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GBR GLOBAL BUSINESS REPORTS

Mining in Indonesia

As Vibrant as the Country that Hosts It

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This report was researched and prepared by Global Business Reports (www.gbreports.com) for Engineering & Mining Journal.

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Cover photo: Grasberg mine in Irian Jaya, Western Papua, courtesy of PT Freeport Indonesia.

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Indonesia: an overview

Diverse opportunities in a diverse country

Aerial view of project site showing tailings dams, plant site and Purnama mine. Photo courtesy of G Resources.

Indonesia comprises more than 17,500 islands, home to 237.4 million people; the fourth-largest national population in the world. Its inhabitants speak 742 languages and dialects and hold 300 distinct ethnicities. They live, work and shop in ultra-modern skyscrapers and traditional street markets. Indonesia, in short, is a perplexing country: a cultural and ecological amalgamation that both confounds and delights.

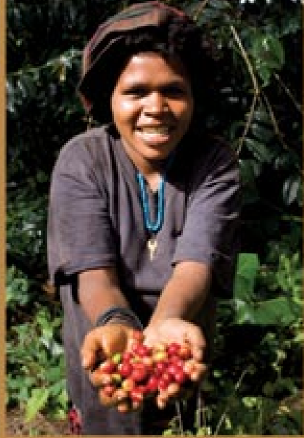
This diversity is no less present away from the camera clicks of tourists: under the ground Indonesia's geological structures hold vast mineral potential. From a geological standpoint, Indonesia boasts one of the most attractive landscapes in the world: the Central Papua magmatic arc contains porphyry copper, gold and silver deposits; the Sunda Banda magmatic arc contains epithermal gold deposits; nickel, tin, copper and coal potential is huge.

Indonesia is an advancing economic power. With the exception of 2009, an annual growth of more than 6% for the past five years has seen the country regain its investment grade rating from Fitch and Moody's. Yet despite vast reserves, the mining sector is still in its infancy. For all its diversity, Indonesia ranks in the top 10 global producers for only four minerals. Compared to Australia and Brazil's production of around 20 metals, and Canada's production of close to 30, Indonesia's production of a mere 10 should give some hint of the potential that awaits.

Yet the regulatory framework governing exploration and extraction is not up to international standards: the Fraser Institute's Annual Survey of Mining Companies 2011/2012 ranks Indonesia amongst the top 10 nations in mineral prospectivity, yet in the bottom 10 in terms of mining friendliness. Apart from coal, mineral production has remained fairly stagnant. The 2009 Mining Act is often accused of being the main culprit behind the difficulties that the non-coal sector has been facing. Since its enactment, the number of foreign juniors in the country has shrunk considerably, causing a sharp decline in exploration spending. When compared to jurisdictions such as the Canadian province of Ontario, total exploration dollars in Indonesia are dwarflike, standing at $80 million spent in 2011 while Ontario exceeded $1 billion that year.

Despite this, health in some specific segments has contributed to an unrelenting 11% annual growth in the mineral industry since 2009. Spurred on by global demand, Indonesian coal producers have led this expansion. The Southeast Asian country has now emerged as the undisputed "King of Thermal Coal," beating neighboring Australia for the top spot in total exports for 2010. From a mere 56 million mt/y in 2000, coal exports are expected to reach 312 million mt/y by the end of 2012. Aided by its low-cost labor, as well as its close proximity to nearby emerging markets, the Indonesian coal industry is expected to continue its rapid growth in the years to come.

The further development of Indonesia's mining sector, however, cannot rely solely on the black carbon. A mineral industry that fulfills the critical economic role the Indonesian government intends must be as diverse as the country itself; encouraging all opportunities. What has so far stunted its growth are challenges as complex as they are numerous. Gaining a comprehensive understanding of these challenges, as well as the success the industry has achieved so far, requires the examination of the many parties that compose the sector. With this in mind, Global Business Reports, on behalf of Engineering and Mining Journal, provides an in-depth overview of the sector's many nuances and intricacies. With insights from government officials, coal producers, and mineral explorers, this report will provide readers with an impartial analysis of the industry at large.



Transforming the Nation's Mining Industry

Indonesian coal giants look to take the next step.

Crusher at DEWATA's coal mining site in East Kalimantan. Photo courtesy of DEWATA.

Indonesia's thermal coal mining industry is growing at a momentous pace. The country's efforts to quench the demand of its rapidly-growing continental peers have caused it to emerge as the leading exporter of the fossil fuel in the world. Fueled by demand from both China and India, total output is set to reach 390 million mt/y of coal by the end of this year, an 8% increase from 2011's production. Mainly mined in the regions of East Kalimantan, Central Kalimantan, and South Sumatra, Indonesian coal tends to be of a of low to medium energy value. Yet in spite of this, unabated demand from Asia's emerging economies helped push the price of Indonesia's thermal coal beyond the $120/mt mark in Q1 2011.

Although the price of Indonesian thermal coal has since stabilized, demand for the fossil fuel remains stronger than ever. As a result, coal now makes up the lion's share of revenue generated from the industry, and with this trend expected to continue, investors from all over the world are rushing to get a piece of the action. Yet Indonesia's coal industry is not free from problems. From uncertainty caused by the new mining law, to the need for an improved infrastructure system, there remains much to be resolved for the mining industry to maintain its rate of growth.

Historically, coal has been dominated by large foreign multinationals. The likes of BHP Billiton and GE have used their expertise and capital to successfully develop many of the large coal mines that continue to play a significant role in production. Nevertheless, the names that currently dominate Indonesia's thermal coal industry would have been unrecognizable to most 10 years ago. The global heavyweights, although still present in Indonesia, have been increasingly overshadowed by local giants; names like Adaro, Bumi Resources, Berau, and Indika Energy.

Majority owned by one of Indonesia's most famous families, Bumi Resources, the country's largest coal producer, has made a name for itself both domestically and internationally. The company's assets include two of the country's largest coal mines: Kaltim Prima Coal and Arutmin.

These two mines serve as a microcosm of the industry's growth. In 2011, production at both mines climbed and total output for the year reached an all-time high at 66 million mt/y of coal. By the year's end, Bumi Resources is aiming to break this record, producing 80 million mt/y of coal. Yet this growth is not free of hurdles, to overcome which, serious investment is required. To support these mines, as well as to commence production at its newly acquired coal concessions spread throughout Sumatra and Kalimantan, Bumi Resources has set out to significantly expand the existing infrastructure.

"The total cost of these expansions is $1.5 billion; 50% is vendor financed. The other half of the expansion pertains to the balancing infrastructure: conveyors, port stockpile, blending capacity, as well as raising the ship loading capacity at KPC and Arutmin. In the past, power was supplied using diesel generators; however, with the expected curtailing of government subsidies on oil, we have decided to phase out our diesel generators, replacing them with more economical captive-coal fire power plants. This will cost approximately $750 million. Out of that $750 million, $200 million will be farmed out for Build-Own-Operate (BOO) projects, decreasing our contribution to the overall capital expenditure," said Dileep Srivastava, marketing director, Bumi Resources.

This investment program is not simply a practical necessity; it also serves to reassure shareholders that Bumi Resources' impressive growth can be maintained despite some internal difficulties. A well-publicized spat between members of the Board of Directors and then-chairman Nathaniel Rothschild has had a negative effect on the company's image. According to Srivastava, the first step in resolving this issue is to demonstrate to investors that the company's ability to achieve on-the-ground goals is unaffected by the chatter in London. "We will prove to the market that we are capable of achieving our targets; we will build the necessary infrastructure that will allow us to ramp up production significantly. These are not lofty goals, but rather calculated objectives that are meant to reinforce Bumi's image as the preeminent company in Indonesia's rapidly growing and vibrant mining industry," said Srivastava.

Suryo Sulisto, president commissioner at Bumi Resources, reinforced the view that his company's fundamentals remain strong. "Bumi is a company that is significantly undervalued. We would like to see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Bumi's stock price reflecting the true value of this company, and the world-class assets it possesses. If this perception issue can be resolved, then I am sure that we will be stronger than before. Fundamentally, there are not many companies in the world that can compete with the asset portfolio that Bumi possesses."

The challenge presented by inadequate infrastructure favors more integrated companies. With its three business pillars (energy, services, and infrastructure), Indika Energy has emerged as a leading integrated energy company. In addition to their mining contracting company, Petrosea (one of the largest in the country), Indika also holds a majority stake in Kideco, operator of the third largest coal mine in Indonesia, the Pasir Mine.

The company has plans to produce 36.5 million mt/y of coal in 2012, and to significantly ramp up production in the years to come. However, most attention the company attracts is focused not on their production targets, but on their exploration ambitions. The vast majority of Indonesian coal producers do not engage in aggressive exploration; this is due in large part to the fact that Indonesian investors prefer coal projects with short gestation periods, in which a quick profit can be generated. As a result, Indika Energy's emphasis on aggressive exploration has met with a mixture of scepticism and approval.


Acquired in 2011, PT Mitrabahtera Segara Sejati Tbk (MBSS) completes Indika Energy Group's operations on the coal value chain and strengthens the synergy among the Group companies.

"The public often wonders why we put so much emphasis on exploration when compared to our counterparts; they are uncomfortable with the idea of an Indonesian company aggressively exploring. Admittedly, other coal companies are reaping in profits from their production, nevertheless, their resources will continue to shrink and will eventually be depleted. On the other hand, Indika Energy has a long-term vision for our coal operations; we are not only looking to produce coal for only the next five years, but rather for the next 30 years. Indika Energy hopes to break this trend; we want to be the company that discovers the next Kaltim Prima Coal or Arutmin," said Arsjad Rasjid, president director, Indika Energy.

Supporting his colleague's claim, Richard Ness, director, Indika Energy, attributes the reluctance of coal companies to engage in any serious form of exploration to a lack of understanding and appreciation by the financial community of the importance to the sustainability of mining operations. "The financial community tends to have a short-term view of things, judging the success of our exploration program on the basis of our quarterly results. However, this approach is antithetical to the very nature of exploration; it can take years before a company can gain a comprehensive understanding of what it possesses underground. Overcoming this challenge will require that we educate analysts and other members of the financial community on the importance of exploration for coal companies. Nevertheless, I believe that our actions today will play a large role in allowing Indika Energy to be the premier energy provider in Indonesia for the decades to come."

Mid-tier Players: Changing the way business is done

A handful of coal giants have traditionally been the focus of all interest in Indonesian coal. Yet it is another segment of the market that is arguably most representative of the transformation the sector has experienced. The companies making up this segment are neither the largest in output nor revenues, however their emergence represents a second wave of Indonesian coal companies, characterized by both their rapid growth and a desire to maintain international standards in their operations.

Harry Asmar, president director, PT Reswara, an ABM Investama subsidiary, explains the success his company has ex-

Paulus Warsono Broto, president director, Dewata.

perienced. "In 2009, we commenced commercial production, producing a total of 90,000 mt/y of coal. In 2010 we ramped up production to approximately 1 million mt/y of coal. Furthermore, in 2011 we once again increased production, hitting 2 million mt/y of coal. For 2012, Reswara has set a goal of producing 4.5 million mt/y of coal."

The past three years have seen the company skyrocket both in revenues and output. Nevertheless, Asmar admits that the biggest challenge facing the company in the future will be sustaining this growth. According to Asmar, achieving this goal has required that the company prepare itself in advance for the fiscal year by investing heavily in infrastructure and signing long-term contracts with customers. "PT Reswara has successfully secured its market for 2012, having already signed contracts with buyers. Fortunately, we already possess the necessary infrastructure for rapid expansion of production. Our port, having a 150,000 mt/y capacity, as well as our 24-hour mine road connecting our concessions to the port, allow us to ramp up production with ease. The capital expenditure for the development of our infrastructure was approximately $70 million." While not yet able to compete with the scale of the major players, Asmar hopes to distinguish PT Reswara through the quality of its product. "Due to the fact that we have rapidly expanded production, PT Reswara has begun to compete with larger-sized companies like Arutmin. What distinguishes us from our competitors is our dedication towards ensuring that our coal is of the highest quality. We are currently in the process of reducing the variability of the calorific value, moisture content, and ash levels of our coal. To date, we have not encountered any problems in achieving this goal. This is a result of our coal's low sulfur level."

