled in the area have

New Zealand spins the bit

NEIGHBOURING New Zealand, which has been relatively unexplored in recent years, has launched its 2013 licensing round – covering 190,000 square kms – and is offering some frontier acreage. To date, all production in the country has come from an area measuring less than 10,000 square kms.

The offshore acreage lies in three separate areas – the Reinga-Northland basins offshore the North Island, the Taranaki basin, and the Great South and Canterbury basins offshore the South Island.

Good fiscal terms are available as the government is keen to attract investors. But it's an expensive and logistical challenge mobilising drilling rigs due to the country's remoteness, says Matt Howell, a New Zealand-focused upstream specialist at Wood Mackenzie. There is also strong competition from Australia for drilling equipment, but New Zealand-focused explorers are beginning to band together to attract rigs.

The country is now bracing itself for its biggest offshore drilling programme in several years. A firm 10 wells – including exploration, appraisal and development – are planned with options for more.

Anadarko's deep-water probes are set to be the highlight, which the US independent describes as play-opening drilling.

Historically, the trend has been for operators to hire a rig for development drilling and tack on an exploration or appraisal well to their programme. **DE** ●

signalled hydrocarbon shows, but a lack of basin-wide exploration success saw industry interest decline. However, drilling has historically been confined to the onshore and shallower waters of the basin.

The offshore remains less well understood, except for the only producing field in the area, the Roc Oil-operated Cliff Head project.

The blocks, W13-19 and W13-20, are in waters up to 2,500 metres deep. They lie next to Block WA-481-P, which was awarded last August to a joint venture comprising operator Murphy Oil and partners Kuwait Foreign Petroleum Exploration (Kufpec) and Samsung Oil & Gas

Murphy's block garnered a lot of international interest and Bernecker expects bids from international oil companies, independents and specialist mapping firms this time around.

Despite soaring costs in the Australian energy sector, there is still a great deal of interest in offshore exploration, particularly frontier acreage, which still offers potential for big finds

The US independent's chief operating officer, Roger Jenkins, recently said his company had "found some nice faulting and trapping (in the Perth basin)". Referring to the onshore, he described the permit as an "untested side of a proven oil basin".

Murphy aims to start drilling "multiple 100-plus million barrel structures" in WA-481-P by early 2015.

Elsewhere, blocks are offered in the Northern Carnarvon basin, which makes up 73% of Australia's total hydrocarbon production. Last year, the province pumped 1.2 trillion cubic feet (cf) of gas and 108 million barrels of liquids.

Of particular interest is frontier deep-water Block W13-6, which lies north of ExxonMobil's Scarborough field – a dry gas find estimated at 10 trillion cf – that is expected to be developed by what would be the world's biggest floating liquefied natural gas (FLNG) plant, if sanctioned.

Two frontier blocks – W13-4 and W13-5 – are offered in the Browse basin, one of Australia's richest hydrocarbon provinces, estimated to hold 32 trillion cf of recoverable resources, plus 360 million barrels of condensate. The pair sit in the under-explored Barcoo sub-basin, just east of Shell's Prelude and Concerto fields that hold about 3 trillion cf of liquids-rich gas.

Due to their relatively small size and remoteness they will be developed using the Anglo-Dutch supermajor's pioneering FLNG technology.

Off the southern Australia state of Victoria, Block V13-2 offers frontier acreage in the Gippsland basin, which produced 28.6 million barrels of liquids and 245 billion cf of gas in 2012.

The block traces parts of the eastern Bass Canyon, where water depths exceed 3,000 metres and only sparse seismic coverage exists.

A matter of cost

Despite soaring costs in the Australian energy sector, there is still a great deal of interest in offshore exploration, particularly frontier acreage, which still offers potential for big finds, Chris Graham, an Australian-focused upstream specialist at Wood Mackenzie, told *Petroleum Economist*.

Higher costs and more remote prospects equal more challenging economics, which effectively means explorers need to discover bigger resources to ensure timely development, Graham added.

Nevertheless the number of exploration wells drilled offshore has halved over the past decade, in part due to rising drilling costs, as well as a shift in focus towards development work.

A lack of drilling rigs, with those available taking priority for projects under development, such as Prelude, Ichthys, Gorgon and Wheatstone, has not helped.

On top of this the known basins are seeing the effects of the "creaming curve", where the earliest wells in the basin discover the largest fields first. This total discovered resource per well is falling year after year, adds Graham.

But despite the tail off in offshore drilling, APPEA data shows exploration expenditure has tripled from around A$1,000 million ($951 million) in 2002 to A$3,000 million in 2012, reflecting the higher costs of frontier exploration.

Perhaps French major Total summed up Australia's offshore exploration scene best, when it described its exploration work in the Browse basin as "chasing elephants" in reference to the huge potential. ●