



THE RESOURCES BOOM AND BEYOND

With the world still riding the resources boom, Indonesia—with its abundant reserves of coal, oil and gas—is strategically well placed, and may soon be a major hub for renewable energy.

‘Indonesia is a resource-rich country,’ states John A Prasetio, Vice President of the country’s International Chamber of Commerce and Industry. ‘If you look at the statistics, in spite of the global slowdown, there will be no way in the world that fossil fuel can meet demand, so there are opportunities here.’

Resources companies agree. According to a 2006/2007 Fraser Institute survey of 333 mining companies around the world, Indonesia ranked in the top 10 countries in the world in terms of geological prospectivity.

EXPLORATION IMPROVING SLIGHTLY

While resources companies are enjoying record market capitalisation on the Indonesia Stock Exchange and the average profitability of Indonesian mines is in line with global benchmarks, there is a major challenge facing the resources sector in Indonesia: a

lack of exploration activity.

While greenfield exploration in Indonesia rose from US\$9 million in 2005 to US\$48 million in 2006, exploration spending in Indonesia is still only about 2% of total global exploration expenditure—far less than it should be.

As the December 2007 PricewaterhouseCoopers survey *MineIndonesia 2007* puts it succinctly: ‘Indonesia needs to attract more investment in greenfields exploration and/or production expansion in the near future if it wishes to benefit from the continuing upturn in the global mining industry.’

MINERBA BILL STILL PENDING

There is a general consensus that an uncertain regulatory environment is the major reason for the lack of investment in new sites. In 2007, *Business Advantage* reported that the long-awaited Mineral and Coal (‘Minerba’) Bill was before the Indonesia

PRIVATE POWER PRODUCERS NEEDED

Electricity demand in Indonesia is expected to rise by an average of 7.1% per annum until 2026, and the country’s power sector is struggling to keep pace with this extra demand. Power cuts are not uncommon.

Currently only about 21% of Indonesia’s power needs is supplied by independent power producers (IPPs). However, over the next 10 years, the Indonesian Government would like to see greater involvement from the private sector in power generation, as it sets about its goal of providing 75% of Indonesian households with electricity by 2015.

‘In the longer term, we need around US\$50 billion invested in the power sector over the next 10 years,’ explains Bambang Praptono, Director of Planning and Technology for state energy company PT Perusahaan Listrik Negara (Persero)—or PLN for short. ‘That’s a lot for us. We need maybe 60–70% of this to come from the private sector.’

Development of Indonesia’s private power sector was stalled due to the 1997 Asian currency crisis, but is now getting back on track. As of March 2008, there were 48 private power plants in the pipeline, representing a potential total output of about 4300 megawatts. Of these, 75% will be based

on coal, with a further 13% based on geothermal energy.

PLN is actively looking for foreign participants in the energy sector. Both equity participation and debt financing are options. Power projects in 17 locations across the Indonesian archipelago are currently open for investment. While the opportunities are significant, there are matters that still need to be addressed if the targets for private investment in the power industry are to be met, as Muhammad Lutfi, Chairman of Indonesia’s Investment Coordinating Board (BKPM), explains:

‘About 75% of electricity is fuelled by oil, so the price to generate 1 kilowatt hour of electricity is about US\$0.12. However, it is being sold to the people for US\$0.07.’

The gap between the production price and the retail price is currently being financed by Government subsidy to PLN, but clearly private producers will want to know that they can sell the power they generate at a profit before committing to large investments in the sector. It is expected that private investments will be protected by Government regulation.

Further information

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MINING & ENERGY

Parliament. At the time of writing, the industry is still waiting for Parliament to work its way through this complex legislation, which is necessary to resolve the inconsistencies in current national and provincial legislation and provide an alternative system to the previous Contracts of Work for mining operations.

OIL

Indonesia's largest oil producers are Chevron Pacific, state-owned Pertamina, France's Total and ConocoPhillips. Due to reduced exploration, red tape and declining reserves (currently estimated at 8.9 billion barrels), Indonesian oil production is in long-term decline. From a peak of 1.6 million barrels per day in 1995, the country now produces less than a million barrels per day and, as a net importer, Indonesia recently signalled its intention to leave the Organisation of Petroleum Exporting Countries, OPEC.

That said, in a recent survey 73% of oil companies active in Indonesia said they believed there were still significant oil reserves yet to be discovered, most especially in Papua, Maluku and Sumatra. At the time of writing, another 25 oil and gas blocks were due to come up for auction in October 2008. Indonesia's only major recent discovery, the Pertamina/ExxonMobil-run Cepu Oil Field in Central and East Java, is expected finally go into production by the end of 2008, with annual production expected

to rise to almost 200,000 barrels a year by 2011. Overall, upstream regulator BPMigas statistics indicate that \$US10.08 billion was invested in the oil and gas sector in 2007—a record.

With Indonesia still needing to refine 300,000 barrels per day, there are also significant opportunities in the area of refinery construction, and Government incentives in place to encourage it.

