THAILAND

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Political and economic review

Thailand's next democratic general election is due to take place on the 23rd December 2007 after more than a year of interim military rule.

General Sonthi Bononyaratglin led a coup on 19th September 2006, through which his Council of National Security (CNS) ousted Thaksin Shinawatra from power. A retired general, Surayud Chulanont was appointed Prime Minister in October 2006 in addition to an "interim" cabinet of ministers for the one year transition. A broadly representative National Legislative Assembly (NLA) was established shortly afterwards to act as a legislative body.

Over the course of 2007 a number of events have occurred which will have medium term effects on the Thai political and economic landscape. These include:

- A Constitution Court disbanding the former ruling "Thai Rak Thai" Party, banning its 111 executives, including Thaksin, from politics for the next five years.
- A new constitution promulgated after it was approved in an August 2007 national referendum. The new constitution was passed 57% to 41% with only 57.6 % voter turnout, far below normal elections. The major constitutional changes include:
    - Half the senate appointed by a seven-person committee selected from Thailand's judiciary
    - Prime Ministerial term limits
    - Banning the Prime Minister from major holdings in private companies
    - Making it easier to impeach the Prime Minister

Many view the close referendum result as an indication that the country is still deeply divided following the coup. In the poor and populous north-east, a stronghold of Thaksin Shinawatra, 62% voted to reject the charter. In the south, a stronghold of the opposition Democrats, the "yes" vote was 88%.

Following the coup the interim government proposed amendments to provisions of the Foreign Business Act, which would have effectively limited foreign business participation to less than 50% control. While this was seen as a knee-jerk reaction for Thaksin's deeply unpopular sale of his telecoms empire to Singapore's Temasek prior to the coup, strong international pressure has seen the amendments shelved, and they are likely to drop off the agenda.

Conversely however, by 2006 the bilateral Australian-Thai free trade agreement had come into full force, allowing majority Australian ownership of mining operations (up to 60%). The previous limit was 49.9%, which still applies other foreign entities.

Though some western commentators blame Thailand's slower growth (in comparison to its neighbours) on the coup and the political uncertainties, recent research by Morgan Stanley shows that the Thailand GDP growth figure turned out to be higher than forecast. In 2Q07, GDP rose 4.4% YoY versus 4.2% YoY in 1Q07.

The Economist Intelligence Unit has also revised upwards its estimate for real GDP growth for the year as a whole to 4.6% from 4.2% (GDP growth was 5% in 2006). Strong net exports also offset weak private consumption and investment.

The impact from the US sub-prime mortgage sector on Thai banks has also been minor, with Thai banks having very limited exposure, posing no threat to either their creditworthiness or liquidity.

According to the Economist Intelligence Unit, Thailand ran a merchandise trade surplus of USD $14.8bn in 2006, up from USD $3.2bn in 2005, pushing the current account into a surplus of USD $3.2bn from a deficit of USD $7.9bn in 2005. The weakening of the US dollar against the baht has hurt some exporters, but overall exports remain robust, rising 18.4% YOY in August 2007 (in USD terms).

Thailand is heavily reliant on imported oil. Thailand's leading export markets are the US (15%), Japan (14%), China (9%), Singapore (6.4%) and Hong Kong (5.5%). The main import sources are Japan (20.4%), China (10.6%), the US (6.7%), Malaysia (6.6%) and UAE (5.6%).

Geography

Thailand has a population of just over 65 million, making it the ninth-largest country in the Asia-Pacific region – slightly smaller than Vietnam and the Philippines.

Thailand's total land area is 513,115 km^2 and is bordered by Myanmar, Laos, Cambodia and Malaysia. The country can be divided into four main geographic regions. The southern peninsula of Thailand, 960 km in length, is rich in minerals and consists mainly of narrow coastal lowland backed by high wooded mountain ranges. Central Thailand is fertile alluvial plain, with a well-developed system of natural waterways. The principal river is the Chao Phraya, flowing north to south and forming a large delta 192 km from the coast.

About one-third of Thailand's population lives in this central region, including over seven million in Bangkok. The north-eastern plateau is a barren area with thin soil and is the poorest part of the country.

Energy

Thailand's power demand in 2006 was around 127,237 GWH, up 5.5% from 2005. The share of power generation by fuel type was as follows: natural gas, 67%; lignite/coal, 17%; hydropower, 6%; oil, 5%; and imported electricity, 5%.