Standards in this second wave of Indonesian coal companies are high in all areas. MHU Coal, producing 2 million mt/y of the fossil fuel, has emphasized the importance of having good community relations to the success of a project. "MHU Coal has been around for a long time, however, for MHU Coal to be around for the next 20 years it is necessary that we set the standard for CSR in Indonesia. We have made an effort to show our respect to the people of the area and have forged a great relationship with the highly-revered Sultan of Kutai. In partnership with the sultanate, we are engaged in an effort to preserve the rich cultural heritage of the area," said Gatut Adisoma, president director, MHU Coal.

The attention that many in this segment pay to environmental concerns is another example of how these companies have stepped up their level of professionalism. PT Dewata, headed by the charismatic Paulus Broto, is one example of this. “Indonesia is a great country that has been blessed with unmatched physical beauty and natural resources. To maximize revenue’s and minimize environmental impact, PT Dewata aims to have one of the most efficient operations in Indonesia.”

The efforts of PT Dewata and a few others are both encouraging and indicative of a new awareness. “We commence our reclamation activity from the very beginning of operations. Many companies in Indonesia, large and small, fail to see the importance of taking this step early on, beginning reclamation only after the area has been mined out for a number of years. By doing this, companies fail to minimize their environmental impact,” said Broto.

In addition to their activity in Kalimantan, the company has ambitious plans to begin mining operations in Sumatra, where it believes the future of Indonesia’s coal industry lies.

Other companies that fall under this category include the likes of Atlas Coal, a rapidly expanding coal producer that has tapped into the Indonesian capital markets to fuel its future growth, and Harum Energy, owner of the second largest coal processing port facility in East Kalimantan.

Indonesia’s often overlooked coking coal industry

Indonesia is not the first country that comes to mind when it comes to coking coal. Although the Southeast Asian giant has surpassed Australia as the largest exporter of thermal coal, its coking coal output pales in comparison to the quantities exported by leading nations.

From a global standpoint, and in the opinion of Ken Allan, marketing director, Borneo Lumbung, Indonesian coal remains under the radar. “There has not been very much coking coal discovered in Indonesia, which meant that acceptance of our product was relatively slow. Indonesia is an active volcanic region with relatively young geological formations, and has not had the chance to create as much coking coal as Australia. However, perceptions are starting to change, and the country is emerging as a consistent supplier of coking coal to the global markets. Indonesia’s coking coal industry is not huge yet, but we anticipate that production and demand will increase substantially in the future.”

Patrick Hanna, executive director, Cokal.

Borneo Lumbung Energi and Metal produced 5 million mt/y of premium Indonesian coking coal in 2011, with plans to significantly increase capacity in the very near future.

Cokal, an ASX-listed company, is currently developing its flagship Bumi Barito Project (BBM) with aspirations to become a large coking coal producer in Kalimantan. Formed in December 2010, the company subsequently started exploring BBM in 2011.

“Shortly after commencing exploration at BBM, we were able to find an abundance of high-quality coking coal. One of the advantages of Indonesia is that it has shallow economic coal that can be found easily. Our coal has been tested in the same laboratories used by BHP and Rio Tinto. Tests have shown that the concession contains clean, low sulphur and ash, coal that will be in high demand once sold in the marketplace,” said Patrick Hanna, executive director, Cokal.

As is the case with all concessions located in central Kalimantan, logistics is a challenging problem for the BBM project. To overcome this, Cokal plans to employ a unique system of shallow-river barging.

“The most important aspect of Indonesian logistics is that there are numerous rivers that allow for barging to occur. This makes coal mining even more attractive as barge transport is the cheapest form of coal transportation anywhere in the world. Our BBM concession is 750 km up river from the Banjarmasin port where we plan to ship the coal. Cokal will utilize a system designed specifically for shallow water barging. As part of our feasibility study, we brought in an expert from Kentucky who specializes in shallow-water barging systems. Having completed a single-line depth survey of the river, Cokal has not found any obstacles that will prevent barging from taking place,” said Hanna.

Anticipated Sumatra coal boom has coal miners buzzing

Indonesia's coal boom has been one of the primary reasons that the country has seen its economy grow over the past couple of years. However, much of this growth has been concentrated in the region of Kalimantan, the Indonesian portion of the Island of Borneo, and while this growth has been tremendous, many observers believe that Kalimantan is only the tip of the iceberg for the country's mining industry. Indeed, Sumatra, the western-most of the Sunda Islands, has proven to be replete with coal.

With a total resource of 52.53 billion mt, the island stands as the leading region in terms of coal resources in the country. Nonetheless, the island's coal-producing potential has only been tapped into rather recently; the majority of attention was given to more traditional coal-producing areas throughout Kalimantan. This is due in large part to the fact that Sumatra's coal, while abundant, is notorious for having a low calorific value and high moisture; features that, in the past, often repelled buyers from the product. However, the energy demands of hyper-urbanized India and China have altered the economics of Sumatra's low-energy coal for the better. The island's proximity to these countries grants the added advantage of significantly lowering transportation costs. Once the black sheep of the fossil fuel community, Sumatra's black coal is now in high demand.

Permata Resources, an Indonesian-based coal producer with two concessions in Sumatra (PT Riau Bara Harum and PT Nusantara Thermal Coal) is one of the companies that are looking to make significant moves this year. Having acquired its first Sumatra-based IUP in 2009, Permata Resources was one of the first companies to begin mining on the island. Currently PT Riau Bara Harum has a JORC-compliant reserve of 100 million mt of coal. However, with additional onsite exploration taking place, this number is expected grow in the future. "We have not yet managed to drill all locations, and currently our geological exploration only covers some 5,000 hectares of this land; the potential to increase our reserve at Riau Bara Harum is significant," said Aris Munandar, director, Permata Resources.

In 2011, Permata Resources produced a total of 3 million mt/y of coal. The company has plans to increase their production and significantly expand infrastructure this year; Permata Resources already owns a port, which has a capacity of 4 million mt/y, and is in the process of building a second port of equal capacity. The project's capital expenditure is approximately €5 million to €6 million.

The company has a long-term plan to be one of the leading coal producers in Sumatra. Munandar, however, understands that achieving this goal will require substantial capital investments and the development of the surrounding regions limited infrastructure. "Permata Resources must build up its infrastructure as fast as possible. The main reason we are facing challenges in increasing production is infrastructure. We have the resources, and the coal is there, but we lack the infrastructure required to move the resource. With this challenge in mind, the company is building a road to service the mine. Our goal is to improve the infrastructure while slowly increasing production."

PT Adani Globlal, the Indonesian coal-mining arm of Indian conglomerate Adani Global, believes that the construction of a railroad network throughout south Sumatra would greatly accelerate the development of the coal mining industry in the region. "Upon completion, the South Sumatra railway will be capable of transporting 35 million mt/y of coal, with an option to expand it to 70 million mt of coal per year by 2020. Demand for a railway line is substantial; at the moment there is only one project that is capable of producing 13 million mt/y,

Greg Terry, president director, JM Financial Indonesia.

however, more are expected to come online throughout the province in the near future," said Ganeshan Varadarajan, president director, PT Adani Global.

Standing in the way of the development of these large-scale infrastructure projects will be the limited access to capital that many companies in the industry suffer from. Nonetheless, Greg Terry, president director, JM Financial Indonesia, subsidiary of India's largest investment bank, believes the solution lies in the country's capital markets. "Not all of that money is going to come from offshore and certainly not all of it can come from existing big players. Arguably, the Indonesian capital markets will have to be sourced, leading to increased activity and an expansion of the country's financial institutions. With enhanced global interest to invest in Indonesia, capital markets will develop."

PT Apple Coal, a subsidiary of Hong Kong-based Apple Commodities Ltd., is another company looking to realize the untapped potential of Sumatra. Ben Lawson, PT Apple Coal's president of mining, is unwavering in his belief that Sumatra will shape the coal industry's future. "Low-calorie Sumatran coal is the next big wave for Indonesia's mining industry. The demand for fossil fuels is already substantial, and will continuing to grow in the years to come. One thing that investors need to understand about Indonesian coal is that the 'low-hanging fruit' is gone. The vast majority of areas containing high-calorific Kalimantan coal have been staked out or mined out. Simply stated, the long-term future of this country's coal mining industry is in Sumatra. Most of the new power-plants being built now are being 'built-to-spec' for low-rank coal, both domestically and in the export markets."

While the benefits of extracting and exporting coal to China and India are clear to almost anyone participating in Indonesia's coal mining industry, Lawson believes that producing Sumatran coal for the domestic market could potentially be more profitable than exportation in the future. "The domestic demand for energy, particularly coal, will continue to grow in the years to come. The coal industry is already beginning to see a lot more maturity in the local market. Indonesia's growing industrial sector has increasing electricity requirements that must be satisfied. With the price of 'industrial' diesel fuel, which is directly linked to the crude oil market, being a cause for concern for much of the private and public sectors, more domestic companies are transitioning to coal. This creates a very attractive opportunity for PT Apple Coal. Moreover, by supplying the domestic market, we do not have to worry about exchange rate fluctuations reducing the profitability of our operations, and all of our transactions can be done in Rupiah. I am very bullish on the Indonesian domestic market."

Environmental Integrity and Indonesia's Coal Boom

Although the remarkable growth of the country's coal mining industry has been a source of pride and wealth for both international and Indonesian businessmen, many individuals are worried about its long-term repercussions. The most worrisome concern for many in Indonesia's mining community is the environmental degradation that has taken place due to the mining activities of small-scale, unprofessional miners.

In an effort to address these issues, the Indonesian Coal Mining Association, an organization representing 130 of the country's most influential coal miners, has set out an ambitious plan to ensure that all coal mining operations are conducted in the most professional manner possible. Most of Indonesian coal mining is open-cast, not underground, and carried out in remote areas of the country's lush green virgin forest, increasing the likelihood of environmental damage. "The Indonesian Coal Mining Association's members have a policy to mine and reclaim in any mining operation they take part in. Along with the Ministry of Forestry, we are supporting the planting of numerous new trees: within a 10,000 hectare coal concession only a maximum of 400 hectares will be mined at any one time; this area will then be reclaimed before we move on to the next mining area of 200 hectares to 400 hectares," said Bob Kamandanu, chairman, the Indonesian Coal Mining Association.

Kamandanu attributes the unethical mining practices of some miners to the 2009 Mining Law, which has allowed for smaller, less-reputable mining companies to enter the country's coal space. "The purpose of the 2009 Mining Law was to re-vamp the system but it has opened the mining industry to irresponsible mining practices, giving the industry a bad image. The introduction of decentralization was premature; the big contracts are negotiated with central government but small licenses are channeled through local government resulting in small licenses being issued without the necessary governmental explorations and environmental checks."

With their effort to take part in the reclamation process, the Indonesian Coal Mining Association is looking to shape the country's mining industry for the decades to come. "In Indonesia I would like to see the coal industry properly regulated with total production of the industry being registered with the government; consolidating all output. Mining exploration in Indonesia should be large projects and supported financially by the right amount of investment, technical expertise, environmental reclamation, and corporate social responsibility," said Kamandanu.

Wahana coal mine east pit. Photo courtesy of Leighton Contractors.

Alan Hopkins, CEO, Pan Asia Corp.

Perhaps the best way to express the commitment that miners should have with the land they operate is as Alan Hopkins, CEO, Pan Asia Corp, does: "mining is not a first date, it is a marriage. And when you marry the girl, you marry the family."

Hopefully, Indonesian miners, large and small, will see the wisdom in this statement; to access the geological potential, they must agree to take on the burden of all the regulations and political realities that come with it.