COAL

Indonesia is the world's eighth-largest coal producer. With an abundance of coal reserves, and with oil prices so high, the Indonesian Government has mandated a switch from oil- to coal-fired power generation, and made it clear to coal producers that their first duty is to supply local power needs. (Even so, Indonesian coal exports are expected to continue to grow by around 11% annually until at least 2012.)

Coal production has soared along with the coal price, as existing producers expand current mine production. This increase has been accompanied by a spate of listings on the Indonesian Stock Exchange: PT Bayan Resources, PT Indika Energy Tbk, PT Indra Saptasejati and PT Adaro Energy Tbk (the latter two subsidiaries of Indonesia's largest coal mining company, PT Adaro Indonesia) were all expected to list in 2008 at the time of writing, with speculation that the IPOs would raise as much as US\$1.9 billion.

INDONESIA EMBRACES GREEN POWER

'Growth in Indonesia is not sustainable environmentally,' Adam Sack, Country Manager at the International Finance Corporation (the World Bank's private sector arm), told an investment conference in Jakarta in May 2008. At around the same time, at the G8 meeting in Kobe, Japan, Indonesia's Environment Minister Rachmat Witoelar was confirming plans to cut greenhouse gas emissions in the country's energy sector by 17% by 2025.

'We have to diversify our resources—it's a must,' says Dr Evita Legowo, until recently First Secretary of the National Team for Biofuels Development at Indonesia's Ministry of Energy and Minerals.

Under the country's 2007 Energy Law, both central and local government in Indonesia have an obligation to increase supply and utilisation of renewable energy—biofuel, geothermal power (Indonesia has about 40% of the world's geothermal reserves), biomass, hydro, solar and wind power.

The benefit of having a large, dispersed agrarian population is that renewable resources may well be a better way of delivering energy—and prosperity—to rural and remote communities than existing fossil fuel power. Due to the geography of Indonesia, there is no national power grid, and it will require a vast number of small regional power stations to help the country meet its target of 100% electrification.

Biofuel feedstock such as cassava, sugar cane, palm oil and jatropha can be grown and processed locally, often on land abandoned after logging, creating jobs. The Indonesian Government has itself the target of creating 1000 energy self-sufficient villages by 2010, and 12 Special Biofuel Zones.

As such, the renewable energy sector in Indonesia presents a major opportunity. One international investor already

heavily involved in the sector is biodiesel producer NVision Green Energy Solutions.

'I personally believe that Indonesia will develop to be a hub for renewable energy in the next 10 years, and the opportunities available here are in abundance,' NVision's CEO, Mukesh Arora told *Business Advantage*.

NVision is building a global supply chain for biofuels, while pioneering the science, planting and production of inedible jatropha oils. 'We are looking for partners who share our belief and vision, and are willing to work together for a better, greener world,' says Arora. 'Recently, we have been getting a lot of interest from overseas investors, mainly based in Europe, the US and the Middle East.'

The biggest challenges facing the biofuel sector are acquisition of sufficient land, accessibility to plantation labour, and the higher costs associated with working in remote areas. NVision notes, however, that it has received plenty of cooperation from government in overcoming some of these hurdles, as it has a good track record in this sector.



BIOFUEL SOURCE JATROPHA NOT ONLY HAS A HIGH YIELD BUT CAN ALSO BE GROWN ON MARGINAL LAND, THEREBY REDUCING PRESSURE ON FOOD-PRODUCING ARABLE LAND

One notable side effect of Indonesia's switch to coal is a major shortage of infrastructure for domestic coal transportation.

'It is an infrastructure issue,' agrees Sukrisno, President Director of one of Indonesia's largest coal companies, PT Tambang Batubara Bukit Asam Tbk. 'In our case, there is a bottleneck between the mine site and the port. We are upgrading 460 km of railway which will add an additional 20 million tonnes a year to our production.' The US\$1.2 billion project should be complete by 2013.

Sea freight is also feeling the strain. In June 2008, the Indonesian Department of Transportation also estimated that an additional 390 ships with a capacity of 90 million tonnes per year were needed simply to meet current demand, with more needed as the coal power plants come on line.

Another clear opportunity lies in providing technology that will allow Indonesia coal to make the most of lower grade coal.

IRON & STEEL

Iron ore, coal and power are inextricable linked due to their use in the manufacture of steel. Indonesia currently uses about 7 million tonnes of steel each year and demand is booming (PT BlueScope Steel Indonesia reported a 40% rise in sales in 2007 alone). Indonesia currently only has capacity to manufacture about 4 million tonnes itself. State-owned PT Krakatau Steel is the major player, and is expected to announce an IPO by the end of 2008. It has ambitious plans to double production by 2011.

GAS

In May 2008, the Indonesian Government signed the country's first contract in 30 years for the supply of coal-bed methane. According to Stephen Humphries, Senior Technical Advisor to PricewaterhouseCoopers' Indonesian operation, there are 'significant opportunities' in this relatively undeveloped area.

The most recent estimates suggest there may be as much as 453 trillion cubic feet of methane reserves, mainly in South Sumatra and Kalimantan's Barito Basin. The deal, expected to be the first of several, will involve Indonesia's largest private energy company PT Medco Internasional and Energi Pasir Hitam.

