

In the last 15 years, the Indian economy has been transformed, boosting demand for energy from business and domestic customers. Petronet's imports of Qatari LNG from RasGas are helping to meet that demand

# Fuelling India's growth

January 2010: the *Aseem* slips into port at Dahej in India. It is a brand new liquefied natural gas (LNG) carrier, a highly efficient Q-Flex ship carrying 154,800m<sup>3</sup> of raw energy for India's booming economy. Its journey began at Ras Laffan port in Qatar and its arrival marks the fruition of a 10-year partnership between the two countries.

The *Aseem's* delivery of LNG is the first of many, part of a long-term contract between RasGas and Petronet LNG, increasing annual supply from five to 7.5 million tonnes. The deal makes Petronet LNG RasGas' biggest customer, and represents nearly 10 per cent of Qatar's output.

"Petronet achieved this milestone primarily because of the unstinting support from RasGas during our early years," says Prosad Dasgupta, Petronet's Managing Director and CEO.

In similar vein, RasGas values its relationship with Petronet. "RasGas is very pleased to commence deliveries of these additional volumes to Petronet," says Hamad Rashid Al Mohannadi, RasGas' Managing Director-CEO. "They demonstrate our firm commitment to supplying India with clean and efficient energy from natural gas produced in Qatar."

To deliver the energy needed for India's economic development, the Indian government has plans to expand its network with new gas-fired power stations and new infrastructure. At Petronet's Dahej facility, for example, where regasification capacity increased in 2009 from 5 million tonnes per annum (Mta) of LNG to 10 Mta, the construction of a new LNG berth will mean a further expansion of capacity to 14 Mta by 2013. Petronet is also developing a 1,200 MW gas-fired power plant at Dahej.

The LNG facility at Dahej can receive Q-Flex ships from November to April – i.e. outside the





At Qatar Petroleum's offices in Doha, from left to right: Amitava Sengupta, Director (Commercial & Finance), Petronet LNG Limited; Atul Chaturvedi, Secretary, Ministry of Steel; Murli Deora, Cabinet Minister, Ministry of Petroleum & Natural Gas; HE Abdullah Bin Hamad Al Attiyah, Deputy Premier and Minister for Energy and Industry; Hamad Rashid Al Mohannadi, Managing Director-CEO, RasGas

## Since 1997, India's GDP has increased by an average of 7 per cent annually

monsoon season. "Berthing Q-Flex ships at the original jetty in Dahej terminal was a challenge for both Petronet and RasGas," explains Amitava Sengupta, Petronet's Finance and Commercial Director. "The success of receiving Q-Flex ships provides us with enhanced flexibility in sourcing LNG in the long run." This first success was the arrival of the *Al-Uturiya* under a short-term contract on 18 April 2009. While RasGas' deliveries of LNG to Petronet had begun in 2004, this was the first fully-laden Q-Flex carrier to dock at Dahej.

### Energy for expansion

According to Petronet, 4,577MW of gas-based thermal power stations are under construction in India. Of these, 3,447MW will be on the HVJ (Hazira-Vijaipur-Jagadishpur) pipeline, driving demand for Qatari natural gas.

In 2009, Qatar supplied 70 per cent (6.3 Mta) of India's LNG imports. The increase in supply starting in 2010 means India's long-term LNG imports from RasGas represent approximately 10 per cent of Qatar's planned annual LNG output of 77 Mta. RasGas is set to become the anchor supplier of long-term LNG to India.

But it is not just energy that drives India's demand for natural gas. While the power sector uses 40 per cent of India's natural gas, fertiliser production accounts for 29 per cent (natural gas is a cost-effective feedstock in the production of ammonia for fertiliser) and areas such as transport, city gas, industry fuel and sponge iron units are all seeing growth in demand.

Petronet LNG was incorporated in Delhi in 1998 to build LNG terminals in India. It is a joint venture promoted by four national oil companies – GAIL, IOC, ONGC and BPCL – and its objective is to meet the country's demand-supply deficit in natural gas by importing LNG. Today, Petronet supplies about 23 per cent of the natural gas consumed in the country.

The growing natural gas demand-supply gap will drive the company for many years to come. In addition to its expansions at Dahej, Petronet is setting up a new terminal at Kochi to import LNG. But getting natural gas to India is only half the battle. The other half is getting it to customers around the country.

A new gas pipeline, due to be operational in 2012, will extend Petronet's reach to the cities of Bangalore and Mangalore, and to high-demand markets in Karnataka and Kerala.

RasGas has worked with Petronet every step of the way. The first sales and purchase agreement for RasGas to supply India with LNG was signed in 1999. The first cargo of Qatari LNG arrived at the beginning of 2004, only weeks after the Dahej terminal became operational. The long-term agreement to increase supply was negotiated in parallel with the expansion of the Dahej terminal, and the first ship with the additional LNG arrived almost as soon as the terminal was ready for it.

Qatar's goal is to supply 30 per cent of the world's LNG in 2010, of which RasGas will contribute nearly half. The growth of demand in India is a major element in Qatar's expansion. So the *Aseem* – and its sister ships, the *Raahi* and the *Disha*, also dedicated to long-term deliveries to Petronet – will be busy for decades to come, strengthening the bonds between RasGas and Petronet, and between Qatar and India.

## A SLEEPING GIANT AWAKES

India is already the world's second most populous country: by 2030, its citizens are expected to number 1.5 billion. The country moved to a free market economy in the early 1990s and has seen staggering growth. India now rivals the world in the service industries and in information technology (IT), and is the second fastest-growing of the world's major economies.

Here are just a few reasons to watch India's progress in the coming years:

- population: 1,156,897,766 (July 2009 estimate)
- annual GDP growth has averaged more than 7 per cent since 1997
- GDP (purchasing power parity) is US\$3.561 trillion (2009 estimate), fifth in the world
- a 2007 Goldman Sachs report projected that "from 2007 to 2020, India's GDP per capita will quadruple" and that it will surpass that of the United States before 2050
- domestic demand, driven by purchases of consumer durables and cars, is a key driver of growth
- India's economy is diverse: traditional and modern agriculture, handicrafts, modern industries, services
- services account for more than half of India's output
- India is a major exporter of IT services and software workers
- electricity production is 723.8 billion kWh (2009 estimate)