Underground coal mining Indonesia

Almost all coal mining operations in Indonesia are open-pit. Nevertheless, this is slowly beginning to change as more companies begin to the see the benefit of engaging in underground mining. Speaking of some of the benefits of underground mining, Alan Hopkins, CEO of Pan Asia Corp, an ASX-listed mining junior with plans to operate an underground mine in central Kalimantan, said: "there is a much lighter environmental footprint on the ground using an underground operation and this fits with the current trend Indonesia seems to be following. With an underground operation we are unlocking new reserves for Indonesia, and we are having a lesser impact on all the other stakeholders."

In an effort to achieve this goal, Pan Asia has partnered up with KOPEX, an equipment provider specializing in underground mining, "KOPEX did trial mining in Kalimantan, and found the conditions to be viable for underground operations. They bring great expertise, access to good gear, and finance. Furthermore, they see underground Indonesia as a new thing to open up. Pan Asia's mine could be the flagship for their underground operations in the country, and this could assist them to promote their abilities for other projects for other clients," said Hopkins.

Beyond the Coal Space

Indonesia's metals sector remains strong despite regulatory setbacks.

Tembang mine central pit. Photo courtesy of Sumatra C&G.

Not all of Indonesia's mineral wealth is black. The geological potential of the country is as diverse as it is vast. Unfortunately, outside of coal, the country's mineral industry experienced a dip in both production and investment in 2011. The mining community has attributed this largely to the fact that the sector has been negatively impacted by the recent changes implemented under the 2009 Mining Law.

Indonesia's geology is undeniably attractive for any mineral company. Describing the mineral wealth found throughout the archipelago, Sukmandaru Prihatmoko, president, the Indonesian Society of Economic Geologists, said: "Java is situated in the Sunda Pamgda arc, and as a result possesses great potential for gold and copper production. Java's location is ideal in terms of its tectonic setting and geological features. In terms of Sulawesi, there are a number of different magnetic arcs, particularly the Sulawesi arc running south from the Philippines down to Sulawesi, which make its geology ideal for mineral exploration."

Adding to this claim, Paul Willis, president director, Sihayo Gold, an ASX-listed junior, said: "the headline view is that the exploration potential has to be amongst the top 10 in the world. The Trans Sumatra Fault zone runs down the whole of the island; minerals hug the fault zone from north to south, and along this line there are various mining companies, including Sihayo. Minimal dollars have been invested on exploration along the Trans Sumatra Fault zone; currently 20 million ounces of gold have been discovered. As an area, for every dollar of exploration spent against every ounce of resource discovered, the whole Trans Sumatra Fault zone would sit in the lowest group of discovery costs."

Copper

Home of the largest copper and gold mine in the world, Indonesia is the eighth-largest global producer of copper. Partly thanks to the sheer scale of the Grasberg mine in Papua and its continuing development by its operator PT Freeport Indonesia, a subsidiary of Freeport McMoRan Copper & Gold, this is one metal for which Indonesia fulfills its potential; its global production ranking equals its global reserve ranking. Companies are striving to maintain this production: after two decades of production at the world-renowned Grasberg mine in Papua, operations are moving underground. Yet expansions such as this illustrate the hurdles that the sector faces.

In terms of copper and gold, the Grasberg mine is globally unmatched; its primary product is copper concentrate but by-product gold make it one of the world's largest gold mines. In 2012, Freeport expects to sell 930 million lb of copper and 1.1 million oz of gold from its Indonesian operations, compared to 2011 sales of 846 million lb of copper and 1.3 million oz of gold. Gold sales in 2012 are projected to be lower than in 2011 because of mining in a lower grade section of the Grasberg mine. Freeport is investing heavily to develop its underground mining operations at the site. Estimated capital spending on these projects is expected to average $700 million per year over the next five years.

To achieve this, significant foreign investment must be attracted, a task that will prove difficult given the ongoing efforts by the government to renegotiate the company's CoW. To provide certainty and encourage long-term investment, Rozik Soejitipo, president director of PT Freeport, has made it a top priority to complete renegotiations with the government by the end of 2012.

Throughout the past year, the company's operations at Grasberg have been marred by labor strikes. However, with a new CEO in place and a strategy for alleviating employee discontent, PT Freeport is looking to significantly improve on its performance in 2012. "I have met with representatives of the labor union on a number of occasions, and have communicated our company's desire to improve relations with our employees. PT Freeport's management has been working hard to understand and resolve the issues that have led to the dissatisfaction of our employees. In the effort to improve our employee satisfaction, PT Freeport has established a crisis management center; this center serves as a forum that will encourage dialogue between members of the union, leaders of the different tribes in the area, the security apparatus, and PT Freeport's management team… We greatly care about our workers; it is not possible to run a successful operation without their support," said Soejitipo.

Perhaps the most important goal that Soejitipo has set out to achieve is to change the way the company is perceived by the Indonesian public. In his view, Indonesians have unfairly negative perceptions of the company; members of the public and the government have voiced their concern over the fact that PT Freeport's tax and royalty requirements have remained stagnant, contributing the same amount to government coffers ever since the price of gold was at the $300/oz mark. "The public often reads in the new that PT Freeport is paying a royalty of 1% while making exorbitant profits; they do not understand that we are the biggest contributor of tax revenue to the Indonesian government. My vision is to transform PT Freeport into a company with an Indonesian culture. PT Freeport should no longer be perceived as a foreign entity. We have been operating in Indonesia for more than 40 years, and it is about time that we began to be seen as an Indonesian company," said Soejitipo.

Freeport-McMoRan has shown its commitment to Indonesia in other ways: supporting exploration activities being one of the most notable.

Over the past 15 years, Mansur Geiger and his company Kalimantan Gold have been working to develop their flagship asset, the KSK copper project. "Initially, the land concession was 124,000 hectares; however, due to the fact that it a sixth-generation CoW signed in 1997, the property was reduced to 60,000 hectares. Since then, Kalimantan Gold has identified numerous mineral occurrences and has drilled approximately 40,000 m of primarily shallow drill holes. Having spent $18 million on exploration, the company has identified five copper mineral prospects throughout the concession," said Geiger.

As an indication of the concession's rich mineral potential, a subsidiary of Freeport-McMoRan entered into a joint venture with Kalimantan Gold at KSK. Expressing his satisfaction at working with the multinational company, Geiger said: "Kalimantan Gold could not have found a better partner for this project than Freeport. There are not many companies that possess the experience and knowledge of Freeport when it comes to mining. Initially, I had talked to Freeport 20 years ago and they were not interested in anything outside of Grasberg. However, Freeport's mentality has changed over the years; they are now interested in exploring for concessions that they believe possess substantial upside potential; they see this with KSK."

PT Freeport is not the only major player in the Indonesian copper scene. Over the years, PT Newmont Nusa Tenggara's Batu Hijau mine has become synonymous with Indonesia's copper sector. Describing the history of the mine, Rio Ogawa, deputy president director, said: "PT Newmont Nusa Tenggara signed a fourth-generation CoW in 1986, providing the company with a stability of tax, royalty and other levies and the rights of exploration, feasibility, development and operation including the export of concentrate if a mine was successfully found and developed. While conducting exploration on the concession, PT Newmont Nusa Tenggara was able to find outcrops of copper mineralization on a green rock in 1990. This copper mineralization would lead to one of the largest copper discoveries, and would come to be known as Batu Hijau, Bahasa Indonesia for 'Green Rock.'"

Commercial production commenced at Batu Hijau in 2000 and the mine is expected to produce between 80 million lb and 90 million lb of copper and 45,000 oz to 55,000 oz of gold in 2012, with operations expected to last until 2030.

As in the case of PT Freeport, PT Newmont Nusa Tengarra has suffered from negative perceptions. Ironically, the company is partially owned by the Indonesian government. "Being partially owned by an American company engaged in mining around the globe, PT Newmont Nusa Tenggara is an easy target for government officials who want to make the claim that we are not contributing to Indonesia's development. The government and media alike are oblivious to the fact that the company is partially owned by the government. The government benefits directly from the company's operations at Batu Hijau. We, as a company, must do a better job communicating with Indonesian public, and showing that we are assisting in the development of this country. PT Newmont Nusa Tenggara should no longer be unfairly portrayed as a foreign hoarder that is looking to steal this country's mineral wealth," said Ogawa.

Ogawa also believes that the company does not get enough credit for its high environmental standards at its operations. "Anyone who knows anything about PT Newmont Nusa Tenggara knows that we operate at the highest standards. We put great emphasis on ensuring that our activities have minimal environmental impact. Furthermore, we are also very attentive to the needs of our employees; we try our hardest to ensure that they operate at the highest safety standards possible. I am very positive that we have been doing one of the best jobs in the world. Unfortunately, our activities are too often portrayed negatively by the media; this is probably due to the fact that positive news rarely sells newspapers. Bad stories sell better than good stories."

In spite of the difficulties that the company has faced in Indonesia, PT Newmont Nusa Tenggara remains committed to the archipelago. "We are discussing the possibility of expanding our processing plant at Batu Hijau. In the meantime, we have set a goal of determining the feasibility of Elang. In my view, Elang has the potential to be twice the size of Batu Hijau. However, to achieve this ambitious goal it is necessary that we have the support of the local and central governments," said Ogawa.

Precious Metals

Indonesia's gold sector falls short of its potential. The country is the eighth-largest global producer of gold, yet the fact that the country possesses reserves equal to those of the United States, which ranks third in the list of gold-producing countries, is indicative of the fact that gold production in Indonesia remains well below optimal levels.

The aforementioned challenges facing PT Freeport Indonesia and PT Newmont Nusa Tengarra, both producers of gold as well as copper, give some indication of the reasons behind this. As in most parts of the world, the high price of the precious metal has been a cause of optimism for exploration companies looking for the next big discovery in the archipelago. However, given Indonesia's increasingly tricky mining laws, many mineral explorers have been discouraged to enter Indonesia, and the number of explorers has dwindled over the past couple of years.

Yet this is by no means the case for all mineral explorers. ASX-listed junior Sumatra Copper and Gold, while recognizing the difficulty that comes with navigating Indonesia's regulatory framework, sees the new mining law as an opportunity.

If the company succeeds in bringing its JORC-compliant deposit into production, it will be the first mine to have gone through the complete development cycle under the Izin Usaha Pertambangan (IUP): the permitting system for mine development that replaced the contract-based concession system of the past. While achieving this task will certainly be important for the company, it may prove even more significant to the Indonesian government, who has received sharp criticism from the mining community over its introduction of the 2009 Mining Law.

"The new mining laws were the catalyst for the formation of Sumatra Copper and Gold because we saw it as an opportunity for juniors to come into the market and peg ground that was now vacant as a result of many juniors leaving. It is difficult to comment on the effect of the 2009 Mining Act; its makeup was designed for what we now have and has proved to be our biggest competitive advantage. Assuming we take Tembang into production, Sumatra Copper and Gold will be the first company under the new IUP system that has pegged the ground, explored and developed it," said Julian Ford, managing director, Sumatra Copper and Gold.

Further along the development cycle is G-Resources' Martabe project. Unlike Sumatra Copper and Gold's Tembang project, Martabe does not fall under the IUP system, but is rather a sixth-generation Contract of Work (CoW). Gold production is anticipated to be 250,000 oz/y for a minimum of 10 years, with an aim of commencing commercial production in July 2012. In addition, a substantial silver by-product will add value to the project.

"Purnama, our first deposit at Martabe, is a very rich silver deposit that will begin production in the next few months, producing 2 million oz/y to 3 million oz/y for the next 10 years. We are able to factor in this silver as by-product credits, which reduce our cash cost. The technical fundamentals of the project are strong: deposits near the surface to minimize mining costs, a grade of 2.1 oz/mt of gold that puts us above industry standard, and a gold recovery rate of 80%. The logistics are good: located one hour from Indonesia's third-largest city, one hour from a large port ideal for transporting equipment, the Trans-Sumatran highway is just outside the gate, and there is a power line six km away that we can tap into," said Peter Albert, CEO, G-Resources.

This, however, is only the beginning for G-Resources. "We have the executive skill set and resources to double what we are doing today within the next five years and to seriously grow the Asian precious metals business. We are aiming to be producing 1 million oz/y in the next five years, through Martabe and possibly a few acquisitions. There are great opportunities in the Southeast Asian mineral belt, and we have been working here for years and know the geology, the environments, and the rules and regulations. We have a proven track record of operating here, and we will be able to leverage from the success of Martabe to increase our growth profile and keep our shareholders happy," said Albert.

