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Singapore

Singapore is a major refining center for Southeast Asia, with refining capacity of nearly double its rate of petroleum products consumption. It is also strategically located near the Strait of Malacca, a major route for oil tankers.

Note: The information contained in this report is the best available as of May 2004 and is subject to change.

GENERAL BACKGROUND

Singapore's strategic location at the entrance to the Strait of Malacca has helped it become one of the most important shipping centers in Asia. The Port of Singapore, the world's busiest in terms of shipping tonnage, is a key component of Singapore's prosperity and economic health. Singapore is also a leader in new biotechnologies, petroleum refining, and the manufacturing of computer components.

Recognizing that Singapore's future growth depends on overcoming resource limitations and a small domestic market, the Singaporean government has vigorously encouraged local firms to regionalize their operations and to invest abroad. The Singaporean government has also undertaken efforts to attract additional foreign investors to Singapore. Prime Minister Goh Chok Tong has identified China, India, and the fellow Association of Southeast Asian Nations (ASEAN) as priority countries in Singapore's regionalization drive. During his 2003 visit to Washington, Prime Minister Tong signed a Free Trade Agreement and a Memorandum of Intent of Cooperation in Environmental Matters. During a brief stop in Singapore by President Bush late last year, the United States and Singapore announced a cooperation agreement to enhance joint action in tackling security threats by terrorist groups and the spread of weapons of mass destruction. Singapore is today the biggest U.S. customer in Southeast Asia. Total U.S. investments in Singapore stand now at $61.4 billion, and U.S. exports to the country stand at $16.6 billion. More than 1,300 American companies have a presence or regional business headquarters in Singapore.

Singapore continues on its way to full economic recovery after the global economic slowdown and the Asian economic crisis of 1997-98. The country's skilled work force and advanced infrastructure, combined with cost-cutting measures, tax cuts and rent reductions, have attracted investments from more than 3,000 multinational corporations from the United States, Japan, and Europe. Singapore's real GDP rose 1.1% during 2003, and is expected to rise by 5.0% in 2004.

OIL

Singapore is one of the major petroleum refining centers of Asia, with total crude oil refining capacity of nearly 1.3 million barrels per day (bbl/d). The three main refineries include: ExxonMobil's 580,000-bbl/d refinery; Royal Dutch/Shell's 430,000-bbl/d refinery on Pulau Bukom island; and the Singapore Refining Corporation's (SRC) 285,000-bbl/d refinery. The Asian economic crisis of 1997-98 had a negative impact on Singapore's refining industry, and Singapore's refining companies lost significant business due to declining demand for oil products in the region. While the region staged a recovery from the financial crisis in 1999 and 2000, the construction of new refineries in Singapore's traditional export markets has not picked up. New refineries in India, particularly the 540,000-bbl/d Reliance Petroleum refinery at Jamnagar, which began production in 2000, have reduced Indian demand for imports of refined products. The Melaka refining complex in Malaysia also has become a competitor. In early 2004, Thailand made clear its intentions to become a regional energy hub with the completion of its Sri Racha oil center. To counter the growing competition to its energy hub status in the region, Singapore in February 2004 announced plans to lower by 50% corporate income taxes on oil companies that do business in the country.

In response to increasing competitive pressures, individual refinery operators in Singapore have been exploring various restructuring measures. For instance, Shell has centralized control of its Asian refining operations in Singapore. Caltex has followed a similar strategy. Other Singaporean refiners, in an effort to boost margins, are exploring approaches ranging from long-run cutbacks to cost cutting. Some owners of refineries in Singapore reportedly have expressed interest in selling their stakes in the near future. It is clear, however, that while there has been a short-term recovery in refining margins in 2003, the overall outlook for Singapore's refiners is still uncertain, with so much capacity being developed elsewhere in Asia.

In April 2004, it was reported that the Singapore Petroleum Company Limited's (SPCL) $140 million bid to acquire the refinery assets of BP Singapore had been thwarted by fellow shareholder ChevronTexaco subsidiary, Caltex Singapore. SPCL will now pay $70 million for half of BP's refinery stake in the 285,000-bbl/d SRC, with Caltex purchasing the other half. The revised deal is expected to be completed at the end of June 2004.