In 2006 Thailand consumed about 2,394 million cubic feet per day (MMSCFD) of natural gas for power generation compared with domestic production of natural gas of around 3,222 MMSCFD. The Energy Policy & Planning Office ('EPPO') of the Thai Ministry of Industry estimates the country's proven natural gas reserves to be around 11.7 trillion cubic feet.

Although about 50,000 barrels per day of petroleum is imported to Thailand, the country has sufficient oil refining capacity (approximately 1 mmb/d per day) to meet domestic demand (of about 0.7 mmb/d) and produces crude oil equivalent to around one sixth of domestic consumption.

Chevron is the country's biggest producer of crude oil. Other key players in the oil and gas sector include Hess Corporation (upstream natural gas), ExxonMobil (refining), Thai Oil (refining) and Bangchak Petroleum (refining). Crude oil reserves in Thailand are estimated at 195 million barrels (EPPO).

Lignite consumption for power generation was 16 Mt in 2006 versus domestic production of 19 Mt. Lignite proved reserves are thought to be about 2.08 billion tonnes or enough for over 110 years of supply at current rates of consumption.

EGAT

The Electricity Generating Authority of Thailand ('EGAT'), the state-owned power group is by far the largest producer of lignite in Thailand, with 15.8 Mt of output in 2006, virtually all of it consumed in the company's own 2,625 MW mine-mouth power plant, Mae Moh.

EGAT has conducted a feasibility study of mine operations at the depth exceeding 350 meters, to expand the Mae Moh mine. Initial findings from the study indicated that the mine had sufficient coal deposits to fuel the nearby plant, extending the service life by 40 years. An additional study will be undertaken at a further depth of 500 meters.

EGAT's 25% privatization via an IPO listing has been cancelled twice due to the courts finding conflicts of interest between involved parties to the sale, and incomplete public consultation. EGAT also has a stake in power providers EGCO (25%) and Ratchaburi (40%).

Banpu

Banpu plc is the largest private coal player in Thailand with a coal and coal fired power focus. Production in 2006 was 2.1 Mt of low to mid-grade coal in 2006 (4,600 to 5,200 GCV) from its two northern Thai mines. Banpu's domestic coal reserves and resources are only sufficient for around two more years of production; however, the company's main coal-mining operations are now focused on Indonesia and China. Banpu had regional coal sales of about 21.7 Mt in 2006 (compared to 14 Mt in 2005).

Banpu's Indonesian coal sales include 4.86 Mt to Thailand in 2006 (accounting for 44% of the country's coal imports), Japan (5 Mt) and other Asian countries (9.5 Mt). The company had total coal reserves at June 2007 of 304Mt and coal resources of 1,000 Mt (equity-basis).

Banpu is also a 50% shareholder in the 1,434 MW BLCP coal-fired IPP power project in Map Ta Put, the first 700 MW unit was completed and commenced operation in October 2006, generating earnings in the fourth quarter of the year of THB 639 million (approximately USD 18.7m). BLCP's second unit is also now complete and has been commissioned since February 2007.

BLCP will consume about 3 Mt per year of imported coal, most of which will come from Rio Tinto. Banpu is listed on the Stock Exchange of Thailand ('SET'), with a current market capitalization of over US$2.8billion.

Banpu's revenues in 2006 were equivalent to US $880 million, while Earnings Before Interest, Tax, Depreciation & Amortization ('EBITDA') was US $253 million and net profit in 2006 was US $95 million.

Banpu CEO, Chanin Vongkusolkit (whose family is also the company's largest shareholder), actively seeks value adding investment and acquisition opportunities throughout the Asia-Pacific region. It is planning to list its Indonesian operations on the Jakarta stock exchange by the end of 2008.


Chanin Vongkusolkit, CEO of Banpu plc

Lanna Resources

Lanna Resources plc, also SET-listed, ceased domestic lignite mining operations in 2005 and, like Banpu, has invested in Indonesian coal mining. Lanna Resources controls two operating mines in Indonesia, which produced a combined 2.5 Mt in 2006, with another project due to come on-stream in 2007. All three interests are 55% owned by the company. Lanna Resources' total coal resources in Indonesia are estimated at about 77 Mt (42 Mt equity-basis). The company had revenues in 2006 of about USD 161 million of which 83% came from the coal business and the rest from ethanol sales. Net profits for the company in 2006 were USD 11 million.

