

Energy

Factsheet 2011

Singapore ~ Asia's Energy Hub

At a Glance

Singapore is the region's premier hub for oil & gas – a valuable sector that contributed almost 5% of Singapore's gross domestic product in 2007.

As Singapore continues to strengthen the competitiveness of its energy industry, the government is looking to develop innovative logistics solutions to enhance the synergies of the refining, trading and logistics activities in meeting the global energy demand.

Undisputed Oil Hub in Asia

The oil industry has been an integral part of Singapore's economy, ever since oil trading activities started in 1891. It is built on the three 'legs' of refining, trading and logistics, which today contributes close to 5% of Singapore's GDP.

Refining is recognized as the cornerstone of the oil industry. Export volumes are crucial to price discovery of oil products which roots trading and logistics activities here. Today, there are more than 800* professional oil traders based here and over 8 million cubic metres of independent oil storage to support oil trading.

In addition to refining and trading, many oil companies site their regional headquarters activities in Singapore, including key decision-making for exploration and production in their regional businesses.

Apart from being the most complete industry of manufacturing, services and trade, the oil industry is a catalyst for the petrochemicals industry, providing advantaged feedstock. This further enhances the competitiveness of the oil industry. Coupled with excellent logistics and bulk handling capabilities, Singapore continues to be one of the critical supply locations for global oil products and chemicals. Other spin-offs from the oil industry include the oil & gas equipment and oil rig manufacturing sectors.

Today, Singapore is the undisputed oil hub in Asia and is one of the world's top three export refining centres.

*Source: IE Singapore (2007)

Key Figures

- Singapore is one of the world's top three export refining centres, accounting for 68.1 million tonnes of oil exports in 2007
(*BP Statistical Review of World Energy June 2008*)
- World's busiest marine bunkering centre accounting for 31.5 million tonnes in 2007
(*Maritime and Port Authority of Singapore*)
- Asia's leading trading hub (Top 3 in the world)
- Asia's oil and oil product pricing centre

Jurong Island - World-Class Infrastructure

As the centerpiece of the energy and chemical industry, Jurong Island is home to more than 95 leading petroleum, petrochemicals and specialty chemicals companies from all over the world. With its "plug-and-play" infrastructure and industry integration, Jurong Island is a competitive location that has attracted investments of over S\$30 billion.

Singapore's Oil Trade

Singapore is the world's third largest oil and oil products trading hub, behind New York and London. The physical oil trade alone was US\$375 billion in 2007¹.

Currently, Singapore is home to diverse, global oil traders, including oil majors (BP, Chevron, ExxonMobil, Shell, Total, etc) as well as international trading houses (Glencore, Itochu, Marubeni, Vitol, etc).

Widening Our Lead in the Oil Industry

The increasingly complex energy environment and an evolving oil industry presents Singapore's oil sector with an opportunity to further widen its lead. The industry can be brought to the next level of growth and captures more value through:

Growing Refining

To maintain its share of global refining capacity, Singapore aims to enhance the complexity of refineries and to increase the current refining capacity of 1.3 million barrels per day (bpd). This will be achieved through upgrading and expansion of existing refineries, as well as attracting a greenfield refinery.

Advancing Technology

Singapore hopes to build up its technology base to enhance refinery operations, and establish R&D areas in high value products such as lubricants. Singapore has since achieved headway in process optimization and catalyst development to maximise the use of existing capital-intensive refinery assets. This is done in conjunction with R&D efforts at the Institute of Chemical Engineering and Sciences.

Developing Alternative Energy

Besides developing the oil industry, Singapore is committed to developing alternative energy verticals, including biofuels, solar, wind and fuel cell technologies. Strong R&D capabilities are required to support industry development in these areas, which will also enable Singapore to develop solutions in response to regional energy needs.

Developing Innovative Logistics Solutions

All three legs of the oil industry - refining, trading and logistics - must grow in tandem for the whole industry to progress to the next level.

