

# THAILAND

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## **Political and economic review**

A six-man army junta seized control of Thailand's government on 19<sup>th</sup> September 2006, deposing the caretaker government of Thaksin Shinawatra. The military coup was the 18<sup>th</sup> since the absolute monarchy was abolished in 1932 and comes fifteen years after the last one in 1991. The current military leaders have promised a new constitution, a civilian interim government and free elections within a year.

Mr Thaksin's Thai Rak Thai party had come to power via parliamentary elections in 2001 and again in 2005. Despite the party's overwhelming majority in the February 2005 elections, within a year relentless public accusations of corruption and abuse of power led Mr Thaksin to try to reaffirm his mandate through a snap election in April 2006. This last election was subsequently declared unconstitutional and Mr Thaksin officially resigned as prime minister but remained as head of a caretaker government, calling further elections for October. With growing popular discontent, key military leaders sought the blessing from King Bhumibol to arrange a coup in an attempt to restore national unity and facilitate formal investigation of corruption charges against Mr Thaksin.

Surayud Chulanont, a retired commander-in-chief of the Thai army, respected for having rooted out corruption in the armed forces and for being a devout Buddhist, has been appointed as 'civilian' interim prime minister. He, in turn, has formed a cabinet consisting mainly of career civil servants.

Many Western commentators are pessimistic about Thailand's political outlook, concerned that the military leaders may delay elections further if there are disagreements amongst the new constitution's authors or if any protests against the new administration lead to violence. Thailand's main political parties are also thought to be very weak now. While the Thai Rak Thai party has been discredited by association with Mr Thaksin, the opposition Democrat party's leader, Mr Abhisit Vejjajiva, is considered ineffectual. Both parties face a serious challenge in dealing with accusations of electoral fraud in the April elections and the junta's new law that bans from politics for five years the officials of parties that are dissolved as a consequence of fraud investigations.

The coup has had only a limited negative impact on confidence in the Thai economy so far, although Mr Surayud has said that his administration will focus on 'self-sufficiency' rather than on GDP growth – and the US government has postponed a

free-trade pact with Thailand. The Economist Intelligence Unit has revised down its estimate for GDP growth in Thailand to 3.9% in 2006 (from 4.2% previously) and to 4.7% in 2007 (down from 4.8%) – but the forecast for 2008 remains unchanged at 4.9%. Thailand's GDP in 2005 was about US\$ 177 billion on a market exchange rate basis.

Thailand ran a merchandise trade surplus of US\$3.2 billion in 2005, but posted a current-account deficit of US\$3.7 billion (equal to 2.1% of GDP), the first such deficit since the 1997 financial crisis. The country has a diversified export base comprising agricultural commodities and manufactures, although 80% of exports now consist of manufactured goods, many of which are heavily dependent on imported inputs. Thailand's leading export markets are the US (16%), Japan (14%), China (8%) and Singapore (7%). The main import sources are Japan (22%), the US (9%), China (7%) and Malaysia (7%).

### **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 – but larger than countries like Myanmar, Malaysia and South Korea. Three quarters of the population are ethnically 'Thai', with ethnic Chinese, Muslim Malays (in the far south) and Khmer (near the Cambodian border) constituting the biggest ethnic minorities. Theravada Buddhism is the religion of about 94% of Thailand's population.

Thailand's total land area is 513,115 km<sup>2</sup>. It is bordered by Myanmar in the west and north, Laos to the north and east, Cambodia in the southeast and Malaysia in the far south. 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 upland regions in the north and northwest consist of the Western Hills, with ridges rising to nearly 1,000 m covered by dense tropical monsoon forests, and the Northern Mountains, rising to 1,600 m and broken by four parallel valleys which contain rivers that flow into the Chao Phraya. The northeastern plateau is a barren area with thin soil and is the poorest part of the country.