Also in April 2004, following a 29-year hiatus, a delegation led by Singapore's Trade and Industry Minister made an official trip to Iran, aiming to build stronger political and business ties between the two nations. The trip came on the heels of visits in February and March 2004 by various Singapore officials to Egypt, Jordan, Bahrain, Qatar and the U.A.E. The general stated purposes of the trips included the establishment of joint free-trade agreements with several visited Middle Eastern countries, and the development of potential markets for Singaporean companies in the energy-rich region.

Petrochemicals

The rapid growth of Singapore's petrochemical industry has been a direct result of the country's strong base in petroleum refining. A large project to reclaim seven small offshore islands to form a 12-square mile petrochemical complex on Jurong Island is in progress. The project will link Jurong to Singapore Island by a 1.62-mile causeway. The main oil companies involved with the facility include Esso (in Palau Ayer Chawan), Mobil Oil (in Palau Pesek) and Singapore Refinery Company (in Palau Merlimau).

A recent major development in Singapore's petrochemical industry is start up in late 2002, of a second naphtha cracker by the Petrochemical Corporation of Singapore and its downstream partners, Phillips Petroleum, the Polyolefin Company, Hoechst, and Seraya Chemicals. In addition, Germany's Messer Group and U.S.based Texaco in early 2002 built a $200 million synthetic gas plant on Jurong Island. The synthetic gas is being used for industrial purposes and as feedstock for petrochemical and refining customers on Jurong Island.

NATURAL GAS

Singapore imports all of its natural gas, which is mainly used for power generation and as a feedstock for petrochemical production. Natural gas use is rising rapidly, as the Singaporean government promotes policies aimed at reducing carbon dioxide and sulfur emissions, ensuring energy security, and promoting the country as a regional hub for an integrated gas pipeline network. Singapore's Senoko Power currently imports 155 million cubic feet per day (Mmcf/d) of natural gas through a pipeline from Malaysia, its first natural gas supplier. This pipeline was the first transnational natural gas pipeline built in East Asia. With the contract for gas supplies from Malaysia scheduled to expire in 2007, Senoko Power spent the early part of 2004 in continuous discussions with Malaysia's Petronas to extend the agreement.

Singapore has embarked on a diversification strategy to avoid becoming dependent on a single source for gas imports. In January 1999, the Singaporean gas consortium, SembGas, (which consists of SembCorp Engineering, Tuas Power, EDB International, and Belgium's Tractebel) signed an agreement to purchase West Natuna gas from Indonesian state energy company Pertamina. Indonesian gas to Singapore comes via pipelines from two separate fields. Since January 2001, West Natuna has supplied 325 Mmcfd as part of a 22-year deal, while Asamera, in Sumatra, is expected to supply 350 Mmcfd by 2005. Another 100 Mmcfd of natural gas is expected to be delivered via the Asamera pipeline from the ConocoPhillips field to Singapore's Island Power company in 2006.

t the end of 2002, natural gas supplied through pipelines generated 43.5 % of Singapore's electricity, with gas use expected to grow to 60 % of total fuels used for electricity generation in the country by 2006. In December 2004, a month-long interuption of natural gas supplied from Indonesia's West Natuna fields, caused by an undersea pipeline leak, was successfully fixed, and gas deliveries restored.

In addition to natural gas imports from Malaysia and the two pipelines from Indonesia, Singapore has plans under discussion to build a liquefied natural gas (LNG) import terminal, thereby freeing itself from complete dependence on neighboring states for its gas supply. The Singaporean government announced in September 1999 that it had set aside land at Tuas View for the project. Over the last several years, however, the project has made little progress. While it would have obvious energy-security benefits for Singapore, currently LNG would cost more than piped natural gas. The receiving terminal for LNG deliveries alone is estimated to cost nearly $1 billion.

Singapore may eventually become important as a regional natural gas hub for Southeast Asia. The idea of a regional gas grid for members of the ASEAN has been under discussion for several years. International links already exist or are under construction between Burma and Thailand, Malaysia and Thailand, and Indonesia and Singapore. Singapore has an ideal location to function as the hub of such a system if it comes to fruition.

ELECTRIC POWER

Singapore is in the process of restructuring and privatizing its electric power sector, thus transforming what was a monopoly into a competitive market. Two subsidiaries of state-owned Singapore Power, PowerSeraya and Senoko Power, along with Tuas Power, are currently generating electricity. PowerGrid, another subsidiary of Singapore Power, maintains and operates the country's electricity transmission and distribution system. The Singaporean government currently owns majority stakes in all of these firms through holding companies. The process of privatization has been repeatedly delayed, and current plans call for the Singaporean government to divest its stakes in the electric utility sector by the end of 2004. Following the end of the final phase of privatization, the six retailers of electricity in Singapore will include Keppel Electric, Sembcorp Power, Tuas Power Supply, Senoko Energy Supply, Seraya Energy and Marubeni International Petroleum.

