

PETROCHEMICALS AND FERTILIZERS

Introduction

The Asian economic crisis had an adverse impact on Indonesia's petrochemical industry. Petrochemical producers faced soaring prices for imported materials, shrinking domestic demand, and severe financial problems. According to the GOI, the petrochemical industry currently owes some Rp 10 trillion to the banking sector. As a result, Indonesia's plans to expand petrochemical production have been put on hold.

One company caught with massive debt obligations was Chandra Asri Petrochemical Center (CAPC), a producer of ethylene and propylene. CAPC's costs of producing ethylene are higher than competitors' in South Korea and Thailand. CAPC's debts amounted to US \$463.6 million to the Indonesian Bank Restructuring Agency (IBRA) and US \$723.6 million to private lenders led by Marubeni Cooperation of Japan.

On October 27, 2001, the media reported that the Government and Marubeni had agreed to a debt-for-equity swap arrangement to settle CAPC's debts. Marubeni agreed to convert US \$147 million of its loans into a 24-percent equity share, retreating from an earlier position to convert \$100 million for a 20-percent stake. CAPC must pay the remainder of its debts to Japanese lenders, US \$576.6 million, at an interest rate of 125 basis points above the London Interbank Offer Rate (LIBOR) with payment over 15 years.

CAPC was established by former President Soeharto's second son Bambang Trihatmodjo's Bimantara Group, Prayogo Pangestu of the Barito Group, Henry Pribadi of the Napan Group and Sudwikatmono, a cousin of former President Soeharto. In 1996, CAPC received protection in the form of a 40-percent duty on imports of olefin products, including ethylene and propylene. CAPC sells all of its propylene to Tri Polyta, in which the company's partners have a share.

Tariff Protection Reduced

In December 1998, the Government lowered import tariffs on petrochemical products (ethylene, propylene, styrene, polyethylene, polypropylene, polystyrene and polyvinyl chloride) and their derivatives from the previous rate of 25-35 percent to 10-20 percent effective January 1, 1999. Minister of Finance Decree No. 187 of May 2000 went a step further by reducing import tariffs for 708 items, including upstream and midstream petrochemical products. This decree lowered import duties on selected petrochemical products (ethylene, propylene, styrene, polyethylene, polypropylene, and their derivatives) as of June 1, 2000. Tariffs on ethylene are now zero percent and on propylene, five percent (CAPC produces both petro-chemicals). Tariffs for polyethylene (produced by PT Petrokimia Nusantara Interindo and CAPC) and polypropylene (produced by PT Tri Polyta Indonesia and PT Polytama Propindo) have been reduced from 20 percent to 5 percent.

This is the fifth time the GOI has changed import tariffs for petrochemical products in the last three

years. The Government also committed to reduce tariffs further in 2003 to comply with the Common Effective Preferential Tariff (CEPT) and ASEAN Free Trade Agreement (AFTA) schemes.

Benzene & Paraxylene

Import Tariffs of Selected Petrochemical Products (%)

Products	Pre Jan 1 1999	Jan 1 1999	Jun 1 2000
Ethylene	25	10	0
Propylene	25	10	5
Polyethylene	35	20	5
Polypropylene	35	20	5
Polystyrene	25	20	10
Polyvinyl Chloride	35	20	10

Benzene and paraxylene are currently produced by Pertamina's Cilacap refinery with production capacity of 123 thousand MT/Y and 270 thousand MT/Y respectively. Production rates of the two products are insufficient to meet domestic demand. According to the Department of Industry and Trade, domestic demand of benzene and paraxylene will increase to 125 thousand MT and 2.2 million MT, respectively, in 2003. After a substantial increase in 1999, imports of paraxylene mainly for the purified terephthalic acid (PTA) industry declined slightly to 934.3 thousand MT valued US\$438.6 million in 2000 from 984.3 thousand MT valued at US \$338 million in 1999. Affected by a sharp increase in domestic consumption, benzene imports rose to 274.6 thousand MT in 2000 from 247.2 thousand MT in 1999.