### **Energy**

The majority of the country's fuel requirements for power generation (around 125 TWh per annum) are supplied by indigenous natural gas and lignite resources. In 2005 Thailand consumed about 1.7 BCF per day of natural gas for power generation

compared with domestic production of natural gas of around 2.3 BCF per day. Chevron controls over half (54%) of all upstream natural gas production and PTT plc, the main state-controlled oil and gas group, approximately 46% (through subsidiary, PTT Exploration & Production), although the latter has a monopoly on gas transportation. The Energy Policy & Planning Office ('EPPPO') of the Thai Ministry of Industry estimates the country's proven natural gas reserves at around 14.8 TCF.

Although about 50,000 barrels per day of petroleum is imported to Thailand, the country has sufficient oil refining capacity (approximately 1 million barrels per day) to meet domestic demand (of about 0.7 million barrels per day) 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 291 million barrels (EPPPO).

Lignite consumption for power generation was 16.6 Mt in 2005 versus domestic production of 21.4 million tonnes. Lignite reserves are thought to be about 2.1 billion tonnes or enough for over 125 years of supply at current rates of consumption. The Electricity Generating Authority of Thailand ('EGAT'), the state-owned power group is by far the largest producer of lignite in Thailand, with 16.6 Mt of output in 2005, virtually all of it consumed in the company's own 2,625 MW mine-mouth power plant, Mae Moh. EGAT's privatization via stock market listing was cancelled twice under the Thaksin administration.

Banpu plc is the most important privately-owned coal player in Thailand, with production of about 3.2 Mt of low to mid-grade coal in 2005 (4,600 to 5,200 GCV) from two mines in the north of Thailand, Phayao and Lampang. Banpu's domestic coal reserves and resources are only sufficient for around two more years of production, however, and the company's main coal-mining operations are now in Indonesia and China, with coal production of about 22 Mt expected from Banpu mines in these countries in 2006 (compared to 14 Mt in 2005). The company's Indonesian coal mines exported approximately 2.2 Mt to Thailand in 2005 (accounting for just over a quarter of the country's coal imports), the rest going mostly to Japan (4.6 Mt) and other Asian countries (5.5 Mt). The company had total coal reserves at year-end 2005 of 259 Mt 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, which comes on-stream in two phases in October 2006 and February 2007. BLCP will consume about 3 Mt/y of imported coal, most of which will come from Rio Tinto under an agreement signed many years ago. Banpu is listed on the Stock Exchange of Thailand ('SET'), with a market capitalization of over US\$

1billion. It had revenues equivalent to about US\$624 million in 2005 and Earnings Before Interest Tax Depreciation & Amortization ('EBITDA') of US\$225 million. Net profit in 2005 was US\$138 million. Banpu, run by CEO, Chanin Vongkusolkit (whose family is also the company's largest shareholder), has substantial financial resources and is actively seeking investment and acquisition opportunities throughout the Asia-Pacific region in both coalmining and coal-fired power.



Chanin Vongkusolkit, CEO of Banpu plc

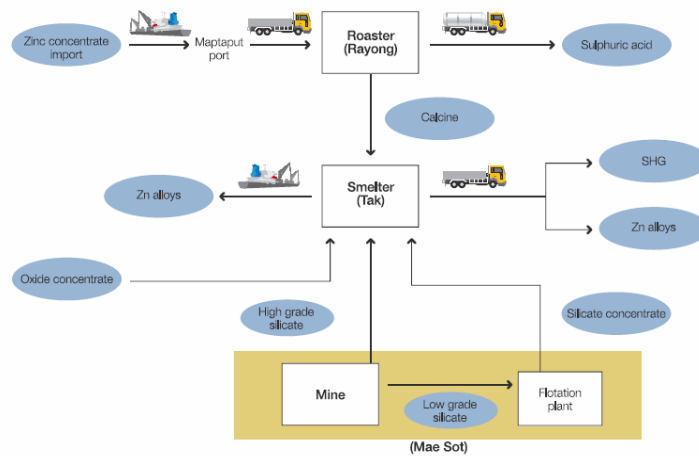
Lanna Resources plc, also SET-listed, ceased domestic lignite mining operations in 2005 and, like Banpu, has invested in the Indonesian coal mining industry. Lanna Resources controls two operating mines in Indonesia, which produced a combined 2.2 Mt in 2005, and one project due to come on-stream in 2007. All three interests are owned 55% 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 2005 of about \$107 million of which 86% came from the coal business and the rest from ethanol sales. Net profits for the company in 2005 were US\$9 million.