Nickel

In addition to gold and copper, Indonesia is also a leading producer of nickel. The vast majority of ore mined in the country is high-quality nickel laterite. Since 2010, the country's nickel output has experienced a dip, most likely due to the increasingly uncertain regulatory environment. Recently, and without much warning, the Indonesian government passed a governmental decree on February 6, 2012 banning the exportation of unprocessed nickel ore, which took affect in May.

The passing of this law has caused much dismay throughout the nickel mining industry, as operations have been thrown off course by what many perceive to be arbitrary law making. “No one took this seriously at first, but our sources indicate that the government is quite intent on instituting this change. Their concept of how the mining sector works and how this regulation will affect it are both misguided. They think that this new rule will trigger a chain of events where all the businesses in the Indonesian mining sector will idyllically embrace each other, sell ore to each other, form unions, and build smelters together. They did not consider that if I have my own ore and smelter, maybe I do not want someone else’s ore, or that their ore might not meet my processing requirements,” said Vasily Tsarev, president director, the Bantry Corp.

In response, Bantry Corp. helped establish the Indonesian Nickel Association, in the hope of overturning this law. The Indonesian Nickel Association is composed of 200 nickel-producing companies. Hopeful that change is near, Tsarev said: “the INA filed a claim to the Indonesian Supreme Court for judicial review of parts of this regulation, and the group is now in consultations with the government and Chamber of Commerce and Industry. Eventually there may be a revision of the regulation whereby its implementation procedure is amended.”

Bantry Corp. has been operating in Indonesia since 2006 and is producing high-grade nickel ore from its concession at Kabaena Island. In spite of the recent detrimental changes to the mining law, Tsarev is positive about Indonesia, and continues to believe that there remains plenty of potential to be unlocked at the concession at Kabaena Island. “While mining has commenced in parts of this concession, we are still actively exploring other areas. Our exploration program is based on targets. For indicated resource, we implemented the classic approach of drilling with a spacing of 100 m. Through this drilling we identified the two high-grade blocks, and started drilling one of them with 25 m spacing to get the measured resource category further convertible into a reserve class. Our remaining exploration program goes further into the areas where we clearly see the laterite mineralization.”

Also looking to making a name for itself in the archipelago’s nickel space is Bumi Makmur Selaras. In 2011, the company produced 1.3 million mt/y of nickel. With a producing concession in nickel-rich Halmahera Island and a newly acquired exploration permit in South East Sulawesi, the company is looking to ramp up production in the near future. Nevertheless, a lack of infrastructure stands between the company and its goal. According to Burhan Tajuddin, director, Bumi Makmur Selaris, government support can go a long way in helping the company complete this task. "Infrastructure is a problem across all mining sectors. As mush as 20% to 30% of our project investment is earmarked purely for infrastructure, so it would be a great help if the government contributed. We need to build the entire transport system, from the roads, to the bridges, to the port itself."

Once the necessary infrastructure is in place, the company plans to significantly ramp up production. "We have already ramped up production at our concession in Halmahera Island. With respect to our newly acquired concession in Southeast Sulawesi, we aim to start producing by the end of the year. Bumi Makmur Selaras wants to increase overall production to 2.5 million mt/y, almost doubling its current production level," said Tajuddin.

The archipelago's nickel potential has attracted a wide range of companies. Vale, the Brazilian mining giant, has a long history in Indonesia. The company signed a CoW that awarded it a land package of 6.6 million hectares, spread throughout the provinces of South, Southeast, and Central Sulawesi. After progressive exploration, the concession was reduced to 218,000 hectares. This CoW was renewed in 1996, and will remain valid until 2025.

Describing the importance of Indonesia to the multinational's global growth strategy, Nico Kanter, president director, Vale Indonesia, said: "in Indonesia, Vale produces an intermediate nickel product with 78% nickel content; our entire product is exported to Japan. Currently, our monthly production is 72,000 mt per month; small when compared to the giant mining operations in other parts of the world. Nevertheless, the company remains committed to Indonesia, seeing it as a fundamental component of their global nickel production strategy. We will invest $2 billion over the next five to seven years to increase that rate of production to 120,000 mt/month." This $2 billion will be used on a range of projects. Vale intends to expand its existing operations, especially in Sorowako, where its smelter and processing plant are located, yet new areas are also attracting the company's interest. "Beyond [Sorowako], we want to expand our mining activities in Central Sulawesi. A good deal of infrastructure will be required in that location, as we will use it to process the additional product when we reach our target of 120,00 mt/m," said Kanter.

Achieving all of these tasks must be done with sustainability in mind. "At the moment, we need to concentrate on the deposits under our concession areas in Indonesia; our resources have not been explored to the fullest, and we need to maximize these reserves. That being said, we must consider the long-term outlook and be mindful about sustainability, as we do not want to create a mining ghost town," said Kanter.

Vale Indonesia plans to step up its presence in Indonesia. Long known under the name PT Inco, the company is looking to distance itself from its predecessor, while carving a new image for itself in the Indonesian market. "The brand launch has to be taken into careful consideration; simply changing the name without the full buy-in of employees, local government and community partners can be detrimental. We have waited until now because we have been consolidating the knowledge and skills we inherited from Inco with the unique aspects of Vale Indonesia. We are now ready with the new Vale Indonesia, a new brand with a new future," said Kanter.

Lead & Zinc

Lead and zinc rarely cause the same excitement as their shinier cousins. As a result, entire industries sometimes get overlooked. This is not stopping PT Dairi Prima Minerals from trying to raise Indonesia's profile as a lead and zinc destination, aided by what it believes is one of the highest-grade lead and zinc deposits in the world, located in Northern Sumatra.

"It is almost 25% metal. The reserve is small at the moment, 6 million mt, but the geologic potential is huge; we are told that it is a sediment-hosted massive sulfide deposit, and if you look at those worldwide they tend to be quite large. Once in production in 2014, we plan to treat 1 million mt of ore annually, which will produce 200,000 mt/y of zinc concentrate and 150,000 mt/y of lead concentrate," said Evan Ball, president director, PT Dairi Prima Minerals.

At a time when the gold price is trading above $1,500/oz, it can be difficult to attract investors to the more mundane base metals. However, according to Ball, neither of the metals should be overlooked. "There are two reasons: an increase in demand, and a shortage of supply. By 2014, four or five of the world's top lead and zinc mines will have closed because they will have exhausted their reserves. Zinc is directly linked to construction, predominately in the form of zinc-aluminum coatings. If the world continues to develop, which it certainly will, then the need for zinc will remain strong. Lead is primarily used in batteries, which are also still in healthy demand."

As has been the case with a number of Indonesian mineral projects in recent history, PT Dairi Prima Minerals hit a snag when they were initially unable to obtain a Forestry Permit. This legal hurdle delayed the project for a number of years. In 2011, however, this was resolved and the company are now simply waiting for final confirmation before proceeding with the development.

"The major milestone has been receiving 'in principal approval' from Indonesia's Department of Forestry to proceed with the project. This finally happened last year, as a result of a presidential decree that clarified the situation in relation to underground mining in protected forests. There was some legislation that ruled open-pit mining to be illegal in protected forest area, but it did not address underground mining, so DPM's approval was held up until the legal situation was clarified (which took several years). We are now just finishing fulfilling the criteria to obtain the final Forestry permit and hope to have this in hand by mid-July," said Ball.

The 2009 Mining Law

Justifiable protection of national sovereignty, or damaging resource nationalism?

No discussion on Indonesia's mining industry can be complete without mentioning the Law on Mineral and Coal Mining No.4/2009, otherwise known as the "2009 Mining Law." The law has had a significant impact on foreign investors' perceptions of the country. Once enacted, the 2009 Mining Law replaced Mining Law No.11/1967, which effectively provided the regulatory framework for all mining and exploration activity that had taken place prior to 2009. All contractual-based concessions (Contracts of Work (CoW) and Coal Contracts of Work (CCoW)) were substituted by a single area-based licensing system, otherwise known as an IUP.

Understanding the rationale behind the introduction of the 2009 Mining Law requires that it be examined in the context of the Reformasi Era and the Indonesia transition towards democracy over the past 14 years. Since undergoing its democratic transition, Indonesia has seen its central government give away more of its authority to the 365 Kabubatin (regional) governments. "The euphoria of Reformasi pervades the vast majority of mining regulations that have been passed since the transition towards democracy began. Since the start of the transition, the authority to control and regulate the mining industry has been handed down from the central government to the local governments. Unlike in the Suharto period, nowadays, both the local and national governments play a role in the mining industry and this has significantly complicated issues for foreign miners who want to operate in Indonesia," said Rahmat Soemadipradji, senior partner, Soemadipradji & Taher, an Indonesian law firm specializing in mining and corporate law.

Over the past three years, the 2009 Mining Law has become notorious for causing many headaches and long hours at the office. Controversial regulations pertaining to divestiture requirements and mineral processing facilities have taken a toll on the industry's image abroad. Yet, while the 2009 Mining Law has recently been depicted in the media as a nightmare for foreign investors, it was originally seen as beneficial piece of legislation for non-Indonesians. "Initially, the 2009 Mining Law was well-received by the industry, as it eliminated the uncertainty that existed with respect to foreign ownership, which was inherent in the old structure. When the 2009 Mining Law was introduced it was seen as being more beneficial for foreign miners as it defined what foreigner miners were legally capable of undertaking; foreigners could now be legal holders of mining permits (IUPs). Thus, the introduction of the 2009 Mining Law provided new opportunities to foreign investors and mining *(continued on p68)*

In Defense of the 2009 Mining Law

Interview with Dr. Simon Sembiring, former director general mineral, coal and geothermal, and chief architect of the 2009 mining law

What are some of the benefits of the 2009 Mining Law?

There are a number of benefits to the 2009 Mining Law. Firstly, I would like to state that the IUP is a greatly misunderstood piece of legislation; it is actually much more efficient than its predecessor in setting out the requirements for any mining operation. It provides certainty where the CoW system did not. However, since its introduction in 2009, subsequent implementing regulations have not provided sufficient levels of clarity for investors.

Nevertheless, the 2009 Mining Law is a step in the right direction, and remains superior to the CoW system. For example, the previous Mining Law did not mention service companies at all; however, this new mining act prescribes specific provisions for their services. Furthermore, the new Mining Law supports the development of an Indonesian local mining services sector, ensuring that they get work as long as they can compete with their foreign counterparts, both financially and technically. The promulgation of this law supports free competition, while at the same time guaranteeing the growth and development of the local mining services industry.

The 2009 Mining Law has also introduced a tender system for metal minerals and coal by which companies apply and compete to get the permit or license. This guarantees that the most qualified companies acquire the license. In the past companies would acquire licenses and fail to do any work on the land. Old regulations provided companies with too much freedom and allowed for unnecessary amounts of abuse.

In short, the 2009 Mining Law is a great piece of legislation that is superior to its predecessor. Admittedly, subsequent implementation of regulations hashave not provided the required degrees of clarity, but in time, I believe that these issues will be resolved.

Why was it necessary to get rid of the Contract of Work system when so many companies had a favorable view of it?

Foreign companies prefer the CoW system because it put them in an unfair position, on an equal legal footing with the government. Wherever one goes in the world, the prevailing system for mining awards companies licenses, not contracts. When companies complain about the IUP system, they need to understand that contracts between companies and the government do not exist in other parts of the world. Companies do not have this privilege in Australia or the United States, so why do they expect to have it in Indonesia? Companies enjoyed the old system because they had to make minimal contributions to the Indonesian society; now they are dissatisfied because they realize that the honeymoon period is over.

The CoW system provided very little benefit to the people of Indonesia. How is it appropriate that a state-owned company like Aneka Tambang pay a 3.5% royalty for gold, while Freeport, a company that is literally printing money, only pays a 1% royalty? How is this fair, and, more importantly, how does it benefit the Indonesian people?