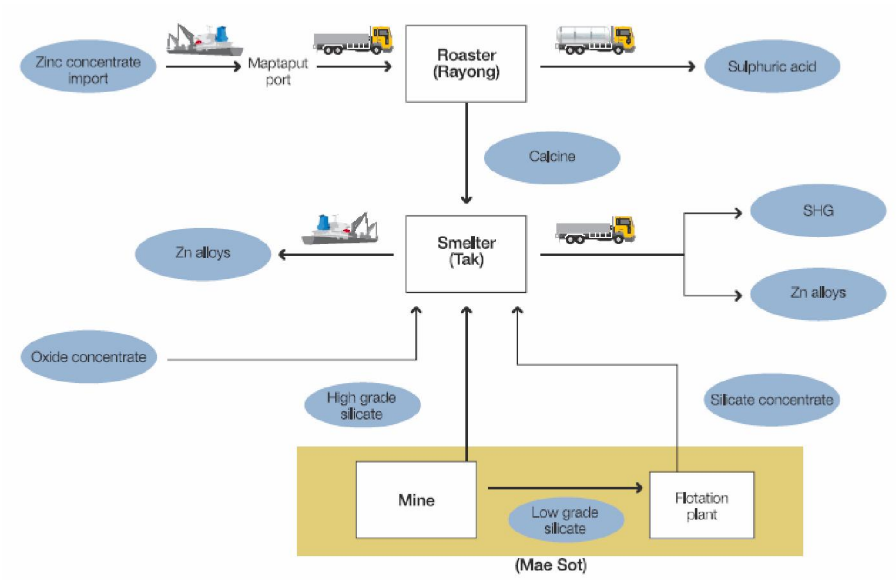
Zinc

Padaeng

Padaeng Industry plc is Southeast Asia's only producer of high quality zinc metal. The company is listed on the SET and is 25% owned by Nyrstar, 22% by Umicore and 14% by the Thai Ministry of Finance.

The mine at Mae Sot in Tak Province produced 75,000 tonnes of high grade zinc silicate ore and 461,000 tonnes of low grade ore in 2006. The mine has been in operation for 24 years and still has approximately 4.3 Mt or reserves at an average 9.2% Zn content. In 2003 and 2004, Padaeng developed a flotation plant with a capacity of 100,000 tonnes per year which upgrades low-grade ores to concentrates. Padaeng also has a roaster plant in Rayong to process imported zinc sulphide concentrates. Padaeng is one of only a few companies in the world capable of using both zinc silicate and zinc sulphide in the same production process.

PADAENG ZINC PRODUCTION FLOW DIAGRAM
(Padaeng Industry plc annual report)



In 2006, Padaeng's smelter used 156,032 tonnes of concentrates (containing 38,078 tonne Zn) from its own Mae Sot mine (situated around 96 km from the smelter) and purchased 100,486 tonnes of zinc concentrates, mainly sulphides imported from South America and Australia for initial processing at the Rayong plant prior to dispatch to the smelter.

Padaeng produced 91,220 Mt of refined metal in 2006, approximately 70% in the form of SHG and 30% as zinc alloys. Around 96% of sales went to the domestic market. Exports went mainly to China, Taiwan and ASEAN countries. Thanks to a 137% increase in average zinc prices, total revenues for Padaeng in 2006 were Bt 10,442 million, up from Bt 6,180 million in 2005 and net profits were Bt 1,765 million, up from Bt 561 million in 2005. However, duties on zinc imports to Thailand were reduced from 5.5% to 3.25% in 2006 and import competition is increasing.

Copper

Padaeng and Pan Australian

Padaeng entered into a joint venture with Pan Australian Resources of Australia in 2000 to evaluate and develop the copper deposits at PUT1 and PUT2 near Loei. Under this agreement, Pan Australian can earn up to 60% of Padaeng subsidiary, Puthep Company Limited, by completing a bankable feasibility study on the project. Pan Australian is operator of the project with a current beneficial ownership of 20%.

In November 2006, the Director General of the Royal Forest Department issued a forestry permit required for the feasibility drill program. The feasibility study was due to start in the first quarter of 2007 and is scheduled for completion in early 2009.