## Zinc

Padaeng Industry plc is southeast Asia's only producer of high quality zinc metal. The company is listed on the SET and is approximately 47% owned by Umicore, the Belgian non-ferrous metals group and 14% by the Thai Ministry of Finance.

The mine at Mae Sot in Tak Province produced 175,000 t of zinc silicate ore in 2005, with an average zinc content of 27%. The mine has been in operation for 21 years and still has approximately 3.2 Mt at an average 12.9% Zn content. In 2003 and 2004 Padaeng developed a flotation plant with a capacity of over 96,000 t/y which upgrades low-grade ores to concentrates. Padaeng also has a roaster plant in Rayong to process imported zinc sulphide concentrates – and 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 2005, Padaeng’s smelter used 197,276 t of concentrates (containing 51,012 Zn) from its own Mae Sot mine (situated around 96 km from the smelter) and purchased 92,871 t 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 101,186 Mt of refined metal in 2005, approximately 60% in the form of SHG and 40% as zinc alloys. Around 85% of sales went to the domestic market, accounting for just over 70% of domestic zinc consumption in Thailand. Exports went mainly to China, Taiwan and ASEAN countries. Thanks to a 32% increase in average zinc prices, total revenues for Padaeng in 2005 were Bt 6.2 billion (US\$155 million), up from Bt 5.7 billion in 2004 and net profits were Bt 0.6 billion, up from Bt 0.2 billion in 2004. However, duties on zinc imports to Thailand were reduced from 7.75% to 5.5% during the year and import competition is increasing, particularly from Australia, China and Korea.

**Copper**

Padaeng’s affiliate, Puthep Co Ltd, a joint venture with Pan Australian Resources NL, aims to develop two copper deposits in Loei Province in the northeast of Thailand: PUT1 with resources of 80 Mt at 0.5% Cu based on a 0.1% cut-off grade and PUT2 with resources of 32 Mt at 0.4% Cu also using a cut-off grade of 0.1%. Pan-Australian has options to earn and acquire majority control in the joint venture. A pre-feasibility study completed by Pan Australian in 1999 and updated since then indicates that Puthep has the potential to become a viable heap-leach and solvent extraction-electrowinning (SX-EW) copper mine, with the potential to produce over 25,000 t/y of LME grade copper cathode over a period of at least seven years. In June 2004, the Thai Government approved a proposal for a full feasibility study on

PUT1 and gave in-principle approval for mining. Pan Australian, listed in Australia, also has projects in Laos: the Phu Bia gold project and the Phu Kham copper-gold project.

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 enameled 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 plan in February 1998. Further to financial restructuring construction recommenced in 2003 and the new plant came on-stream in September 2004, with an initial capacity of 72,000 t/y. In 2005, the company's smelter was reported to have produced 62,300 t of blister and anode and the refinery 30,000 t of copper cathode. The company expects to increase production by around 20,000 t in 2006.

To meet domestic demand for refined copper of 257,000 t in 2005, Thailand imported around 235,900 t of refined copper to supplement the new domestic supply.

## **Gold**

Australian-listed Kingsgate Consolidated Ltd owns and operates the Chatree gold mine in central Thailand through a wholly-owned subsidiary, Akara Mining Ltd ('Akara'). The mine, located 280 km north of Bangkok, commenced operations in 2001. For the year ended June 2006, the mine produced 140,071 oz of gold and 459,701 oz of silver at a total reported cash cost of US\$206 per oz. Chatree is considered a very low cost producer, in the lowest 20% of producers worldwide according to Global Mining Research. Gold production in 2005 represents an increase of 11% on the previous year mainly as a result of higher plant throughput following the full commissioning of the pebble crusher. The processing plant now has capacity of around 2.35 Mt/y.