The value-added requirements contained in the new mining law have been a source of some controversy. How important are these to the future of the Indonesian economy?

Every journey, however long it may be, begins with a single step. The Indonesian government's move to require in-country, value-added processing was not a rash decision, but rather a very calculated one. For Indonesia to grow and develop as a country, we must stop exporting raw materials and must instead add value to the product, using local human capital and expertise. We must create the link between the upstream and downstream businesses here in Indonesia. I am certain that there will be challenges along the way, but I am certain that this requirement will have positive ramifications on our country's long-term economic prospects. Indonesia must make the big jump forward in terms of development. We are not being unrealistic when we ask companies to build smelters and refineries in Indonesia. Posco, a new entrant in the Indonesian market, is already in the process of constructing a smelter that should be in operation by 2013. They are setting an example for the rest of the foreign companies working in Indonesia.

Why was the introduction of a new mining law necessary?

In 1967, Suharto needed to create incentives to attract foreign companies to invest in Indonesia's mineral resource industry. The nation's economy was a shambles and inflation was out of control at 650%. However, the economic situation in Indonesia is drastically different. Laws and economic policy should be dynamic and must be modified so that they are appropriate with the realities of our time. We still invite foreign companies to come work in Indonesia, but not at the expense of the Indonesian people; the rules of the game must become more egalitarian. The 2009 Mining Law allows the Indonesian people to reclaim their sovereignty.

When compared to other jurisdiction around the globe, how would you assess Indonesia's "mining friendliness"?

Recently, the government of Australia imposed higher taxes on mining companies to protect its people and ensure that they experienced the benefits of the mining boom. Just like in the case of the Australian government, the government of this country must do the same to protect the rights of the Indonesian people. Article 33 of the constitution explicitly states that the country's natural resources belong to the citizens of this country, the Indonesian people. In the future, the Indonesian government will make sure that its citizens enjoy their country's vast natural wealth. Indonesia is now a democracy; every citizen is entitled to the natural resource wealth of this country.

Is Indonesia still an attractive destination for foreign companies?

I have no doubt that Indonesia is still as attractive of a destination as it was in the past. The mining industry in Indonesia has been growing at a rate of 11% for the past three years; Indian, Chinese, and Australian mining companies are rushing to do business in this country, and while there are some companies that have decided to leave, their decision is a reflection of their company's shortcomings, not of the regulatory challenges they face in the Indonesia.

Recent Developments in Domestic Processing & Refining Obligations

by Rahmat Soemadipradja and Matthew Goerke, SOEMADIPRADJA & TAHER advocates

The new Mining Law, Law No.4 of 2009 on Minerals and Coal (Mining Law) and its implementing regulations have, in general, provided a much greater degree of certainty to the Indonesian mining sector and appears to have significantly increased the appetite for domestic and local investment in that sector.

Nevertheless, one area of concern for investors has been the requirement in the Mining Law for mining license holders to increase the value of the minerals and coal produced from the relevant mine by carrying out processing and refining of those minerals and coal domestically (Domestic Processing Obligation). The Mining Law states that mining license holders must comply with the Domestic Processing Obligation by 12 January 2014.

On 6 February 2012, the Ministry of Energy and Mineral Resources (MoEMR) issued regulation No.7 of 2012 (MEMRR 7/2012) which sets out several provisions in relation to the Domestic Processing Obligation, including:

- the minimum level of refining and/or processing for each specified metallic, non-metallic and rock commodity;
- the ability for mining license holders to engage a local third party to carry out processing and/or refining activities if it is uneconomical for the mining license holder to carry out those activities itself; and
- the administrative sanctions for failure to comply with the Domestic Processing Obligation.

Significantly, MEMRR 7/2012 also imposes a ban on the export of raw materials with effect from 6 May 2012 (Ore Export Ban).

On 4 May 2012, MoEMR announced that it would grant exemptions from the Ore Export Ban if a mining license holder meets (among others) the following criteria:

- holds a mining license that has been declared 'clean and clear' by the government (i.e. a mining license which does not overlap with any other mining or other concession/license);
- submits a work plan and/or cooperation plan which confirms the mining license holder's plan to comply with the Domestic Processing Obligation;
- signs an 'Integrity Pact' (whereby the mining license holder will agree to comply with the Domestic Processing Obligation); and
- pays export duty (as discussed in further detail below).

On 11 May 2012, the Director General of Minerals and Coal (DGMC) issued regulation No.574.K.30/DJB/2012, which supplements the above announcement and MEMRR 7/2012, and stipulates (among other matters) that a mining license holder would need to obtain the status of a Registered Exporter (RE) and an export approval from DGMC for each shipment. The regulation also lists the requirements to obtain a RE certificate and an export approval.

On 16 May 2012, the Indonesian Minister of Finance issued regulation No.75 of 2012, which imposes a 20% export duty on mining companies that export certain unprocessed mineral ores. The government has indicated that this export duty is an interim measure until the full implementation of the Domestic Processing Obligation.

companies. Over time, the optimism felt by the international community has receded as implementing regulations have been passed, and investment opportunities have become less favorable for foreign miners," said Dezi Kirana, partner, Soemadipradja & Taher.

Indeed, the waves of optimism initially felt by much of the international community are less prevalent than they once were. However, according to Soemadipradja, the increasing resource nationalism expressed by the government will adjust depending on prevailing economic conditions. "The level of resources nationalism as it is reflected in law has fluctuated in the past and it will continue to fluctuate in the future. At the moment, the government is riding a wave of confidence; Indonesia's investment grade has gone up, the prices of commodities are high, and the nation's economy is expanding. Consequently, the government believes that it can rely less on foreign investment for the sector to continue growing."

While these words may be hard on the ears of many foreign investors, from a geological standpoint, Indonesia remains as one of the best jurisdictions in which to operate. Nonetheless, the success of any foreign company in Indonesia, whether major or junior, will depend largely on the management team's ability to understand and navigate Indonesian law.

Overlapping IUPs

If there exists one effect of the Reformasi that has had the largest impact on the archipelago's mining sector, it is undoubtedly the decentralization of power from the central government to the local governments, or "Kabupatins." One of the most significant reforms to take place after the fall of the Suharto era was the decision by the Indonesian government to allow for increased regional autonomy and the decentralization of power. The enactment of Law 22/1999 has allowed for regional governments to play a much larger role in the administration and development of the local regions.

One of the many prerogatives given to Kabupatins has been the right to issue resource permits alongside the national government. While this law was initially seen as an effective means by which to ensure that local people would share in their land's mineral wealth, the issuing of mining permits, or IUPs, has since become an administrative nightmare.

Explaining the reasons behind the administrative confusion caused by these constitutional reforms, Syahrir Abu Bakr, executive director, the Indonesian Mining Association, said: "many of the recently issued IUPs overlap with other already staked out concessions. The main reason that this problem has emerged is that the Bupati, the local governor, is now capable of issuing IUPs, and very rarely follows the correct procedures when carrying out this task. Many times, these local governments do not have experience or simply fail to comply with requirements that underlined for issuing IUPs."

Further complicating the situation is the recent increase in commodity prices. Looking to rein in as much wealth as possible for their area, many Bupatis have been found guilty of corrupt practices in the recent past. "The Bupati are often guilty of issuing IUPs in exchange for political benefits. Furthermore, they issue IUPs to stakeholders that fail to respect the environment," said Abu Bakr.

Although overcoming this challenge will certainly be a monumental task, the Indonesian government has made it a high priority to resolve this issue. Understanding of the importance of providing certainty for investors and mining companies, the central government has set out on an ambitious plan to resolve all outstanding IUP issues. Under the auspices of the Ministry of Mines and Energy, a committee was formed for the purpose of determining the legality of all issued IUPs. As of May 2012, 3,776 IUPs out of a total of 9,662 IUPs, have been deemed "clean and clear." The government has not set a date as to when it expects to determine the legality of all remaining IUP claims. Nevertheless, their endeavor to rectify this administrative confusion should be applauded.

Value-Added Processing

One of the more controversial regulations in the 2009 Mining Law is GR 23, which requires that all holders of IUPs carry out in-country processing and refining with the aim of increasing the value of exports and

Makoto Miki, the president director, PT Smelting.

maximizing benefits to Indonesia. Both this law and its subsequent amendments (GR 24) have been met with fierce opposition from members of the mining community. While it is difficult to argue against the benefits of expanding value-added processing in Indonesia, critics of the regulations claim that that language used in the regulations are simply unrealistic.

According to Makoto Miki, president director, PT Smelting, Indonesia's first and only integrated copper smelting and refining facility, processing certain minerals may make economic sense, but this does not hold true for all of them. "Admittedly, value-added policies are a step that every national government should take to develop their respective country. Nevertheless, the national governments aspirations must be in line with the economic realities that companies are facing. Furthermore, value added law must take into consideration the differences that exist between the processing of one type of mineral and another. While it may not be economically feasible to construct another copper smelter in Indonesia, there may exist justification for the construction of other processing facilities depending on the mineral."

Rio Ogawa, deputy president director, PT Newmont Nusa Tenggara, a joint venture company owned by Newmont Indonesia Ltd., Sumitomo, and PT Pukuafu Indah, has reached a similar conclusion after assessing the feasibility of building a copper smelter on the Batu Hijau mine. "Building a new smelter in Indonesia, relying solely on the ore that is mined at Batu Hijau, is not economic. This is because the required capital investment is too high, as well as the fact that there is excess capacity for copper smelting and refinery throughout the world. Processing facilities from China, Japan, and South Korea are all working at below capacity. With these smelters and refinery in need of additional copper for processing, they are willing to buy copper concentrate at $0.10/lb. On the other hand, we have studied the costs that would be incurred if we were to build our own smelter; these calculations were done using some very favorable assumptions. They demonstrated that copper would have to be processed at a cost between $0.35/lb to $0.45/lb to break even; this is well above the global average cost."

Another issue which has concerned miners is the fact that it appears that the government, while calling for value-added processing that requires significant capital investments on behalf of the private sector, has done little to assist with the process themselves. According to many in the mining community, the value-added policies do not take into consideration the heavy associated costs. Having the facilities necessary for these processes will require substantial amounts of capital that companies will be unable to raise on their own. Companies agree that if the government truly wishes to enforce this requirement, it should share in the burden that companies will be carrying by providing financial incentives. "There have been rumors that the government will offer a tax holiday. This, however, would do little to relieve the burden as a tax holiday is only useful if a company is able to generate a profit. Nevertheless, if the government is serious about its desire to have these facilities available in country, it should provide companies with other support such as soft-loans," said Ogawa.

That being said, even in the cases where in-country processing appears to make sense, the Indonesian government is making life difficult for some companies who have plans to construct Indonesia-based processing facilities. The Solway Group, a Cypriot company with aspirations to become one of the largest ferronickel producers in the world, had its plans to build a nickel smelter on Halmahera Island thrown off-track by the government's recent passing of GR 24, an amending regulation which moved up the anticipated ban on the exportation of unprocessed nickel ore from early 2014 to May 2012. The Solway Group had plans to finance a significant portion of their smelter's capital expenditure using cash flow generated from the exportation of unprocessed Indonesian nickel ore.

"Many companies have contracts with overseas buyers of ore, and by implementing this ban without informing companies beforehand, the government is effectively breaking the contracts that many companies have with overseas partners. This, of course, is not considered good business practice. The Indonesian government should be more flexible with this decree. The government must look into the idea of providing a mechanism by which companies can continue to honor their contracts and continue to export ore, at least for a short while," said Dmitri Privalov, president director, Solway Group. Regardless of this setback, the Solway Group remains committed to Indonesia and are looking to begin construction of their nickel smelter at Halmahera next year. "There are not many places in the world that have an abundance of laterite nickel available to mine. Indonesia possesses 30% of the total nickel reserves around the globe. Many companies, including ourselves, are very comfortable with the idea of constructing a smelter and investing substantial amounts of money in Indonesia. However, we have our own views on the appropriate route to achieve this common goal of achieving in-country, value-added processing," said Privalov.