The total resource (indicated and inferred) at PUT 1 has been estimated by Pan Australian as 85 million dmt, at 0.4% copper at a cut-off grade of 0.1% copper. The total resource (indicated and inferred) at PUT 2 has been estimated by Pan Australian as 36 million dmt at 0.4% copper at a cut-off grade of 0.1% copper.

A 2001 pre-feasibility study on the project envisaged the production of 30,000 tonnes of copper per annum by heap leaching and solvent extraction of oxide and transition copper ore over a 7-year mine life. Since earlier drilling had intersected broad zones of primary mineralization and considering improved copper prices, the feasibility study will now review the alternative possibility of developing a bigger open-pit operation to produce a copper concentrate from oxide, transition and primary ore for custom smelting with gold and silver by-products.

Thai Copper

Thai Copper Industries plc was established in 1994 to build a copper smelter producing 165,000 t/y of copper cathode for the domestic electrical wire and enamelled copper wire rod industries. The company is controlled by Mr Prayuth Mahagitsiri, who also controls Thainox (stainless steel company).

The economic crisis of 1997-98 led to suspension of construction of the Thai Copper plant in February 1998. Following further financial restructuring, construction recommenced in 2003 and the new plant came on-stream in September 2004, with an initial capacity of 72,000 tonnes per year. In 2005, the company's smelter was reported to have produced 62,300 tonnes of blister and anode and the refinery 30,000 tonnes of copper cathode. The company expected to have increased production by around 20,000 tonnes by the end of 2006.

The company again had to deal with technical problems in April 2007 and has discontinued production. An IPO, which was to be used to finance the capacity expansion to 230,000 tonnes, was postponed. The company is looking to list in Singapore after failing to meet the listing criteria of the Stock Exchange of Thailand, requiring a track record of at least 3 years of profits.

Gold

Kingsgate

Australian-listed Kingsgate Consolidated Ltd owns and operates the Chatree gold mine in central Thailand through its subsidiary, Akara Mining Ltd ('Akara'). The mine, located 280 km north of Bangkok, commenced operations in 2001.

For the year ended June 2007, the mine produced 85,994 oz of gold and 290,897 oz of silver at a total reported cash cost of US$440 per oz. Gold production was reduced significantly this year as low grade ore was mined from the peripheries of the main C-H pit at Chatree on the existing granted mining leases.

The main C-H pit became deeper and tighter to operate in, reducing ore supply to the mill. With limited feed from the A pit, mill feed was supplemented with low grade stockpile ore. Availability of high grade ore has been significantly constrained due to the delay to the grant of the Chatree North mining leases, leading to lower than forecast production.

Annual mill throughput was 2.4 Mt, well above nameplate capacity and 20% higher YOY. Recoveries remained at 90.1%, achieved on a gold feed grade of 1.23 grams/tonne, half the grade of the previous financial year.

Cash costs per ounce increased substantially to US$440 per ounce. Due to low gold production, cash operating cost per tonne have remained reasonably constant, only increasing 14% over the last three years, due to the mill being able to process ore to its full capacity and stable electricity costs. These results provide good guidance that costs per ounce will return to lower levels once higher grades are mined at Chatree North.

Exploration growth was curtailed in 2006 to focus on extending the reserves and resources within the currently granted mining leases at Chatree. The H West pit was upgraded into the reserve category and mining commenced recently. Mineral resources were reduced to 3.4 million ounces gold and 30 million ounces silver, due to additional drilling and a re-modeling of the ore body of the current pits. Ore reserves reduced slightly to 1.6 million ounces gold and 16 million ounces silver, mainly as a result of the mining depletion at Chatree.

Ground geophysics (resistivity) continues to expand the potential to the north of Chatree for a major increase in resources over the next few years, with a better understanding being developed of the current 23 kilometres of potential mineralisation identified.

A feasibility study is underway for the expansion of the mine and processing plant to about 5 Mt/y with gold and silver production expanding to 300-350,000 oz and 2.0 – 2.5 million oz respectively. The expansion will be subject to the granting of mining leases for Chatree North. The Environmental Impact Assessment (EIA) for the Chatree North mining leases was approved in April 2007 paving the way for granting of the leases soon.

Long term planning for the Chatree mine and plant expansion has progressed, albeit on a slower schedule than planned. An updated plant design has been completed, and mining contractor selected. These decisions aim to maintain the expansion schedule with completion anticipated in December 2008. Lotus Hall will be providing a larger fleet to optimise the mining operation and enable it to be ramped-up to full operating capacity.

