

Front Page
China
Southeast Asia
South Asia
Japan
Korea
Central Asia
Middle East
War and Terror
Business in Brief
Asian Economy
Global Economy
Letters

[Archive](#)

[About Us](#)

[Contact Us](#)

[Advertise](#)

[Media Kit](#)

Search Asia Times

[Advanced Search](#)



Global Economy

Nov 11, 2003

Natural gas's new global role

By Jamie Miyazaki

Natural gas is beginning to alter the world's energy order as global business switches from traditional sources such as coal and oil to natural gas, with new liquefied natural gas (LNG) terminals springing up, especially across Asia, scores of new ships being built and new companies coming into existence.

This insight has certainly not passed unnoticed by the world's energy companies, which have watched the global natural-gas market grow a solid 3 percent annually recently, while LNG soared by a very healthy 8 percent in the first half of 2003. Demand for natural gas in Asia is likely to grow by about 4 percent a year for the next 30 years, much faster than in the rest of the world, requiring the creation of pipeline infrastructure on a large scale, according to statements at the 22nd World Gas Conference in June.

Asia's share of global consumption has risen from just 2 percent in 1960 to 12 percent today and should reach 19 percent by 2030, according to Kunio Anzai, chairman of the Japan Gas Association, with growth in demand particularly strong in Japan. Gas, Anzai said, is a rapidly growing priority area in the Japanese government's energy policy, with natural-gas demand expected to grow steadily and to "continue to play a role as a volume-growth driver of [gas consumption in] the Asian region".

This is not to say that the oil satraps of the Middle East and Southeast Asia are going to lose their influence soon. Much of natural gas accompanies oil. Nonetheless, traditionally oil companies have not viewed natural gas as an important revenue source. Striking gas was even viewed as a hindrance to core operations of getting the black stuff out of the ground as fast as possible, with lots of natural gas being flared off at the wellhead.

But, as Sheikh Ahmed Zaki Yamani, the former Saudi oil minister, famously said in reference to oil's hold over policymakers' minds: "The Stone Age did not end for lack of stone, and the oil age will end long before the world runs out of oil."

As the world switches to gas-powered electricity generation, natural-gas demand is expected to continue rising faster than for other hydrocarbons. Mitsui's planned production alone of LNG is expected to more than double in the next 15 years. Royal Dutch Shell has gone as far as predicting that by 2025 gas demand could outstrip that for oil.

Gas has traditionally been transported either by pipeline or liquefied and shipped by tanker. Pipelines, despite the large initial costs of their construction, are the cheapest means of transporting gas. Unfortunately, because many gas fields are so remote from their core markets, not much gas is left that can be effectively transported by pipeline.

That has meant a renewed interest in shipping LNG by tanker and, for instance, has made the formerly lackluster state-owned shipping company Malaysian International Shipping Co Bhd into an equities market star. MISC, a 62.4 percent subsidiary of the Malaysian national oil company Petronas, skyrocketed over the past half-dozen years to become the world's single largest owner and operator of LNG



RELATED ARTICLES

[Asia starts to gasp for energy](#)
(Aug 21, '03)

[Indonesia's natural gas dilemma](#)
(Jul 22, '03)

[China's hunger for Central Asian energy](#)
(Jun 11, '03)



tankers, with a fleet capacity of 13. MISC has ordered six more new LNG tankers to be delivered on a staggered basis before March 2005.

Thanks to economies of scale and new technology, LNG's capital costs have plunged by more than a quarter over the past decade, with shipped LNG now competitive with piped gas over anything more than 2,000 kilometers. Obviously, oceans make pipelines problematic. With the major LNG markets in Northeast Asia far from the main gas fields of Borneo, Australia and Qatar, LNG remains the favored method of transporting gas to the consumer nations. Moreover, a lot of the current and future production growth is not in the Middle East but, significantly for Asian nations, in Central Asia, Australia and Russia.

In much the same way that the United States dominates the oil market, the economies of Japan, South Korea and Taiwan dominate the LNG market, although today, according to the University of Houston Law Center's Institute for Energy, Law and Enterprise, the US has the largest number of LNG facilities in the world, scattered throughout the country and located near population centers. Piped residential use of natural gas in the US has been extensive for decades.

Nonetheless, Japan alone now accounts for some 53 percent of global demand, with the bulk coming from its power companies. China as usual is the new kid on the block and expects to be the next big growth market. Weng Shilie, head of directors with the Shanghai Municipal Energy Research Society and a member of the Chinese Academy of Engineering, said recently that China's installed capacity in natural-gas electricity generation can be expected to increase from 319 million kilowatts in 2000 to 960 mm kW by 2020 as it looks to diversify beyond its reliance on coal generators.

Demand for LNG in Asia should double to more than 150 million tonnes by 2015 on surging demand from Northeast Asia. China's LNG needs alone are expected to double from 10 million tonnes annually in 2001 to 20 million by 2015. Beijing recently contracted for 3 million tonnes of LNG a year from Australia's North West Shelf field. It is hurriedly building a big new LNG terminal in Guangdong to cater for this.