Successful exploration has increased the company's ore reserves and resources to over 1.8 million oz and 3.8 million oz respectively as at 30<sup>th</sup> September 2005. The reserves figure is an increase of 22% compared to the previous level as at 30<sup>th</sup> June 2005. New discoveries have been made at various locations north of the existing operations and the company expects its exploration programme (planned at US\$11 million in 2006) to continue generating new reserves and resources for the foreseeable future. Over the past three years the average cost of discovering gold into a resource category has been US\$7 per oz. The gold mineralization of Chatree is closely associated with a 'resistivity' geophysical signature and exploration work has identified a discernable anomaly for around 23 km in strike length north and south of the Chatree operations.

A feasibility study will shortly be completed by engineering firm Ausenco 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 Chatree North has been completed by the company and is currently being assessed by the relevant authorities.

The divestment of 51% of the company's Thai subsidiary, Akara, as required under the Thai Board of Investment incentive scheme, is due by November 2006. According to press sources the company is planning to bring in Thai investors for 51% of the shares of Akara prior to listing the company on the SET. Akara benefits from a full corporate tax holiday until 2009 and then a 50% reduction in corporate tax until 2014.

Kingsgate achieved total revenues for the year to June 2006 of US\$55 million, up 11% (in AU\$ terms) on the previous year thanks to higher gold production, although hedge positions constrained revenue growth. Net profit for the year was US\$12 million, roughly double the level achieved in the previous year. Gavin Thomas, one of the explorers involved in the discovery of the large Lihir gold deposit in Papua New Guinea, became the chief executive of Kingsgate in early 2005.

Tongkah Harbor plc, listed on the SET (under the 'Rehabco' category of companies undergoing financial restructuring), commenced production at its new gold mine in Loei Province in the north of Thailand in September 2006. Mine production in 2007 is expected to be around 3,000 oz per month via low-cost open-pit mining. 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 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, andesite mining operations and real estate interests.

Australian-listed Oxiana Ltd, owner of the large Sepon copper-gold mine in Laos, has been exploring for gold in Thailand through the Thai Goldfields JV. Oxiana has 50% of the joint venture and has options to earn up to 75%. The exploration and drilling programme is focused on certain high-grade, low-sulphidation epithermal gold prospects in Loei and Petchabun gold belts near Kingsgate's Chatree mine. In 2004 drilling at the LD prospect discovered an area of significant gold mineralization associated with epithermal alteration and veining over 300 m of strike. Better results included 9m @ 8.4g/t gold (from 21m) and 14m @ 13.4g/t gold (from 77m). At the Wang Yai prospect, 15 km north-east of LD, 'bonanza' grade gold-silver results ranging up to 102g/t Au and 5,000g/t Ag were received from sampling of epithermal veins at three separate locations over 1.6 km. With approvals of tenement

applications received this year, a major drilling programme has now commenced to establish the economic potential of these prospects.

## **Tin**

The long decline of Thailand's tin-mining industry continued in 2005 with production of just under 190 t compared to 720 t in 2004, 1,000 in 2003 and 1,700 in 2002. Tongkah Harbor has been the main producer in recent years, using contractors to operate dredges for offshore operations. The number of dredges dropped from three in 2002 to one in 2003. Tongkah Harbor ceased production altogether in April 2005 blaming the government's 24% royalty on tin sales. 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.

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 smelter became part of Billiton in 1972 (at that time, part of the Royal Dutch-Shell group) and more recently, part of the Amalgamated Metal Corporation group. The smelter has a capacity of 36,000 t/y. Although shortages of concentrate as feed from Indonesia and Peru affected production in 2002 and 2003 (as production in those countries became more fully integrated), output recovered to 20,800 t in 2004 and to 31,600 t in 2005.