Indonesia has been a strong exporter of liquefied natural gas (LNG) since the 1970s and the sector continues to look promising. Advance orders meant that the LNG in BP Indonesia's Tangguh LNG plant in Papua was effectively sold out before production has started, while there are further discoveries in that province at Wiriagar, Muturi and Berau.

Other major LNG developments include the Senoro and Toili blocks in Central Sulawesi, Japanese company Inpex's Abadi field in the Timor Sea, and finally, the massive Natuna D Alpha field in the South China Sea. This latter field is claimed to be the largest ever discovered, with 46 trillion cubic feet of recoverable reserves. ■

CASE STUDY: PT FREEPORT INDONESIA

Freeport Indonesia's massive Grasberg open pit copper and gold mine has been a contributor to the Indonesian economy since 1990.

Situated in the highlands of the most easterly of Indonesia's provinces, Papua, the mine produced 1.3 billion pounds of copper in 2006, and 1.7 billion ounces of gold. Estimated reserves as of the end of 2005 were 56.6 billion pounds of copper, 58 billion ounces of gold, and 180.8 million ounces of silver.

The importance of Freeport's mining in Papua to the national and provincial economy is hard to overstate. PT Freeport Indonesia estimates that its total operations contributed 2.5% of Indonesia's GDP in 2006, and about half of Papua's GDP. Add to that 19,700 direct employees and contractors, and one can see why the Indonesian Government and Papua Province are keen to attract more mining operations to the region.

In order to do so, it's necessary not only to guarantee life-of-mine certainty to the mining investor, but also to ensure that mining activity leads to sustainable development for the surrounding communities.

While an original 30-year Contract of Work and two subsequent 10-year extensions mean the long-term prospects of Freeport and its minority partner Rio Tinto are secure, in the past decade or so more emphasis than ever before has been placed on ensuring the mine delivers long-term benefits to the people of Papua.

Freeport began a successful 10-year project to double the number of Papuans in its workforce back in 1996, and in 2003 opened a mining training institute to create apprenticeships and upgrade the skills of local workers. An additional community development fund has so far assisted 1600 local businesses make the most of the economic activity the mine has engendered.

These kind of investments, together with direct funding of important infrastructure such as roads, bridges and hospitals, and a commitment to environmental best practice, mean that the benefits of the Grasberg mine will hopefully continue long after its reserves are exhausted. It should also ensure that new investors in this sector are welcomed.



DEVELOPING THE NEXT GENERATION OF SKILLED MINE WORKERS

REAPING THE REWARDS OF THE RESOURCES BOOM

Antam is a vertically-integrated diversified mining and metals company whose shareholders are benefiting from the high prices for nickel and gold, as well as the company's recent nickel expansion.

As its own company report states, 2007 was an 'amazing year.' Antam's income from nickel increased by a massive 275% in 2007, partly thanks to the addition of a third ferronickel smelter, FeNi III. Nickel now represents well over 90% of its business. That said, its gold income still increased by over 60% between 2006 and 2007.

In 1997, the Indonesian Government—the company's majority shareholder—listed 35% of the company's shares on the then Jakarta Stock Exchange to raise money for a ferronickel expansion. In 1999, Antam listed its shares in Australia as a foreign exempt entity and then in 2002 augmented its status to the more stringent ASX Listing.

Compound net revenue growth has been consistently impressive. With low debts and high cash holdings, the company is now looking to further expand, recently signing international joint venture deals to develop nickel and bauxite reserves through value-added downstream projects. While its recent attempted takeover of Australia's Herald Resources ultimately failed, it was a clear sign of intent.

With substantial reserves of nickel, bauxite and gold spread throughout the Indonesian archipelago and a stable, globally-diversified customer base, the company is bullish about its prospects, even though it is unlikely the company will experience another year like 2007.

'While our net income has decreased in the first quarter of 2008, this was not unexpected,' Antam's President Director, Alwin Syah Loebis, said recently. 'We were able to maintain our nickel ore prices despite softening spot prices for nickel throughout the quarter. Our gold division performed well in terms of revenue growth and prices of gold increased significantly. We are still optimistic we will achieve our volume targets for this year. We are also now focused on our next significant growth investment.'



AN ANTAM NICKEL SMELTER

Flying Into the Future With the Wide-Bodied Boeing B777-300ER



Garuda Indonesia has ordered 10 Boeing B777-300ER (Extended Range) aircraft, the world's largest long-range twin-engine jetliner.

The B777-300ER is capable of carrying 365 passengers up to 14,685 kilometers or around 15 hours nonstop. This will allow for nonstop flights from Indonesia to Europe and will enhance the position of Garuda Indonesia as a full-service airline. The technically advanced B777-300ER, offers a spacious twin-aisle passenger cabin with a state of the art in-flight entertainment system. The order for this B777-300ER, along with the existing order for 50 B737-800NG (Next Generation) aircraft, will enable Garuda Indonesia to implement fleet renewal and expansion plan to meet the future demands of the ever-changing air travel marketplace.