Divestiture

According to another requirement that has struck a chord with investors, particularly foreigners, under recent amendments of the mining law, foreign shareholders will be obliged to reduce their ownership of a mining concession to 51% by the end of the 10th year of production. The government has put in place intermediate divestment thresholds starting from the sixth year of production where a foreign investor will be required to divest 20%. The rationale behind this decision is hard to decipher, given that continued foreign investment will be necessary to sustain the sector's growth in the years to come.

Michael Corey, president director, PT MMG Indonesia, Indonesian subsidiary of MMG Resources Ltd., believes that the divestiture requirement will greatly affect the degree to which foreigners will be able to make significant capital investments in the future, as 10 years is not sufficient time for many companies to make a return on investments, particularly for capital-intensive precious metals mining operations. "Requiring foreign companies to decrease their equity to 51% after 10 years of production could be feasible for small-scale, low-capital expenditure, stand-alone gold projects. However, with respect to our Gorantalo porphyry projects, it is a multibillion-dollar development project; investors will not be getting their money back in 10 years' time. Implementing this regulation kills the incentive to invest in Indonesia," said Corey.

However, others are of the view that the ramifications will not significantly diminish interest from foreign investors. According to Bill Sullivan, partner, Christian Teo Purwono & Partners, a law firm with expertise in mining and natural resources, while the average Western multinational company may be deterred from investing due to these recent developments, interest will remain strong for Chinese and Indian investors. "Companies from India and China, which are much more used to an opaque regulatory framework, do not seem to be as discouraged as western companies are by the lack of clarity and legal certainty. Also, it must be said that some second- and third-tier Western mining companies have a very high appetite for risk which causes them to be less concerned about the uncertainty of regulatory change in Indonesia than might have otherwise been thought to be the case."

Reiterating these views, Guy Des Rosiers, partner, Makarim & Taira S., a leading Indonesian law firm, said: "currently the majority of our clients are from India and China, mainly looking for coal, and having an Asian mindset are not so adverse to the Indonesian mining laws. Canadians and Australians, amongst others, are reluctant to enter Indonesia with its current mining laws."

Aside from the divestiture requirements, the issue that foreign miners appear to find most troubling is the fact that the government has yet to provide clarity on the means by which foreigners will be required to complete the task. For example, how will the price of sold shares be determined? Legislators have yet to clarify this issue. According to Sahala Situmoran, partner and head of Transaction Advisory Services, Ernst & Young Indonesia, a company's net present value (NPV) should be the determining factor. "Discounted cash flow analysis should be used to determine the company's NPV at the time of divesture. That being said, there are number of other variables that must be taken into consideration, namely total reserve, mine life, the technical difficulty involved for mining operation, and, most importantly, proximity to coastline. Only after examining all these variables can the price of the asset be determined."

Foreign Mineral Explorers Hit Hard by New Law

While the detrimental effects of the 2009 Mining Law are often analyzed through the scope of large multinationals, the ramifications of this legislation extend beyond this market segment, and have had the biggest impact on the often overlooked and underappreciated mineral exploration industry. Over time, Indonesia has emerged as an increasingly difficult jurisdiction for junior explorers to operate in. These challenges have seen the number of junior explorers active in Indonesia dwindle in number.

In response to the growing concerns of Indonesia junior explorers, a new organization was established for the purpose of communicating the specific needs and concerns of these companies; the Indonesian Forum for Mineral Exploration and Development (EMD). "Basic exploration in new areas is not happening in Indonesia due to a number of restrictive regulations and the slow process of Forestry Permit granting, which can take up to five years from permit application to commencement of drilling. Some junior companies, therefore, are of the opinion that it is more profitable to go to another country that has equal mineral potential and where they will be better received," said Malcolm Baillie, chairman, EMD.

The aim of the organization is to work with the authorities and influential individuals to help create a friendlier regulatory framework for exploration. "EMD wants to promote the understanding that if exploration does not take place, then this will have serious negative effects on the industry in the future," said Baillie.

To many of Indonesia's junior explorers, government officials fail to have a comprehensive understanding of the inherent differences that exist between exploration and mining. As a result, the parliament has passed legislation that, in effect, has created a regulatory environment that is not conducive for mineral exploration. "In my opinion, the Mining Act of 2009 was written specifically for the coal industry, and mineral companies are suffering because of it. In short, the Indonesian Government fails to have a deep understanding of the intricacies of mining; coal is a 'get-rich-quick' industry, while mineral extraction requires a much higher level of expertise and time. As a mineral explorer of gold and copper, which are a hundred times more expensive and time consuming than coal, the general attitude of the government over the years has not been encouraging to mineral exploration. There is nothing explicitly stated in the language of the Mining Act of 2009 that makes the environment more conducive to one over the other; nevertheless, I strongly believe that the general attitude of the government, as well as the spirit in which this piece of legislation was written, is discouraging to mineral exploration and development," said Mansur Geiger, vice president of exploration, Kalimantan Gold, an AIM- and TSX-V-listed mining junior.

Sustaining growth in the country's mineral sector will prove incredibly difficult if a healthy junior exploration sector does not exist. Indeed, since 2000, no major mineral discovery has occurred in Indonesia. Emphasizing the importance of the exploration sector, Sullivan, Christian Teo Purwono & Partners, said: "many great finds have come from small exploration companies, while the actual production and development is covered by high capital multinationals. To develop the true potential of the industry, small exploration companies must be able to operate."

Even though investments from junior mineral explorers have been shrinking, the government does not appear to be acting urgently to address their concern. In failing to do this, the government is allowing Indonesia to miss out on a substantial amount of foreign direct investment.

"The junior mining and exploration sector (more specifically, copper and gold) has been relatively stagnant since 1999, with a potential $1 billion lost in mineral exploration investment. A total of $18 billion was spent on worldwide exploration in 2011, of which junior explorers account for more than $9 billion. Of this, approximately 80% was spent on copper and gold projects. Although Indonesia is one of the top 10 most prospective countries in the world, annual exploration expenditure rarely exceeds $100 million. There is potential for more than $500 million annual investment, so obviously the government needs to address some of the issues to secure a larger portion of global exploration expenditure," said Stephen Hughes, regional exploration manager, Tigers Realm Minerals, a private, Australia-based resource company with assets around the globe.

Other Regulatory Issues

Aside from the 2009 Mining Law, perhaps the biggest hurdle facing explorers in Indonesia is obtaining Forestry Permits. Although exploration tends to have minimal effects on the environment due to its non-intrusive nature, obtaining a permit can significantly stall activity for junior explorers. Unfortunately, unlike their larger producing counterparts, junior explorers tend to be strapped for time and money, making the process especially grueling for them.

Expressing his frustration, Hughes of Tiger Realm Minerals said: "the process can take one, two, or sometimes three years or more to complete and this is unacceptable to most investors. Companies are required to assign someone full time to the job of ensuring the permit moves from one desk to the next; otherwise progress of the permitting process can easily stop. For junior explorers, it is very difficult to remain idle while waiting for a forestry permit. According to the new forestry law, it should take a maximum of 120 days for the permits to be issued, but in practice this rarely occurs."

Sharing his annoyance, Corey of MMG Indonesia said: "the biggest challenging facing Indonesia's mining industry lies with the Ministry of Forestry and the uphill battle that companies face in securing permits. One would think that with the current divestiture requirements national and regional governments would be quick to issue additional IUPs to secure revenues from production. Unfortunately, very few companies are able to reach this stage of development as projects are often sucked up by the 'black hole' that is the Ministry of Forestry."

Not all the industry is pessimistic. Cokal, developing the Bumi Barito coking coal project, faces the challenge of obtaining a Forestry Permit, yet Patrick Hanna, executive director, remains positive. "I am optimistic that Cokal will traverse the legal humps by next year, and will provide a return for our shareholders in the process. Once we achieve our goal, people will ask us how we did it. We will tell them that to succeed, you have to know how to do business here in Indonesia. Cokal is happy to work in Indonesia, and we look forward to the future here."

Labor

Another significant challenge facing Indonesia's mining industry has been the shortage of skilled labor. While the sector has experienced remarkable growth since 2009, its future expansion will rely heavily the availability of local human capital. Fortunately, Indonesia does possess a large pool of skilled, highly intelligent laborers. Nevertheless, attracting and retaining these employees has proved to be difficult. Today, Indonesian firms are faced with the situation of not only competing with fellow local companies, but with the mining sectors of the developed world starving for employees.

"There is a severe national skill shortage of professional mining engineers for the emerging market across all disciplines. With the skill shortage and resulting demand, plus an inflationary effect on wages, we are seeing a high degree of personnel mobility between companies, both locally and internationally," said Terence Moore, president director, JDA Indonesia, an agency specializing in recruitment and contracting services to the broader mining market of Indonesia.

Addressing these issues requires that companies go beyond simply raising salaries to attract the brightest minds; employees will go to companies where they can continue to hone their skills, while paving the way for a promising career.

"At the end of the day, employees want to work for professionals that are intelligent and that they hold in high esteem. With that being said, to succeed in our goal, the corporate values and culture must also go hand-in-hand with the attractive incentives and benefits to prospective employees; Indika Energy has to compete with both local and multinational competitors for top talent. Another aspect of our strategy entails working with local universities in training students, so that upon graduating, they have the skills to work and assist Indika Energy with its ambitious plans," said Richard Ness, Indika Energy.

Justin Colling, president director, PT Leighton Contractors Indonesia, a leading construction and mining services contractor, believes that by putting employees through intensive training, all companies benefit. "We know that we will lose some of the people we train, but that is the nature of the beast, and we will gain people trained by other companies. This cross-pollination of skills and experience is beneficial to the mining industry as a whole, spreading a variety of experience across the country."

To address this issue, Britmindo, a full-service coal consulting company, has decided to establish a training program to fulfill the tertiary labor gap that the industry is currently facing.

According to Terry Gray, principal, Britmindo, the challenge not only arises when addressing the shortage of employees, but the fact that, at a national level, the average Indonesian employee tends to be far less efficient then the global average. "With respect to labor, if one compares a typical Indonesia shovel and truck operation to a one of the best coal operations in Australia, one will find that the latter has a man-day production ratio of 22.5k/y, while the former is approximately 4.5k/y."

Perhaps the most significant challenge facing Indonesia's mining sector with respect to labor are its inflexible regulations. Much of Indonesia's labor law has made it incredibly difficult for employers to terminate underperforming employees. "Indonesia has a strong socialist history; the post-war political climate, up to 1967, was entirely left-leaning. That attitude still permeates the socio-political context of the country to the present day, and the difficulty in terminating employees is reflective of the government pushing the burden of social welfare on to the employer. A major issue in Indonesia, in particular for labor-intensive multinationals, is that you cannot terminate people," said Sullivan of Christian Teo Purwono & Partners.

In line with Sullivan's statements, Rio Ogawa, deputy president director, PT Newmont Nusa Tenggara, believes that the strict labor laws leave many miners vulnerable to global volatility in commodity prices. "Recent rises in the minimum wage, combined with the fact that it is close to impossible to terminate underperforming workers creates a situation in which cost reduction is close to impossible at our operations. This, not only has a negative effect on the feasibility of our operations, but also makes us increasingly vulnerable to any downturn in the global copper price."

Mining Services

Making the most of the boom

Dawagu drill camp. Photo courtesy of Geomin Mining Services.

“Americans who travel abroad for the first time are often shocked to discover that, despite all the progress that has been made in the last 30 years, many foreign people still speak in foreign languages,” said humorist Dave Berry.

Arriving in a new country can indeed be baffling, and for miners looking to do business in Indonesia, going it alone is not an option. As a result, a thriving service industry has developed. However, with the advent of PerMen 28, an implementing regulation of the 2009 Mining Law that outlines the ways through which concession owners can hire and utilize service companies, an industry that has made it its business to help others may now be in need of some help itself. PerMen 28 stipulates that concession owners must give preferential treatment to local and national service companies. “Other companies,” legal entities that are partially owned by foreigners, should only be propositioned with work in the case that companies from the other two categories are unable provide the desired services.