A regulatory agency for the country's electric utility sector, the Energy Markets Authority (EMA) was created in April 2001. It is working out the details of the privatization process and it is studying the possibility of constructing gas-fired generation plans that are designed to operate with diesel in the event of a prolonged gas disruption that could cause electricity disruptions. One of the options examined is to allow more flexible integration of co-generation facilities. Co-generation involves the co-production of steam, which chemical firms use in large amounts and electricity.

Natural gas importer SembCorp has already entered the power generation business as an independent power producer (IPP), completing the construction of a 815-megawatt (MW) gas-fired plant under the name SembCorp Cogen. The facility began operation in September 2001. Malaysia's Tenaga Nasional has expressed interest in entering Singapore's power market after deregulation. It would either sell power from its grid in Malaysia to customers in Singapore, or possibly purchase generation assets in Singapore.

Most of the state-owned utilities' generating capacity has been converted from fuel oil to natural gas as it has become available. Most new planned capacity also will burn natural gas. Tuas Power awarded a contract to Mitsubishi in 2001 for two 367-MW combined cycle generating units, which are to be completed in 2006. The current economic slowdown, however, has largely stalled expansion of electricity generating capacity in Singapore.

In December 2003, Sime Darby Berhad (SDB) announced the purchase of a 50 % share in Island Power Company's 715-MW natural gas fired combined cycle power project to be built in Singapore. Island Power is a wholly-owned subsidiary of InterGen, and plans to complete the plant by 2006. Upon completion Island Power will be the first independent power plant to participate in Singapore's deregulating power pool.

Singapore's Energy Market Authority began 2004 by allowing large electricity consumers to begin selling their power offtake back to suppliers for profits in the event of a sharp spike in the wholesale pool price. The change in regulation is part of Singapore's ongoing power liberalization program.

At the end of March 2004, Singapore's biggest electricity producer Senoko Power signed a deal to extend the effective life of its generators for 12 years. The deal with Germany's Siemens involves retrofitting two 425-MW generators with improved technology and carrying out a major upgrade to reduce emissions by 2006.

MERCHANT MARINE

A total of 859 ships (1,000GRT or over) are registered in Singapore. Of these, 277 of them are petroleum tankers, 87 are chemical tankers and 38 are LNG carriers. There are also about 400 foreign-owned ships registered in Singapore as a flag of convenience. Over the last decade, pirate activities in the area of the South China Sea and the Malacca Straits have presented a growing threat to the shipping and trading activities of regional trading vessels. Singapore and several other regional trading partners have expressed interest and increasing joint committment to crack down on the activities of the illicit criminal piracy networks.

ENVIRONMENT
A large group of major refineries in Asia jointly agreed to launch a long-term dialogue with governments on measures to improve environmental conditions. Among some of the growing concerns among East Asian oil importers and producers are the conditions of the transport tankers ferrying fuel deliveries in regional waters. Particular attention in recent years has been devoted to the conditions of the aging Russian and Eastern European ships transversing the waters of East Asia.

Sources for this report include: CIA World Factbook; Dow Jones News Wire; Economic Survey of Singapore 2003; Economist Intelligence Unit; Global Insight Asia Economic Outlook; Government of Australia Singapore Statistical Fact Sheet; International Monetary Fund; Oil & Gas Journal; Petroleum Economist; Reuters News Wire; The Straits Times (Singapore); U.S. Department of State; U.S. Energy Information Administration.

