Indonesia weighs up energy conundrum

As Indonesia's oil production continues to fall, while its gas exports rise the country still needs investment to secure a long term future, writes Damon Evans

INDONESIA is Southeast Asia's largest oil producer and has plans to increase production to more than 1 million barrels a day (b/d). It is also the world's third-largest producer of liquefied natural gas (LNG). But the net-oil importer has struggled to reverse declining oil production as it fails to attract much needed investment.

The former Opec member's oil output has declined over the last decade as production matured and the reserve replacement rate slowed. Total crude production stood at 942,000 b/d in 2011, a drop of 32% since 2001 and just shy of the targeted 945,000 b/d, according to the *BP Statistical Review of World Energy*. This year's production target is 930,000 b/d. This is expected to drop to 900,000 b/d in 2013.

At the end of 2011 Indonesia held proved oil reserves of 4 billion barrels, down from 5.9 billion barrels at the end of 1991. A diverse range of geological basins offer sizeable hydrocarbon potential. But of the estimated 128 oil basins, only 38 have been extensively explored.

Oil production dropped below 1 million b/d in 2006 and ever since the government has been pushing to hit this threshold again. It has expressed hopes to become a net oil exporter again by 2020. But bureaucratic delays and regulatory uncertainty have hindered progress so far.

A large part of the production push hinges on ExxonMobil's Cepu project, in Java, which is expected to produce 165,000 b/d at full production by late 2013. But production ramp up could be several years behind schedule and this field alone will not stem falling output.

Most oil production comes from basins of western Indonesia, but with few significant oil discoveries in the last 10 years, Jakarta is focusing on developing reserves in the nation's eastern frontiers and deep-waters.

Normally the country offers an oil split of 85-15 in its concession agreements, but Jakarta is now offering as much as a 60-40 split for frontier areas or deep-water projects. For gas, contractors are given a 70-30 split, but 60-40 is offered for difficult reserves. With depletion acceleration at an average of 12% per year, new exploration agreements are essential.

Slowdown: Oil production in Indonesia has been steadily falling

Exploration in eastern Indonesia's frontier basins over the past 10 years has been disappointing, with just four discoveries recording reserves greater than 1 trillion cubic feet (cf). The lack of nearby gas markets means that big gas discoveries outside Java and Sumatra will likely be developed as LNG, notes consultancy Wood Mackenzie.

Gas discoveries

While oil production has declined, more gas has been discovered and the country's proven gas reserves are continuing to rise. Conventional gas infrastructure is being developed, while the emergence of large unconventional gas reserves has sparked interest in the development of these new resources.

Indonesia has some of the world's largest conventional gas reserves at around 3 trillion cubic metres (cm). Production stood at 75.6 billion cm in 2011, down 7.8% from 2010 levels, but has otherwise been growing for more than a decade.

However, the country's historical preference to develop gas fields as LNG projects targeting export markets and its poor internal distribution network means Indonesia is struggling to keep up with domestic gas consumption, which totalled 37.9 billion cm in 2011, down slightly from a high of 40.3 billion cm in 2010.

The archipelago has several discrete gas markets. West Java is the largest and is starting to import increasing volumes of LNG to meet ballooning demand. While gas price increases in Java will have little effect on exploration activity in eastern Indonesia, it boosts the chances that smaller discoveries in the more mature basins of Java and Sumatra will be developed, according to Wood Mackenzie.

Since mid-2011, the Indonesian government has renegotiated a number of legacy gas contracts, increasing prices by up to 200%, to encourage more developments and avoid a supply crunch.

The government hopes higher prices will encourage exploration to meet supply shortfalls in West Java.

Regulators have allowed gas prices to double from levels around $2-3 per 1,000 cf seen over the past 10 years, to $6-7/'000 cf this year.

Higher gas prices will possibly encourage the development of technically challenging discoveries, previously deemed uneconomical.

There will also be a much higher chance that investors will look at unconventional sources, such as coal-bed methane (CBM) and shale gas.

But there are challenges for the government. Businesses are already feeling the pinch of rising prices and it is not yet clear if unconventional

Court abolishes Indonesian energy regulator

Current contracts and future investments in Indonesia are at risk after the nation's upstream regulator, BPMigas, was abolished in an unexpected court ruling.

Indonesia's Constitutional Court ruled that the functions of the industry watchdog – responsible for awarding and overseeing production sharing contracts (PSCs) – were unconstitutional following a judicial review. But suspicions that the decision was politically motivated have started to gain traction.

The resulting regulatory uncertainty jeopardises the nation's ongoing attempts to lift its crude production, will likely deter new investment and negatively affect expiring concessions, ratings agency Moody's said.