PTA

The growth of Indonesia's textile industry and the demand for polyester raw materials provided the stimulus for Pertamina and private investors to enter into the production of purified terephthalic acid (PTA). Since 1998, five PTA plants have been in operation -- Pertamina Plaju Aromatic, Bakrie Kazei PTA, Amoco Mitsui PTA Indonesia, Polysindo Eka Perkasa and Polyprima Karya Reksa, with a combined capacity of 1.8 MMT/Y. The bulk of production is sold to Indonesian polyester makers. In 2000, domestic demand for PTA increased to 980,000 MT from 889,000 MT in 1999 but exports declined significantly to 244,800 MT valued at US \$117.5 million from 304,700 MT and US \$116 million in 1999. China, Thailand, Hong Kong and Pakistan are the largest export markets for Indonesian PTA.

Three Japanese partners led by Mitsubishi Kasei Corp. own Bakrie Kasei, the largest PTA producer in Indonesia with a total capacity of 500 thousand MT/Y. (PT Bakrie Brothers sold its 20 percent share in the company to its former partners in late 2000.) Bakrie Kasei's first PTA production unit commenced operation in 1994 and the second unit in 1996.

Amoco-Mitsui PTA Indonesia, a joint venture between Amoco Chemical (50 percent), now incorporated into BP, Mitsui Petrochemical Industries (45 percent) and Mitsui Company (5 percent), commissioned a PTA factory in Merak, West Java, in February 1998, with an annual production capacity of 350 thousand MT/Y.

PT Polysindo Eka Perkasa of the Texmaco Group started PTA plant operation in April 1997 with capacity of 360

thousand MT/Y. PT Polyprima Karyareksa of the Napan group commenced commercial production in 1997 with annual capacity of 285 thousand MT/Y.

In 1998/99, the Capital Investment Coordinating Board (BKPM) licensed another six PTA projects with total projected capacity of 1.5 MMT and total investment of \$1.2 billion. Most of these projects are on hold because of financing difficulties.

Polypropylene

Polypropylene exports continued to decline in 2000 to 36,600 MT valued at US \$21.8 million from 41,300 MT valued at \$21 million in 1999. With a significant increase of domestic demand, from 450,000 MT in 1999 to 647,800 MT in 2000, Indonesia imported 189,200 MT of the product at a cost of US \$105.8 million in 2000. Polypropylene imports were up sharply from 54,400 MT at US \$42.8 million in 1999. Three plants, with a total production capacity of 600 thousand MT/Y, produce polypropylene, which is made from propylene. They are Pertamina's plant in Plaju, South Sumatra, with production capacity of 60,000 MT/Y; Tri Polyta's plant in Cilegon, West Java, with a capacity of 360,000 MT/Y; and Polytama Propindo, located near Pertamina's Balongan refinery in West Java, with a capacity of 180,000 MT/Y.

Majority-owned by the Tirtamas Group, the Polytama Propindo plant had plans to increase production and

develop into a midstream petrochemical project. These plans are still on hold.

Ethylene

Chandra Asri Petrochemical Center (CAPC), the only ethylene producer in Indonesia, produced 420,000 MT of ethylene in 2000, or 81 percent of its designed capacity. Statistics released by the Department of Industry and Trade indicated that domestic demand of ethylene increased to 856,000 MT in 2000 from 838,700 MT in 1999 because most downstream industries were increasing production. Ethylene imports rose to 54,900 MT valued at US \$55.8 million in 2000 from 41,900 MT valued at US \$39.8million.

Polyethylene

Indonesia's first polyethylene plant, PT PENI in Merak, West Java, came on stream in 1993, with production capacity of 250,000 MT. PT PENI is majority owned and operationally managed by BP Chemicals. In August 1998, the company completed its expansion project and increased its annual capacity to 450,000 MT. In 1999, CAPC increased the country's total polyethylene production capacity to 750,000 MT. Domestic demand for polyethylene continued to increase in 2000 to 501,000 MT from 442,000 MT in 1999 from 361,000 MT/Y in 1998. Indonesia exported 135,500 MT valued at US \$77.6 million and imported 145,300 MT valued at US \$113.3 million in 2000.

Methanol

PT Kaltim Methanol Industry in Bontang, East Kalimantan, which

came on stream in 1998, brought Indonesian methanol production capacity to 990,000 MT/Y. Prior to 1998, methanol was produced only by Pertamina's Bunyu Refinery, now owned by Medco Energi. PT Kaltim Methanol has plans to be a major methanol supplier to Asia. The first shipment of methanol to Japan was in March 1998. PT Kaltim, a subsidiary of Humpuss Group, has production capacity of 660,000 MT. In the first half of 2001, Humpuss offered its majority share in the plant to Nissho Iwai and Daicel Corporation of Japan.