Domestic demand for refined tin totaled about 4,600 t in 2005 compared to 5,900 t in 2004. Refined tin exports from Thailand went mainly to the Netherlands (61%), Japan (14%) and Belgium (8%).

Thaisarco's slag is used by HC Starck (previously Thai Tantalum Co), an affiliate of the Germany Bayer group to make tantalum metal powder products. HC Starck has a chemical and metallurgical plant located at Map Ta Phut. The chemical plant produces potassium fluortantalate, tantalum pentoxide and niobium pentoxide, and the metallurgical plant produces more than ten grades of high-quality tantalum metal powders using complex technology.

## **Cement**

In 2005, cement production increased by 6% to about 38 Mt and clinker output increased by 11% to 39 Mt. The growth related mainly to expansion of the construction sector stimulated by an increase in office building and plant construction projects and by ongoing infrastructural projects. Residential housing project demand is decreasing, however, due to saturation of the housing market and expiration of homebuyer tax incentives in 2004. Siam Cement Industry Co Ltd, Thailand's leading



cement producer, reported sales growth of 10% in 2005 and expected cement sales to grow by 3% to 6% in 2006.

### **Gypsum**

Thailand is second only to China in Asia as a gypsum producer, with production in 2005 of 7.1 Mt (unground) and exports of 4.6 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<sup>2</sup> of plasterboard at its operations on the eastern seaboard. Siam Gypsum has 80 million m<sup>2</sup> capacity and claims to supply over half of the domestic market (estimated at around 55 million m<sup>2</sup> 2005), while Thai Gypsum supplies just under half.

### **Potash**

In May 2006, Italian Thai Development plc ('ITD'), Thailand's largest construction company, acquired Asia Pacific Resources Ltd, the Toronto-listed company that controls 90% of Asia Pacific Potash Corp Ltd ('APPC'), owner of the Udon Thani potash concession in northeastern 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. APPC completed a feasibility study on the Udon South deposit in 1998 and thereafter had been working with the Thai authorities to secure various approvals. The EIA was approved in January 2001. APPC planned to develop Udon South at a potash (KCl) production rate of 1 Mt/y, and expected to expand 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<sub>2</sub>O. 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. An expansion up to 2 Mt/y would require a further US\$220 million. The project has been delayed mainly due to opposition from local community and environmental groups who feared that underground 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.

## Iron and steel

Thailand's crude steel production increased 14% to 5.2 Mt in 2005 from 4.5 Mt in 2004. Production was via electric arc furnaces ('EAF') using mostly imported iron and steel scrap. Mine production of iron ore in Thailand increased over 60% in 2005 but was still very small compared to domestic requirements at only 0.2 Mt. Steel demand in 2005 was estimated at approximately 14.5 Mt (Federation of Thai Industries), a 15% increase compared to 2004, driven mainly by large infrastructure construction projects.

The main hot rolled coil ('HRC') companies are Sahaviriya Steel Industries (conventional technology, processing imported slab), G-Steel (with EAF technology) and NSM (also with EAF technology). The biggest long products producer is Millennium Steel, with capacity of about 1.7 Mt/y. In December 2005, Tata Steel Ltd, India's second ranked steel producer, entered into an agreement to acquire control of Millennium Steel. Other long products players in Thailand (rebar, wirerod...) include BSI, BSBM, BISW, Nam Heng, TSSI and Tycoons.

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.

### About AWR Lloyd

Established in 2000, AWR Lloyd is an independent and specialized mining, metals and energy sector corporate advisory firm focused on the Asia-Pacific region.

AWR Lloyd provides services in M&A, corporate finance strategy, investor relations and industry research. AWR Lloyd has developed a reputation for helping resource companies in the region achieve strong and sustainable shareholder value growth. In recent years the firm has managed assignments involving most of the main energy and mineral industries (coal, power, oil, natural gas, LNG, steel, copper, aluminium, gold, potash...), as well as most key countries in the region (China, India, Vietnam, Thailand, Malaysia, South Korea, Australia...).

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