Given the limited land Singapore has, innovative solutions therefore need to be developed to ensure that logistics continues to grow and stay competitive to support the oil industry.

For example, Singapore's storage capacity is set to multiply with the advent of Jurong Rock Cavern, a massive underground facility. When phase 1 is completed, it will offer 1.47 million cubic metres of space for the storage of crude oil, condensates and naphtha.

¹ International Enterprise Singapore

Creating Strengths in the Gas Industry

Singapore already has a supply of piped gas, and is looking at developing new supply of natural gas through the building of an LNG terminal, which is slated to be operational in 2012. This will provide Singapore with greater energy security. In addition, gas could become an alternative source for petrochemicals feedstock, thus complementing the existing chemical industry.

Leading Industry Players

Leveraging Singapore's world-class infrastructure and excellent global connectivity, global companies such as **Chevron**, **ExxonMobil**, and **Shell** have established significant presence here. These leading companies help to build a vibrant and competitive oil industry which in turn attracts new players to Singapore looking for opportunities in the exciting markets of Asia.

Shell (The Netherlands) built Singapore's first refinery on Pulau Bukom in 1961. Since then, this integrated site has become Shell's largest refinery in the world. In July 2006, Shell announced its plans to proceed with the construction of a new world-scale ethylene cracker on Bukom Island and a new world-scale Mono-Ethylene Glycol (MEG) plant on Jurong Island.

ExxonMobil (US) operates an integrated refinery located on Pioneer Road and Jurong Island which has a refining capacity of 605,000 bpd. Integrated with the refinery is a US\$2 billion world-scale petrochemical facility with an 800,000 tonnes per annum steam cracker. The company is currently constructing its 2nd world-scale petrochemical project in Singapore. When completed, the site will be ExxonMobil's largest integrated chemical and refining site.

Singapore Refining Company (Singapore) is a joint venture between Chevron and Singapore Petroleum Company. Located on Jurong Island, SRC operates a refinery that is able to process 290,000 bpd of oil.

Project Highlights

Neste Oil (Finland) is setting up a NExBTL biorefinery in Singapore. The S\$1.2 billion project marks Neste's single largest investment into biofuels as well as its first biofuels investment in Asia. With a refining capacity of 800,000 metric tonnes per annum, it is the largest facility worldwide for producing diesel from renewable sources. Construction of the Singapore plant has begun and is targeted to start up by end 2010. When operational, the plant will employ around 100 people.

PowerSeraya (Malaysia) is fast growing into a full fledged integrated energy provider offering multiple commodities including steam, water, oil and gas. The company has invested in an 800-megawatt natural gas-fired co-generation plant to produce electricity and steam simultaneously. Slated to be completed by 2010, the new Co-Gen facility is designed for increased thermal efficiency and will bring about greater environmental benefits by reducing the company's overall carbon emissions by a further 10 per cent.

Sustainable Growth

As Singapore positions itself for the next phase of growth in the energy and chemical industry, we aim to be a model of sustainable development. To address climate change concerns, Singapore is taking the lead in raising the bar in energy efficiency, emission management as well as accelerating the development of new, sustainable feedstock and technologies for the industry. We actively promote and support companies in their plans to improve energy efficiencies in their production and to reduce their carbon footprint.

About the Singapore Economic Development Board

The Singapore Economic Development Board (EDB) is the lead government agency for planning and executing strategies to enhance Singapore's position as a global business centre. EDB dreams, designs and delivers solutions that create value for investors and companies in Singapore. Our mission is to create for Singapore, sustainable economic growth with vibrant business and good job opportunities.

EDB's 'Host to Home' strategy articulates how we are positioning Singapore for the future. It is about extending Singapore's value proposition to businesses not just to help them improve their bottom line, but also to help them grow their top line through establishing and deepening strategic activities in Singapore to drive their business, innovation and talent objectives in Asia and globally.

For more information on how EDB can help in your business and investment, please visit www.sedb.com

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