Humpuss Group, controlled by former President Soeharto's son Hutomo (Tommy) Mandala Putra, currently holds a 70-percent share in PT Kaltim, followed by Nissho Iwai with 25 percent and Daicel Chemical Industries with 5 percent. Nissho Iwai is scheduled to take the bulk of the methanol for direct export to Japan, South Korea, Taiwan and other Asian countries. The natural gas feedstock comes from nearby gas fields operated by Pertamina, Total, Unocal and Vico.

In April 1997, operation of the Bunyu plant was turned over to PT Medco, which supplies additional natural gas to the plant from its gas field in Tarakan Island by an undersea pipeline. Medco aimed to restore plant productive capacity to 330,000 MT/Y from less than 200,000 MT/Y when Medco took over its operation.

In 2000, due to an increase of domestic consumption, methanol exports declined to 530,200 MT valued at US \$60.3 million from 694,100 MT valued at \$51 million in 1999.

The Projects

TUBAN PETROCHEMICAL COMPLEX: Construction of the \$2.3 billion Tuban Petrochemical Complex was suspended in December 1997 due to lack of financing. The project is controlled by Trans Pacific Petrochemical Indotama (TPPI), a Singapore-based company, headed by Indonesian businessman Hashim Djojohadikusumo. Currently, TPPI has a 60-percent share, Tuban Petrochemical Pte. Ltd 20-percent, Japan's Nissho Iwai and Itochu Corp 5-percent each, and Tirtamas Majutama, also controlled by Hashim, 10-percent. The complex would have the capacity to produce 700,000 MT/Y of ethylene; 500,000 MT/Y of paraxylene; and 300,000 MT/Y of benzene.

TPPI requires an additional US \$475 million to revive a naphtha cracker and aromatics project that was mothballed midway through construction. TPPI offers Pertamina to participate in the project. If the project is revived, it would have a short lead time compared to other expansion projects planned in Asia. It would likely affect the market relatively quickly once it is confirmed to be back on track.

OTHER PROJECTS: In 1996, the Capital Investment Coordinating Board (BKPM) approved several aromatic center new or expansion projects to meet domestic demand and reduce reliance on imports: PT Kresna Aromatic Persada; PT Nilaprima Aditama; PT Bakrie Petrochemical; PT Humpuss Aromatic; and an expansion program for PT Chandra Asri. All of these projects are currently on hold.

PT KRESNA AROMATIC PERSADA is a joint venture between Indonesian PT Kresna Tara Utama and Japanese Tomen. The plant was scheduled to be located in Cilacap, Central Java and to produce benzene, paraxylene, heavy aromatics and fuel products.

PT NILSPRIMA ADITAMA, planned for Serang, West Java, was to produce benzene and paraxylene. The project is jointly owned by PT Taniaraya Dutabuana (70 percent) and PT Trimitra Suburperdana (30 percent).

PT BAKRIE PETROCHEMICAL, also in Serang, West Java, was to produce paraxylene. Over 80 percent of the aromatic center's paraxylene was to be supplied to PT Kansei Bakrie, a Bakrie company producing PTA, with the rest for the export market.

PT HUMPUSS AROMATIC, located in Lhokseumawe in North Sumatra near the Arun gas fields, was scheduled to produce benzene and paraxylene, but currently only produces naphtha, kerosene, diesel oil and LPG. An indefinite delay has been imposed on the plant's plans for a paraxylene facility in Arun.

PT CHANDRA ASRI PETROCHEMICAL CENTER (CAPC), located in Cilegon, Java, began production in 1995 and produces a full range of olefins and aromatics. The planned expansion would add polybutene, MBTE, butane and butadiene to its product line.

Fertilizers

Given Indonesia's abundant supply of natural gas and strong domestic and export demand for fertilizer in Asia, the fertilizer industry presents a potential area for growth, provided the GOI loosens its tight control over the industry. Installed production capacity at Indonesia's 12 fertilizer plants operated by six companies (five state-owned companies and one ASEAN joint venture) is 7.0 million MT of urea and 4.6 million MT of ammonia per year.