Consulting

While historically Indonesian mining has suffered accusations of inept business practice and at times outright fraud, recent years have seen a push towards higher levels of professionalism amongst Indonesian companies and, as a result, a strong demand for consulting services and JORC reporting.

“The biggest portion of PT CSA Global’s business is the expert reporting that we provide for our clients. Increasingly, investors want JORC-compliant reports or insurance where independent technical auditors have looked at the situation and defined the resources or reserves in terms of tons and grade, and they are not willing to invest now unless they have this information. This is a shift, and one that includes both financial institutions and international investors. I do not think this trend will go away, as the capital costs are such that Indonesia will still rely on foreign sources of capital to support their industry. Indonesian companies are also requiring JORC-compliance reports as they want to be seen as applying best-practice procedure. Still, their principle motivation is getting financing and they need the reports to be able to approach investors,” said John Bishop, president director, CSA Global.

In addition to compiling JORC-compliant reports, miners are beginning to adopt the recently-developed KCMI; the Indonesian equivalent to Australia’s JORC and Canada’s NI-43 101 reporting documents. Its development has been seen as a monumental step in the development of Indonesia’s service industry. “I believe that the KCMI is going to be an excellent way of regulating the industry and holding it to those expected international standards. People assume that Indonesian companies are not capable of matching foreign expertise simply by dint of being Indonesian. We must teach the market that Indonesians are willing to learn, improve, and implement their knowledge just as well as foreign companies. KCMI is a step forward in achieving that,” said Ronald Sibaranie, general manager, PT Stania Bara Consulting, an entirely Indonesian-owned and run consultancy.

As with any new system, the primary difficulty is to get established. "There still has not been a lot of demand for KCMI, however, we believe that with time it will be the dominant resource and reserve statement in Indonesia. That being said, this goal will not be achieved unless our organization receives the necessary support from the Indonesian government. This support would come in the form of legislation that would make it compulsory that mining companies listing on the Indonesian Stock Exchange (IDX) to possess KCMI compliant reports. Indeed, the biggest challenge for KCMI is that financial institutions are unfamiliar with it. Convincing international investors that our reporting system carries the same weight and is as credible of a document as it western counterparts will be difficult. However, I reiterate my belief that overcoming this hurdle is possible if we receive the support of the government and our stock exchange," said Budi Santoso, president director, SRK Consulting.

"As KCMI becomes more established, it will have to demonstrate its accountability, first domestically and then internationally. Furthermore, for it to succeed, it must be highly regulated. Only then will KCMI have the ability to compete with JORC reporting," said Terry Gray, principal, Britmindo.

That decisions are made irrespective of reality is a common complaint about Indonesian law-making, but any potential challenges that the law imposes does not appear to be a significant deterrent to consultants working in Indonesia. Though there are problems, Geomin remains positive. Established in 2004, Geomin provides geological services for exploration of hard rock minerals and coal, and mainly focuses on exploration up to resource definition. As a result, the 2009 Mining Act, which does not encourage exploration, has had an impact on Geomin. "The Mining Act has affected Geomin with the reduction in exploration in hard rock minerals, but fortunately we are amongst the companies operating in Indonesia with a good track record and benefiting from increased coal exploration in Indonesia. Currently the breakdown of coal versus mineral work for Geomin is 50-50, but coal is showing significant growth which is projected to continue," said Greg Parham, CEO, PT Geomin International.

Despite changes in the law, there are great opportunities to be had in the country and growth is happening across the sector, including amongst newcomers to the market. SNC Lavalin, which operates in more than 100 countries and offers basic consultancy through to EPCM services, has experienced rapid growth within a two year period. "We started mining and metallurgic operations here in Indonesia two years ago with a staff of around 40 people, which has now grown to include more than 200 people. Two years ago, the projects we were carrying out had an average value of the approximately of $100,000 and we are now doing projects in excess of $16 million. We have plans of expanding this soon to projects with costs of upwards of $50 million. PT SNC Lavalin has essentially expanded in little over two years into one of the leaders in Indonesia," said Tony Frampton, director of operations, PT SNC Lavalin.

Perhaps the most substantial threat to the business of foreign consultants is the PerMen 28, which requires producers to give preference to local companies when hiring consultants. Such legislation targets foreign consultancies such as New Resource Mining (NRM), which caters to mid-level coal mining companies and provides geological evaluation, mine planning, and reporting to raise finances. "This requirement is a double-edged sword, as most investors want to see a report that has solidity, validity, and credibility; they will not be as confident in a report that was written by a company that was selected based on government requirements.

Strictly speaking, the new law requires that any client operating in Indonesia has to advertise for a local consultant before hiring NRM. In practice, this will be close to impossible to achieve, as there are not many local consultants. Under the law, preference is given to 100%-owned Indonesian consulting companies, and these unfortunately do not exist. The prescriptions of this law do not recognize the realities of the Indonesian marketplace," said Bill Park, technical manager, NRM.

As always, however, there are some who find opportunities in challenges.

DHV consulting, on the cusp of completing a merger of equals with Royal Hasconi, is positive. "By 2015 we want to triple our turnover in Indonesian mining, which is currently at €4 million. Overall, the total turnover for DHV in Indonesia is €12 million to €13 million. By having Royal Hasconi on board we plan to get to €1 billion globally, and within Indonesia itself, we anticipate reaching about €25 million to €30 million by 2015. Tripling the business in three years is no easy task, but we are quite confident because a producing concession needs a lot of experts and staff. About 70% of owners are traders or a former governor who do not know how to mine, and this is an opportunity for us as we provide a full mining service," said Setiaji Hadiprayitno, CEO, DHV.

While DHV provides a full package of mining services, Chinese giant Sinosteel takes diversification to a whole new level, with more arms than a Hindu Goddess. A Fortune 500 state-owned company, and the 42nd largest corporation in China, Sinosteel – of which mining, metallurgical processes, equipment, and indeed consulting form but a part – has been attracted to Indonesia thanks to strong domestic demand. "The impetus for coming to Indonesia was driven by the strong demand for nickel in China. Sinosteel provides services and products to the metallurgical industry, and intially started life as a branch of government; the department of metallurgy. However, when the government restructured, some branches – such as metallurgy – became companies; in this case, we became Sinosteel. Most industry is state-owned and this model is common in China. PT Sinosteel was established in 2006 with the purpose of exploring for nickel," said Pan Xiaoyong, country manager, PT Sinosteel.

Though the focus within Indonesia itself is narrow, Sinosteel's expertise is broad. "In terms of mining in Indonesia, at the moment we are just focused on nickel, but various branches of the company also trade in iron ore or bauxite for the Chinese metallurgical industry, as well as selling our own ferrous alloys. In addition, we supply engineering and manufacturing services. We have the largest ferrous nickel factory in China and we have to supply the factory with sufficient raw materials," said Pan Xiaoyong. The consulting arm, Sinosteel Mining Co., Ltd., has a strong focus on entrance into the early part of the industry chain to encourage customer loyalty (a similar tactic also used by contractors). Understanding of policy, project management, and business integration are all key services that many consultancy companies can offer; but few can boast the same kind of backing and wide-ranging skills of Sinosteel.

Software

As the industry becomes more responsible, it also becomes more technological. The geological nature of Indonesia makes these services particularly important. "Traditionally, coal mines work in seams that are relatively flat, making them suited for strip or dragline mining. In Indonesia most coal deposits are steeply dipping, so the whole geometry of the pit is different. As the mine life of a steeply dipping pit progresses, the haulage distance is going to change, and this is critical to the operators. With a flat

High scaling crew installs screen mesh and bolts on HEAT (Heavy Equipment Access Trail) 2.1km area. Photo courtesy of Redpath.

deposit, as you mine the next strip you haul the waste material around to the other end, so the haulage distance does not change much. However, with a steeply dipping mine the haulage distance will increase dramatically, so if we can develop a plan to minimize that distance, it adds great value for the client," said David Wyllie, senior manager, PT Runge International.

A mine engineering firm, Runge's services do not simply consist of working with current conditions, but also by anticipating future ones. "If the price of your commodity shoots up and you want to expand your operation into the reserves under your waste pit, you might have to excavate 40 m or 50 m of material, essentially increasing the stripping ratio for those reserves. In consulting, we want our clients to budget enough time evaluating different scenarios provided by the software. Often you see companies working against a deadline and thus only being able to run one or two scenarios; our software works quickly and efficiently, creating 20 to 30 different scenarios, allowing the client to fine-tune and pick the optimum plan," said Wyllie.

The success of companies such as Minemax; similarly a large multinational provider offering both solutions and technology for the mining industry; is dependent on an almost prescient sensitivity to the needs of the market. "We constantly liaise with the mining industry as to what they perceive is not 100% in mine planning process, the outcome of which was an alignment of the planning process and the introduction of our newest solution Tempo; a scalable and integrated mine planning solution with collaboration and optimization capabilities for mid-to-large-size operations," said Jim Butler, CEO, Minemax.

Increasingly, demand has shifted from a diversity of minerals to a singular focus on the Indonesian coal space. "We have received approaches from the coal mining companies in Indonesia asking about optimization and how they can improve the value of their operations, questions similar to those posed by the metals sector of the mining industry," said Butler.

Security and Due Diligence

Doing business in Indonesia can be risky, and there is a "dark side" to mining; purchases made without due diligence and overlapping IUPs is one such area in which service companies can help protect mining companies from making some very expensive mistakes.

"Indonesia is well known for its problems when it comes to licensing, overlapping certificates, land ownership, and community relations. Foreign investors can come in and eventually learn the ropes on their own if they are patient enough, but we are here to save them time and money by filtering these problems and presenting a packaged IUP concession that is acceptable to both the investor and owner," said Artha Doyle, managing director, Lavindo Pratama Group, a company with over 40 years of experience in acquiring land for all manner of projects in Indonesia.

The successful rescue of the Chilean miners in 2010, and the tragic loss of 29 miners in the Pike River disaster in New Zealand just a month later, highlighted not only to the global mining community, but to the world at large, the risks inherent in underground mining. As the "low-hanging fruit" in Indonesia disappears, projects will begin to move underground, and with them come their own safety challenges. "Safety is going to become an increasing part of Salva Resources' revenue stream. We sell safety, which most of the other companies here do not do. Places like China, which do underground mining, see people killed in accidents on a weekly basis; as more underground mining opens up here, companies want their safety to meet first world standards," said Bruce Mckay, country manager, Salva Resources, a consultancy and service provider for mining companies around the world.

The risks are not just limited to the difficulties in obtaining and exploiting the concessions themselves; rather, they form a diversified package. "You have a number of non-technical risks in Southeast Asia, such as political, competition, organized crime, and community relations. The ability to mitigate these risks is directly linked to investment success and return to shareholders, and the cost of mitigating these risks is usually borne by the investor and is not cost recoverable in original contract of work. Over the past six years, clients have often come to us after an event saying they have a problem, but ultimately the cost has to be paid out of their pockets. Consequently, there was a demand in the market for a product that protected mining and exploration companies from bearing the financial burden of investing in Indonesia. Seeing this demand as an opportunity, we created Asiasure, which eliminates the uncertainty of these non-technical risks and brings certainty and security to investors. The product is fully cost recoverable, so it offsets the sovereign risk of investing in Southeast Asia," said Craig Thrupp, business development manager, Paladin Group, a specialist in security consulting and training services to resource companies throughout Southeast Asia.

Martabe piping work. Photo courtesy of Leighton Contractors.

The baseline idea of Asiasure is to financially indemnify the clients against non-technical risks in the region. "The way it works is that we look at a business and understand their objectives, as well as the non-technical risks facing it. Based on the risk profile a project, we offer a whole line of insurance products that financially indemnify the client. Where this is particularly relevant is where a mining company might have their mining license revoked by the local government," said Thrupp.

Using Indonesia as a base, the future is promising for a unique security product such as Asiasure. "There is nothing in the market quite like Asiasure; it fills a gap. In addition, the product has gotten a very good response from the respective Indonesian authorities as it serves to promote investment in the country. In the next five years I would like to offer Asiasure to other countries in Southeast Asia. It has been designed to be applicable anywhere in the region," said Thrupp.