New LNG terminals are also springing up across the Asian region. Japan is constructing two more LNG terminals, with another two on the drawing boards, and both South Korea and Taiwan are in the midst of constructing extra terminals.

Most of Japan's gas is supplied from the Asia-Pacific region, primarily Indonesia, which accounts for about 30 percent of its LNG imports, and Australia, which accounts for 13 percent. Malaysia is set to become the world's second-largest producer of LNG with the completion of Petronas' third LNG plant in Bintulu, Sarawak. However, Japan's new focus is on Russia, which has the world's largest natural-gas reserves - an estimated 40 percent of the recoverable natural gas on the planet.

Other than these, Japan's main area of involvement in Russia's gas market is at Sakhalin, the 960-kilometer-long island in Russia's Far East, 43km north of Japan. Sakhalin's 20,000-square-kilometer offshore shelf contains an estimated 2.5 trillion cubic meters of natural gas, a veritable hydrocarbon Valhalla. Some analysts say the gas reserves east of Sakhalin could approach those of the North Sea.

The energy companies involved in developing the various projects under way at Sakhalin are hoping to produce enough gas to satisfy up to 28 percent of Japan's annual natural-gas

imports. Since May, Tokyo Gas, Tokyo Electric Power and Kyushu Electric Power have concluded separate basic agreements with Sakhalin Energy Investment to purchase LNG from a gas field in the Sakhalin II Project, next to the Chayvo oilfield. LNG supplies to Japan will begin in 2007 and will be carried out over the next 22-25 years.

All this interest in LNG across Northeast Asia has heralded a construction bonanza not just for new terminals but also for the builders of special LNG carrier ships. Last year saw a record 58 ships on order, and there is a three-year time lag time for new orders. New LNG carriers don't come cheap either, with prices in the US\$170 million region. The Japanese and Korean shipyards that are the main producers are over the moon.

This can be touchy. Despite the fact that LNG tankers are potential floating bombs of a magnitude generally reserved for nuclear fission, there has never been an accident in about 40 years of LNG shipping. The one major accident involving LNG occurred in the US city of Cleveland in 1944 when a storage tank failed. The LNG that escaped from the tank formed a dense cloud in the surrounding neighborhood and seeped into the sewers. The resultant explosion killed 128 people.

That is because natural gas is cooled to minus 160 degrees Celsius before being piped aboard the tankers. At minus 110 degrees C, it becomes lighter than air and in effect boils. If an LNG tanker were to ignite, the resulting explosion would devastate everything in a radius calibrated in miles. For that reason, transfer facilities are located far from populated areas and handled very gingerly.

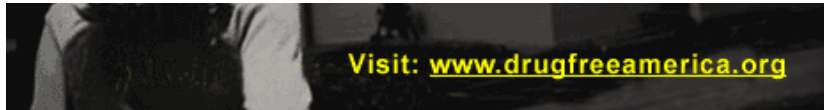
Ironically, all this demand for LNG is unlikely to result in a massive spike in its price. Rising demand has resulted in fiercer competition on the supply side, lowering prices and margins. Both Sakhalin II's price offers to its Japanese customers and Australia's deal with China offered discounts of up to 30 percent over other contracts. Price competition in Asia is likely to intensify further once Sakhalin I, the island's other energy project, constructs a gas pipeline either to Japan or China. A further pipeline proposed from Irkutsk in Russia to supply the Chinese and South Korean markets could put additional pressure on the rigid contracting policies involved with LNG.

The recent construction bonanza in LNG carriers has also been unusual in that nearly 40 percent of new orders aren't linked to a specific project, suggesting a high level of speculation. Traditionally, LNG contracts have been long term-ventures. An increase in supply coupled with excess carrier capacity could fuel a spot market in LNG, further depressing prices. Throw in the deregulation and liberalization of power markets under way across Asia, which should improve pricing and contract terms in favor of buyers, and LNG looks set to be a buyer's market for the time being.

Consumer nations are already starting to ask for shorter contracts and increased flexibility. Many of Indonesia's contracts with Japan are set to expire in 2010, and Japan is looking for more competitive terms and conditions. With stiff competition coming from other LNG producers, Indonesia may have to acquiesce to Japan's demands, as it is unlikely to be able to forsake the billions of dollars in revenue if these agreements are not extended. In a telling sign of the competition in the Asian natural-gas market, as LNG prices fall, three Japanese gas utilities recently announced a cut in charges to their customers.

(Copyright 2003 Asia Times Online Co, Ltd. All rights

reserved. Please contact content@atimes.com for information on our sales and syndication policies.)



No material from Asia Times Online may be republished in any form without written permission.
Copyright 2003, Asia Times Online, 4305 Far East Finance Centre, 16 Harcourt Rd, Central, Hong Kong

[Privacy and Legal Policies](#)