COUNTRY OVERVIEW
President: Sellapan Rama Nathan (since September 1, 1999)
Prime Minister: Goh Chok Tong (since November 28, 1990)
Deputy Prime Ministers: Brig.Gen. (Ret.) LeeHsien Loong (since November 28, 1990) and TAN Keng Yam Tony (since August 1, 1995)
Unicameral Parliament (84 seats, members elected by popular vote to serve five-year term)
Independence: August 9, 1965
Total Area: 267.5 sq.miles (slightly more than 3.5 times the size of Washington, DC)
Population (2003E): 4.6 million
Location/Size: Singapore lies in Southeast Asia, with Peninsular Malaysia to the north, East Malaysia to the east, and Indonesia to the south. The country consists of one main island and 54 islets located approximately 77 miles north of the equator.
Major Cities: Singapore
Language: Chinese, English, Malay, and Tamil
Ethnic Groups: Chinese (77%); Malay (14%); Indian (8%) **ECONOMIC OVERVIEW**
Currency: Singapore dollar
Exchange Rate (4/22/2004): 1.7 Singapore dollars = 1 U.S Dollar
Real GDP Growth Rate (2003E): 1.1% **(2004E):** 5.0%
Inflation Rate (consumer prices): (2003E): 0.5%, **(2004E):** 1.2%
Current Account Balance (2003E): $22.5 billion **(2004E):** $19.8 billion
Merchandise Trade Balance (2003E): $28.3 billion
Major Exports: Machinery, petroleum and petroleum products, chemicals, telecommunications equipment, computer equipment, food and live animals, crude rubber, beverages, tobacco, clothing.
Major Imports: Machinery and transportation equipment, petroleum and petroleum products, crude materials, foodstuffs, tobacco, textiles, iron and steel, aircraft.
Major Trading Partners: Hong Kong, Japan, Malaysia, Taiwan, Thailand, United States.
Total External Debt (2003E): None
Unemployment Rate (2003E): 4.8%

ENERGY OVERVIEW

Oil Consumption (2003E): 746,000 barrels per day (bbl/d) (all imported)
Natural Gas Production (2001E): None
Dry Natural Gas Consumption (2002E): 42 billion cubic feet (Bcf) (all imported)
Crude Oil Refining Capacity (1/1/04E): 1.3 million bbl/d
Electric Generation Capacity (2002E): 7.7 gigawatts (all thermal)
Electricity Consumption (2002E): 29.9 Billion kilowatthours (Bkwh)
Electricity Generation (2001E): 30.5 Bkwh

ENVIRONMENTAL OVERVIEW
Minister of the Environment: Lim Siew Say
Total Energy Consumption (2001E): 1.6 quadrillion Btu* (0.5% of world total energy consumption)
Energy-Related Carbon Dioxide Emissions (2001E): 114.8 million metric tons (0.5% of world carbon dioxide emissions)
Per Capita Energy Consumption (2001E): 399 million Btu (vs. U.S. value of 341.8 million Btu)
Per Capita Carbon Dioxide Emissions (2001E): 27.8 metric tons (vs. U.S. value of 20.2 metric tons of carbon dioxide)
Energy Intensity (2001E): 18,967 Btu/$1995 (vs U.S. value of 10,810 Btu/$1995)**
Carbon Dioxide Intensity (2001E): 1.36 metric tons/thousand $1995 (vs U.S. value of 0.64 metric tons/thousand $1995)**
Fuel Share of Energy Consumption (2001E): Oil (94.4%), Natural Gas (5.6%), Coal (0.0%)
Fuel Share of Carbon Dioxide Emissions (2001E): Oil (97.5%), Natural Gas (2.5%), Coal (0.0%)
Status in Climate Change Negotiations: Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified May 29th, 1997). Not a signatory to the Kyoto Protocol.
Major Environmental Issues: Industrial pollution; limited natural fresh water resources; limited land availability presents waste disposal problems; seasonal smoke/haze resulting from forest fires in Indonesia.
Major International Environmental Agreements: A party to Conventions on Biodiversity, Climate Change, Endangered Species, Hazardous Wastes, Law of the Sea, Nuclear Test Ban, Ozone Layer Protection and Ship Pollution.

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.
**GDP figures from OECD estimates based on purchasing power parity (PPP) exchange rates

ENERGY INDUSTRY
State Energy Companies: Singapore National Oil Company; Singapore Petroleum Company; Singapore Power Company; PowerSeraya; PowerSenoko; Tuas Power; PowerGas
Major Refineries (1/1/04E Capacity): Singapore Petroleum Co. Ltd. (273,600 bbl/d); ExxonMobil Refininig and Supply Co. (587,000 bbl/d); Shell Eastern Petroleum (Pte.) Ltd. (458,000 bbl/d)
Major Ports: Singapore

LINKS

For more information from EIA on Singapore, please see:

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U.S. State Department Consular Information Sheet - Singapore
CIA World Factbook - Singapore
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