In November 2006, Thai interests purchased new non-transferable preference shares in the Thai subsidiary, Akara Mining Limited, to hold 52% of the issued capital. Kingsgate has retained the ordinary shares in Akara. This allows Kingsgate shareholders to maintain their existing economic interest and management control. The Thai Interests have representation on the board of Akara.

The issue has satisfied the requirement to bring a majority of Thai shareholders after five years of 100% foreign ownership, as granted by the Thai Board of Investment at the time of approval for the Chatree mine development. This structure will remain in place until an Initial Public Offering (IPO) of Akara Mining occurs on the Stock Exchange of Thailand (SET), currently scheduled within the next two years.

Kingsgate achieved total revenues for June 2007 (YTD) of AUD$52.6 million, down 30% YOY, impacted by a difficult operations, low gold grades and delivering the production into out of the money gold hedge positions, reducing cashflow and net profits. Akara benefits from a full corporate tax holiday until 2009 and then a 50% reduction in corporate tax until 2014.

Tongkah

Tongkah Harbor plc, listed on the SET, commenced production at its new gold mine in Loei Province in the north of Thailand in September 2006.

The processing plant has a capacity of about 0.4 Mt/y. The gold mine has a 25 year license, although current estimated resources (600,000 oz based on an average 4.14 g/t) may only be sufficient to support around 11 years of operation. The mine is held through a 99% subsidiary, Tungkam Limited. Tongkah Harbor plans to list Tungkam on the London Alternative Investment Market ('AIM'). Tongkah Harbor also has off-shore tin resources, and site mining operations and real estate interests.

In 2006, there was a total of 176,785 tonnes of ores mined, milled and processed, out of which, 70,389 tonnes were carried out in the third quarter of 2006 and another 104,374 tonnes were on the fourth quarter of 2006. The Company expects to process 440,000 tonnes of ore per annum.

THL reported a 1Q07 loss of 29.53 million baht after posting 2006 profits of 6.09 million baht. The company was transferred from the non-performing group to the mining group on the stock exchange and allowed to resume trade on 4th May 2007 after 17-months suspension.

The company is currently facing a 52.8-million-baht fine from the Department of Primary Industry and Mines for exporting gold without a proper transport permit.

Oxiana

Australian listed, Oxiana is exploring in Thailand through the Thai Goldfields Joint Venture, a joint exploration and generative partnership where Oxiana can elect to earn up to 75% by sole funding the first A$4.75million of exploration expenditure. A further 5% can be earned through sole funding through to a decision to mine.

Work to date has identified encouraging mineralisation on two prospects near the Chatree Gold Mine in north-central Thailand. Regional project generation for additional district scale gold systems continue throughout Thailand with several high potential areas identified for detailed assessment.

Regional reconnaissance in the northern part of Thailand has also identified a number of high level epithermal systems reporting widespread anomalous gold. Follow-up work is in progress to determine potential.

In June 2007 it was reported that drilling programs continued testing epithermal vein systems in the Chatree district. Drilling on three areas at Wang Yai prospect returned a number of outstanding results including 18m at 8.71 g/t Au, including 14m at 11g/t Au in a newly identified high grade zone. Results are awaited for drilling which tested for strike extensions. Results from scout drilling in two new areas include 3m at 6.51g/t Au, 84g/t Ag and 6m at 2.77g/t Au, highlighting the potential for further significant epithermal vein systems in the district.

Amanta Resources

Amanta Resources Ltd. of Canada ('Amanta') continues its exploration activities at two of its properties in Thailand; the Langu Gold property, where a 10,000 metre drilling programme is in progress.

The Langu Gold Property consists of four contiguous Special Exploration Licenses (SPLs) in Satun Province, south Thailand; covering approximately 57 sq. km. Gold mineralization at Langu occurs mainly as a stratiform sediment hosted replacement style, closely associated with decalcification and partial replacement of calcareous shale by silica.

In the most recent phase of the Langu drill programme, Amanta completed seven widely spaced inclined diamond drill holes for a total length of 1315 metres. The first few of these holes were aimed at intercepting at depth the minerialization encountered in trenches, of which the best intercept was 4 metres at 15g/t gold.