Initially the industry was shocked as the ruling looked like an attack on the PSC principle by nationalist groups but the government has moved fast enough to neutralise that threat, Tony Regan, principal consultant at Tri-Zen told *Petroleum Economist*.

Jakarta quickly formed a new transitional unit under the Ministry of Energy and Mineral Resources to help allay investor concerns until new regulations are drafted. All former BPMigas deputies and employees will resume their previous duties under the new unit with the exception of former chairman, R Priyono.

Immediately after the ruling, President Susilo Bambang Yudhoyono publicly assured contractors – which include BP, Total, Chevron, Shell and ExxonMobil – that operations would continue as usual and that the investment climate would not be shaken up.

But while existing contracts entered into by BPMigas are to be respected until they expire, an increased role for national oil company Pertamina – a possibility raised in the court decision – is not seen as a positive by many analysts or industry proponents.

A hiatus is expected while the new agency finds its feet and it is not clear how BPMigas' operating regulations will be adopted or adapted, Ashley Wright, head of Asian oil and gas at law firm Norton Rose, told *Petroleum Economist*.

In the longer run, Wright added, it could be a good thing for Indonesia but in the short-term it does nothing for Indonesia's credibility.

The oil and gas sector is crucial to Indonesia's economy with investment in the industry hitting $12.8 billion in 2011 and contributing $34.4 billion to state coffers in the same year.

But the temporary void left by BPMigas' demise will inevitably lead to a slowdown in proposed project developments.

At risk is the Inpex-operated Abadi liquefied natural gas (LNG) project in the Timor Sea, due online around 2016. The 2.5 million tonne per year (t/y) development, in which Shell has a 30% stake, is currently at the front-end engineering and design (FEED) phase. BPMigas would have needed to sign off on any development of the Japanese-led project – or any other schemes at a similar stage – which could possibly hinder progress. Other projects that would have needed BPMigas' input are BP's planned 3.8 million t/y expansion of its Tangguh LNG export plant, which would take total capacity to 11.4 million t/y; Total's Offshore Mahakam block; and ExxonMobil's plan to boost output at its Cepu project.

BP, however, might be relatively happy with the decision as the UK supermajor was reportedly facing issues with BPMigas over its $12 billion Tangguh expansion. "BP might welcome a new department looking at the way cost recovery is dealt with, so they might find that in the longer term it's a better thing for Tangguh's third train,"said Wright.

A number of reasons have been offered for the sudden dismantling of BPMigas, including rising resource nationalism. There is a belief that foreign contractors have been operating under extremely generous terms and that Indonesian hydrocarbons should be produced by Indonesian companies for Indonesians. And some analysts say the court's decision plays to this rise in populist sentiment, adding it should be seen in the context of the 2014 presidential election.

The judicial review came at the request of 42 organisations and individuals, including Islamic organisations and politicians, who voiced concerns that Indonesia's gas resources were being exported rather than being reserved for domestic use. It is a delicate balancing act to reconcile the need for export earnings with local energy demand, particularly in the run-up to an election, said Wright.

Some observers suggest that Priyono was becoming too powerful. They argue that BPMigas' cost recovery decisions were not in the long-term best interest of the country and that the government was unable to take down BPMigas directly. The judicial review simply provided the perfect opportunity to do just that.

But there is still a possibility that the plaintiffs could question the transfer. The court's ruling suggested that contractual authority should be business to business, not government to business, meaning regulatory control may eventually revert back to state-run oil and gas company Pertamina.

Prior to the creation of BPMigas in 2002, Pertamina also acted as the country's energy regulator.

However, a bigger role for Pertamina is seen as a negative for the industry given its lack of resources and technical capabilities, coupled with its notoriety for falling victim to political pressures.

Despite the initial shock of BPMigas's sudden demise, this is not the beginning of a complete overhaul of the Indonesian energy sector. Foreign companies will stay because their investments are long-term propositions. As for the government, it realises the energy sector is vital to Indonesia's economic health – indeed, it is so important that whatever reform is implemented, the country's attractiveness to foreign investment will be safeguarded. ●

sources can be economically developed.

If the unconventional sources do not materialize, then West Java will need to buy more LNG or burn more coal. But if West Java is forced to buy more LNG at international prices, currently around $14/million British thermal units, then there will be a large price gap which could lead to social and economic problems.

West Java currently imports small volumes of LNG from Indonesia's Bontang export plant as part of a domestic market obligation to help meet rising demand.

In the longer term, the government needs to raise prices further to encourage development, but faces resistance to higher prices from end-users. Analysts see an upward trend in pricing but say full market liberalisation is still some way off. Indonesia's CBM reserves are estimated to be 453 trillion cf, which is larger than the country's estimated natural gas resource and ranks sixth in the world. But development of these unconventional basins has been slow to get started. CBM regulation is proving difficult as the resource is economically, environmentally and politically challenging. ●