In 2000, urea and ammonia production increased slightly to 6.3 million MT and 4.3 million from 6.0 million MT and 4.2 million MT respectively in 1999. Total fertilizer exports declined slightly to 2.0 million MT from 2.1 million MT in 1999, with main destinations being Vietnam, Taiwan, the Philippines, Thailand, Malaysia and Bangladesh. Designated a strategic commodity, the government directs state-owned fertilizer companies to fulfill domestic demand first. The remainder can be exported.

**Fertilizer Production and Exports
In 1000 MT**

	1999	2000
Urea		
Pupuk Sriwijaya	1,997	1,924
Pupuk Kaltim	1,904	2,277
Pupuk Kujang	560	580
Asean Fertilizer	685	586
PIM	551	664
Petrokimia Gresik	271	341
Total	5,968	6,332
	4,198	4,339
	2,052	1,910.6
- Value (\$million)	184.8	204.4

Source: Department of Industry and Trade

This year, fertilizer production is expected to decline because two large fertilizer plants in Aceh (ASEAN Aceh

Fertilizer, AAF, and Pupuk Iskandar Muda, PIM) suspended operations for over five months. The suspension, caused by a loss of feed stock gas from the ExxonMobil gas fields, caused a total loss of US \$75 million for the two plants. Fertilizer exports are also expected to decline in order to guarantee domestic supply. AAF announced force majeure status to overseas buyers of ammonia and urea. After ExxonMobil resumed operations in August, the Government instructed Pertamina and Exxon to prioritize gas supply to the plants.

Domestic demand for fertilizers continues to increase at average of 2.5 percent per year. The government estimates domestic demand will reach 6 million MT for urea and 1.3 million MT for phosphate by 2005. The largest Indonesian fertilizer import is potassium chloride, which is used as an additive to enhance performance of other fertilizers. This particular additive is mainly imported for use in plantations that produce soybeans, tobacco and tea. In 2000, imports of potassium chloride decline to 359,500 MT from 530,000 MT in 1999.

The fertilizer industry utilizes about 210 BSCF of natural gas per year and purchases gas in U.S. dollars at the government's subsidized price of US\$1.3/MMBTU. (The government reduced the natural gas price from a range of US \$1-2/MMBTU as a development incentive to the fertilizer industry.) Recently, a number of plants have had difficulty paying their dollar-denominated gas bills to Pertamina. Fertilizer is sold to farmers in rupiah at government-administered prices.

The Indonesian Government decided to resume five delayed fertilizer projects affected by the financial crisis due to the anticipated increase of domestic demand. The five projects are the \$310 million Pupuk Iskandar Muda (PIM) II; \$304.6 million Kujang IB; \$359.7 million Pupuk Kaltim IV; \$26.2 million Petrokimia Gresik NPK fertilizer plant; and \$34 million ASEAN Aceh Fertilizer's hydrogen peroxide plant.

The PIM II project, which was originally scheduled for completion in 2001, is now slated for commercial operation in the second half of 2002. The plant will produce 570,000 MT of urea and 366,000 MT of ammonia per year with 50 percent of production exported.

In March 2001, the contract for construction of the 570,000 MT/year capacity Kujang IB was signed by Toyo Engineering. The project is expected to be operational in 2004 and designed to replace the current plant, which has been in service for 22 years.

Private developer PT Kaltim Parna Industry (KPI) has officially started the construction of a US \$240 million ammonia plant in East Kalimantan. KPI is a joint venture between two Japanese companies (Mitsubishi 55 percent and Asahi Chemical Industry -- 10 percent) and two Indonesian companies (PT Parna Raja -- 25 percent and PT Pupuk Kaltim -- 10 percent). The project, which had been postponed for three years due to the economic crisis, is scheduled for completion in 2002, with an annual capacity of 500,000 MT/year. The project will consume 55 MMSCF/D from three gas fields operated by Total, Unocal and Vico. KPI signed a

20-year gas purchase agreement with Pertamina in July 1999.

PT ASEAN ACEH FERTILIZER:
The ASEAN-sponsored urea fertilizer plant is located near the Arun gas fields at Lhokseumawe in North Sumatra and is 60-percent owned by Indonesia, 13-percent by Malaysia, 13-percent by the Philippines, 13-percent by Thailand, and 1-percent by Singapore. The plant produced 586,000 MT of urea and 405,000 MT of ammonia in 2000.