Salt

Thailand has one of the three major salt reserves in the world (the others being in Canada). Salt deposit can be found mostly in the North east of the country, where there are 18 trillion tonnes of salt beds. These deposits are 30-1000 metres underground, split between 2 main deposit basins:

- Northern basin covers the areas of Udon Thani, Nong Khai, Sakon Nakhon and Nakhon Phanom in a coverage area of approximately of 17,000 sq. Km

- Southern basin covers the areas of Khonkaen, Maha Sarakham, Kalasin, Roi Et, Yasothon, Ubon Ratchathani, Nakhon Ratchasima, Chaiyaphum, Surin and Buri Rum with coverage of around 33,000 sq. km.

Salt consumption in Thailand is approximately 2 milion tonnes per annum. The most significant salt mining company, and a monopoly, is Pimai Salt Co. Limited.

Pimai Salt Company Limited

Pimai Salt Company Limited (PSC) operates the only pure vacuum salt plant in Southeast Asia with production facilities located in Pimai, Nakorn Ratchasima province. Pimai Salt Co.,Ltd. was established in 1994 as a joint venture between THASCO Chemical Co.,Ltd., Surisa Co.,Ltd., Vinythai Public Co.,Ltd. and Thai Refined Salt Co.,Ltd. The company is the only company that has been awarded production of refined salt license, the company plan the boost production capacity to 1.5 million tonnes per year in 2007.

One other player is seeking a 2nd license and has been awarded manufacturing and production rights within the controlled zone.

Tin

Thailand's tin concentrates production in 2006 was 225 tonnes, an increase from the historical low of 188 tonnes in 2005 when the main producer, Tongkah Harbour ceased production earlier that year due to the high royalty rates on tin sales (24%). Tongkah Harbor is negotiating the royalty rate with the government and finalizing a feasibility analysis of a large offshore concession, through its 84% subsidiary Sea Minerals Ltd, which it estimates may contain as much as 50,000 t tin.

To meet the tin smelter's feedstock requirement Thailand imported 6,545 t of tin ore, a huge decrease from 20,018 t in 2005. The royalty issue remains unresolved and this is a main resumption of tin mining in Thailand.

Thaisarco

The Thaisarco tin smelter in Phuket commenced operations in 1965 and its Thaisarco (99.9% Sn) and Phuket (99.85% Sn) tin brands are well-known throughout the world. The company is a part of the Amalgamated Metal Corporation group. The smelter has a capacity of 36,000 t/y.

Thaisarco remains a significant participant in the global tin industry and in 2006 was the world's 4th largest producer of refined tin behind only Yunan Tin Corporation (China), Minsur (Peru) and PT Timah (Indonesia).

In 2006, Thaisarco produced and sold 27,000 tonnes of tin and tin-related products. Thaisarco ended the sale of tantalum-bearing tin slag to the HC Starck plant in Map Ta Phut, as they have other offshore customers offering higher price for this by product.

Tungsten

Amanta Resources Ltd. of Canada had signed a Memorandum of Understanding (MOU) with Amanta Ltd. of Thailand to acquire exploration and development rights to multiple minerals [fluorite, stibnite (antimony ore), and tungsten] property in Phrae Province in northern Thailand.

In August 2005, the company announced that it had successfully completed a systematic surface sampling and mapping program of an area that covered 1.25 km^2 of the Doi Ngom breccia pipe, with total dimensions of about 2.5 km by 0.5 km. The company said that a large tungsten anomaly that covers an area of 500 m by 800 m was identified and that the anomaly's main concentration of high-grade mineralized materials occurs along the north-south trending silicified ridge. Amanta initiated limited drilling in May 2007 at the Mae Lama Tungsten property where three drill holes have been completed.

Cement

In 2006 the domestic cement industry continued to experience excessive supply imbalance. While total aggregate capacity stood at 55Mt, demand dropped slightly from the previous year to approximately 27Mt.

Siam Cement Industry Co Ltd, Thailand's leading cement producer, reported sales growth of 6% in 2006 and a decline in operational profit by 16% to the previous year, due to higher energy costs.

Siam Cement Industry is a wholly owned subsidiary of the Siam Cement plc. Listed on the Stock Exchange of Thailand, Siam Cement plc has a market capitalisation of US $1.9 billion.

Gypsum

Thailand is second only to China in Asia as a gypsum producer, with production in 2006 of 8.3 Mt (underground) and exports of 5.8 Mt.