Shantui Bulldozer SD32W in a limestone mine in Cirebon. Photo courtesy of GM Tractors.

Contractors

The true impact of PerMen 28 will only manifest itself in the next year, but Indonesia's typically variable regulatory framework leaves contractors tentatively optimistic, even in the face of potentially unfavorable legislation.

Some companies are actually set to enjoy advantages from the new requirements. "Although we have yet to experience any of the benefits, the 2009 Mining Law puts Petrosea, a local Indonesian company, in an advantageous position when compared to many of our foreign competitors for any given project," said Wadiono Suidantoro, president director, PT Petrosea, one of Indonesia's fast-growing mining contractors.

Petrosea also sees its impressive growth as a long-term trend. "In 2011, Petrosea's revenue grew by more than 50% when compared to that of the previous year. In 2012, we are expecting another year-on-year increase in revenues of 50%. In the next three to five years we would like to have 15% market share. To grow at this rate, we will have to invest $150 million per year for the next three years. The vast majority of this amount will go into equipment and capacity buildup, while the remainder will go into spare parts and supporting equipment," said Suidantoro.

Across the board, contractors are willing to work with a difficult situation rather than against it. "[The new mining law] is a change, and we look at changes as opportunities. While some of the changes have been rather challenging, some can be seen in a positive light. Those are the rules of the game, and if we want to play then we have to abide by those rules. We have to do the best we can in terms of our value proposition to fit into those rules; it is not always easy, but the team we have is more than capable of the task. A cornerstone of the 2009 Mining Law is to provide greater opportunity to small 'local' mining services companies. Working together with local communities and local contractors has always been something we feel we do better than most, so in this respect nothing has changed," said Justin Colling, president director, PT Leighton Indonesia.

The potential for Indonesia is such that, for Leighton, there is no question of giving up. "The Leighton Group has a broad sphere of operations, working across Australia-Pacific, Asia, India, the Middle East and Africa. This geographic spread is a key part of the Group's strategy to diversify its earnings base and insulate itself from the downturns in any one location. The ongoing development of strategic infrastructure across Asia is one of Leighton's foremost priorities. Asia is part of the new area of growth and Indonesia is one of the countries which are driving growth in South East Asia. We believe we are in the right place, at the right time with the right people and skills. Our construction and mining skills serve Asia's needs and lift people's standard of living," said Colling.

Foreign companies who would be directly affected by PerMen 28, in a way that PT companies are not, do not yet appear to be too concerned either. "As a company we do not foresee any issues arising from this implementing regulation of the 2009 Mining Act; our business is growing in Indonesia, and a foreign sister company was recently awarded a $500 million mining contract. There has been commentary on nationalistic issues but in general Indonesia is arguably stepping closer to an open market seeking foreign investment," said Roy Olsen, president director, PT Thiess Indonesia.

Explosives

With a vibrant mining industry comes strong demand for explosives, as shown by the success of MNK and Orica, both of which plan to build factories in Indonesia. "We have more than quadrupled production; from 30,000 mt/y we can now produce 150,000 mt/y. This was a major milestone. Another major milestone was our movement into contracts and securing long-term contracts with producers. A large part of our growth and success has been the construction of the new factory, which cost approximately $70 million. If growth continues, as it would appear to be doing, I think that in two to three years there will be enough need in the market for us to construct a new factory," said Dharma Djojonegoro, president director, Ancora Indonesia Resources, of which MNK is a subsidiary.

As ammonium nitrate is the primary feedstock for explosives, Orica's long-term business plan must be to ensure the company's supply, with the logical step of owning their own ammonium nitrate plant. "We are currently commissioning a 300,000 mt/y ammonium nitrate plant with our joint venture partners, Armindo Prima, in Bontang, and production is imminent; the production represents 50% of the projected domestic consumption for 2013. Prior to the commissioning of the new plant our market share of the ammonium nitrate market was 50%; our services revenue is increasing at a higher rate in percentage terms than our base ammonium nitrate market. There are two key sectors for ammonium nitrate: the metals market where the demand has been static; and the coal sector which has been the primary growth engine for ammonium nitrate. The joint venture with a domestic partner for such a significant investment was considered necessary and kept Orica Mining in line with the Indonesia law," said Greg Patching, president director, Orica Mining Services.

Orica and MNK are strong competitors, with Orica Mining Services producing 300,000 mt /y compared to the 120,000 mt/y of MNK, according to Patching. The new factories could prove to be a game-changer for both companies. "Orica is building a 300,000 mt/y plant in Indonesia and they will be competing. However, the market is more than big enough for the two of us, and the total market capacity is about 450,000 mt/y," said Djojonegoro.

Shipping

A fundamental component in any successful coal mining operation, especially in Indonesia, is logistics. MBSS is the only integrated coal logistics and transportation services provider, able to cater to on-shore activities such as stockpiling, coal-handling, coal barging, and trans-shipment, and one of the few coal services providers that has experience in port management. The changing legal framework has presented MBSS with an opportunity and caused a fundamental shift in the business. "In 2010 MBSS provided services focused more on the short distance side, but starting in 2011 we transported more from long distance, from port to port, mainly from Kalimantan to Java. This means that in terms of volume the growth is perhaps not much, but rate and revenue will double. The nature of our services have changed as a result of the domestic market obligation which requires the coal mining producer to sell within the domestic market, so there is more of a demand of coal transport around Indonesia itself," said Ika Bethari, director MBSS.

The shift has been a positive move as growth at MBSS has been strong. "Since 2010, out of the 250 million mt of coal produced, MBSS transported 25 million mt, so our market share is about 10% of total coal production. That figure excludes domestic obligation for coal sold and purchased inside Indonesia. This year, the target is to have 350 million mt of Indonesian coal produced, and so in line with that increase MBSS would like to transport 38 million mt. Our market share will increase only slightly, not because we do not feel that the Indonesian coal space is lucrative and promising in Indonesia, but because last year we expanded our fleet aggressively from 47 barging fleets last year to 73, nearly doubling in size. MBSS needs to consolidate this growth from an operational point of view; growth is good but only if we can maintain our bottom line at the same level," said Bethari.

Welding

Telling of the increasing technical difficulty of mining operations in Indonesia is the utilization of more advanced equipment. Further indicative of this trend, are the companies that have emerged for the purpose of maintaining and servicing these new technologies. One such company is PT Sanggar Sarana Baja (PT SSB) , a company engaged in manufacturing parts, on-site maintenance, and provision of components. That being said, PT SSB's main expertise is in welding. SSB's welders can weld 6G and also titanium type of metals which carries with it a significant level of difficulty. "PT SSB is the only Indonesian company to reach U3 (by ASME) standard which was granted in December last year," said Satya Heragandhi, President Director, PT SSB.

Riding the wave of optimism felt throughout much of the country, PT SSB has set high goals for the future, and are aiming to grow three times faster than the national economy's annual growth rate, which stood at 6.5% in 2011. Over the last year PT SSB built facilities in Kalimantan and expanded into Papua and has significant plans of expansion for the years to come as they predict that the mining boom will continue. Nevertheless, for Herangandhi and SSB, the success of the company will require that the PT SSB's management look beyond the near future. "It is not about the short term target, it's also about building a solid foundation for the future. Many foreign companies are trying to enter the market, but many also make the same mistake by thinking that they can apply the knowledge that they have from other markets on to Indonesia, but it is not that easy to overcome cultural difference."

It is often wrongfully assumed that local Indonesian companies do not possess the facilities or expertise required for welding. Fortunately, local companies, like PT SSB, are making this assumption a thing of the past. "We are there for companies seeking a good partner with a faultless record and solid credibility, which is not an easy thing to do as a local company in Indonesia. We keep the spirit of integrity alive at all times; it's our core value and we are very proud of it," said Heragandhi.

Conclusion

Despite the challenges, Indonesia's mining industry faces a bright future.

PT Newmont Nusa Tengara's Batu Hijau Port. Photo courtesy of Newmont.

Indonesia possesses remarkable mineral wealth. From coal to precious and base metals, the archipelago has it all. With the price of commodities expected to continue their upward trend in the years to come, Indonesia's mineral sector should continue to grow.

That being said, future growth should not be attributed solely to favorable macroeconomic forces. Indeed, credit should be given to the new class of local Indonesian companies, who have demonstrated to the outside world that they can operate at standards equal to, if not better, than many of their foreign equivalents. In the past it was assumed, often rightfully, that the average local Indonesian company was incapable of complying with international standards. Today, however, things have changed. This development not only demonstrates the maturity of the sector, but is indicative of the human capital that this nation possesses. The latter will undoubtedly be a key component to the sustainability of the industry in the years to come, especially due to the increasing technical difficulty of projects.

Yet in spite of this expansion, an unfavorable regulatory framework threatens to paralyze future foreign investment, particularly from mineral explorers. What is especially worrisome is the fact that, although these mineral explorers tend to make small investment when compared to multinational companies, they are an essential component to the sustainability of the industry. The absence of junior explorers will significantly decrease the likelihood of future discoveries.

To ensure that Indonesia's mining industry remains a useful and contributing aspect of its economy, it must develop as the rest of its economy develops. Contrary to the steps taken with respect to the mining industry, elsewhere Indonesia has encouraged foreign investment and removed barriers. Indeed, Indonesia's score in the

Heritage Foundation's Economic Freedom Index has consistently improved over the period from 2008 to 2012; although it still sits slightly below the regional average, it must be remembered that this is a region that includes Hong Kong and Singapore, ranked first and second in the world respectively. In the World Bank's Doing Business rankings, although Indonesia's position fell three positions between 2011 and 2012, its performance in areas such as dealing with construction permits, protecting investors, and starting a business has significantly improved since 2004.

On the other hand, Indonesia's position amongst the country's ranked in the Fraser Institute's Annual Survey of Mining Companies has been stagnant, remaining around the bottom 10 for the past few years. Indeed, its 2011/2012 results in this survey gives a strong indication of both the challenges and potential that exist; its third-from-bottom ranking for "regulatory duplication and inconsistencies" speaks volumes about the uncertainty the 2009 Mining Law has introduced, yet its second position for "room for improvement" shows a distinct hope that this uncertainty can be addressed.

As part of its strategy for the development of the country's economy, the national government has set an ambitious goal of making Indonesia one of the 10 largest economies in the world. With the mining sector already contributing close to 7% of the nation's GDP, the government has designated the sector as one of its cornerstones in the effort to realize this goal. However, it is difficult to comprehend how the government hopes to achieve this goal without the support of the global investment community.

As illustrated in this report, however, many in the global investment community continue to remain wary of Indonesia; uncertain of the effect that the 2009 Mining Law has had and will have on mining and mineral exploration activities in the country. While it is certainly true that many international players have entered the country, are operating in the country, and are prospering in the country, it is nonetheless the opinion of many that the Indonesian government must be both more friendly to business and more definite on what requirements for foreign companies are. The effect of continued uncertainty is already clear; a declining number of juniors.

To resolve this issue, it is imperative that the government approach the mining industry the same way it would any other sector. Understandably, natural resources are a very touchy topic for any national government. Nonetheless, in order for Indonesia to realize the true potential of its mining sector, it must adopt a regulatory framework that is conducive to foreign investment.

Although much criticism has been directed towards the negative effects that a non-existent junior explorer sector will have on future metals discoveries, the detrimental impact of this law extends to the coal space. Indeed, with the fossil fuel sectors growth expected to continue, the damage caused by the regulatory changes are presently less pronounced than they are in the metals space. However, as coal projects get more complicated and capital requirement increase, then growth will certainly falter if current laws are kept in place. In short, it is imperative that the government address these issues before it is too late. If the government fails to pay attention to the desires of the mining community, then expansion of the sector will certainly slow down.

Striking the correct balance between protecting national mineral wealth and inviting foreign investment is a difficult task. However, given the country's success in navigating the difficult waters of democracy, investors should remain hopeful that Indonesia will strike that balance sooner rather than later. When they do, Indonesia's substantial mineral wealth should attract the world's attention.