The two main gypsum board producers are Thai Gypsum, owned by UK-based BPB (the world's leading plasterboard supplier), recently acquired by the Saint Gobain group – and Siam Gypsum, 70% owned by Lafarge Boral Plasterboard (a joint venture between Lafarge of France and Boral of Australia) and 30% by Siam Cement Group.

Thai Gypsum has the capacity to produce about 76 million m^2 of plasterboard at its operations on the eastern seaboard. Siam Gypsum has 80 million m^2 capacity and claims to supply over half of the domestic market while Thai Gypsum supplies just under half.

Siam Gypsum forecasts that the Thai gypsum board market will grow 5 % in 2007 in comparison to 2006. The residential segment, which represents 70% of the market, is expected to have low growth of 3% in 2007 from lower price housing estates and condominium. Commercial segment growth is expected to be driven from office, hotel and factory. Total Thai gypsum market in 2007 is estimated at 63 million m^2.

Potash

In 2006, Italian Thai Development plc ('ITD'), Thailand's largest construction company, acquired Asia Pacific Resources Ltd, which controls 90% of Asia Pacific Potash Corp Ltd ('APPC'), owner a potash concession in north-eastern Thailand. The Thai government owns the remaining 10% shareholding.

APPC started exploration at two sites, Udon North and Udon South, under a concession agreement signed in 1993. Udon South was found to have a resource of more than 300 Mt (and ranking as one of the highest-grade potash resources in the world). Resources at Udon North were estimated at 700 Mt.

Following a feasibility study on the Udon South, an EIA was approved in January 2001, with plans to develop the mineat a potash (KCl) production rate of 1 Mt/y, expanding to 2 Mt/y by year six of the operation. Mine life is expected to be around 22 years.

It is expected that ore will be extracted at a depth of 300-400 m, using standard room-and-pillar underground mining methods, leaving pillars of ore in place as the surrounding ore is removed. Mine cavities will be hydraulically backfilled utilizing salt tailings from the surface. A standard flotation process will be used to produce a potash grade of 60.3% K_2O. Part of the potash product will be trucked to domestic markets, substituting the country's current imported potash requirements, and part will be railed to the port of Map Tap Phut for export.

The first phase of development is likely to require a capital investment of over US$300 million and the expansion to 2 Mt/y a further US$220 million. The project has been delayed due to opposition from community and environmental groups who fear mining would damage local water and agricultural resources. ITD is confident that it can obtain the mining license for the project and then develop it successfully, however this process appears to be ongoing as of September 2007.

Iron and steel

Mine production of iron ore in Thailand increased over 14% in 2006 but was still very small compared to domestic requirements at only 0.26 Mt.

The main hot rolled coil ('HRC') companies are Sahaviriya Steel Industries (SSI) (conventional technology, processing importsted slab), G-Steel (with EAF technology) and NSM (also with EAF technology), with capacity of 4, 1.5 and 1.8 million tonnes respectively (total 7.3 million tonnes). Capacity will increase to 8.9 million tonnes in 2007 due to the expansion of capacity by G-Steel.

The domestic steel market was sluggish throughout 2006. SSI sold 1.7 million tonnes of hot-rolled coils and hot roll coils pickled and oiled, and was able to increase the volume of its steel exports to respond to greater demand in international markets. Seventy-seven percent of output went to supplying the domestic market, while the remaining 23% was exported. Export products were comprised mostly of high-grade hot-rolled steel sheets shipped to the US, Canada, Australia, and European countries. The company also expanded its overseas markets to countries in the Middle East. For the 2006 fiscal year, revenue from sales amounted to 35,205 million Baht, and total revenue overall was 35,802 million Baht, a slight decline from last year.

The biggest long products producer is Tata Steel (Thailand) plc (further to the acquisition by Tata Steel of Millennium Steel), with capacity of about 1.7 Mt/y. Other long products players in Thailand (rebar, wirerod…) include BSI, BSBM, BISW, Nam Heng, TSSI and Tycoons.

Tata's steel sales in 2006 were slightly over 1 Mt representing a 7% increase over the previous year. EBITDA was 2 billion baht and net profit for 2006 was 700 million baht, more than a 100% increase compared to 2005.

There are a number of upstream steel projects under consideration in Thailand, including a five-phase 30 Mt/y blast furnace and integrated steel project announced by the Sahaviriya Group in 2004. Tata are planning to build a 3.6 billion baht mini-blast furnace with a 0.5 Mt/y hot metal capacity.

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