LNG *journal*

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In this issue:

International group of LNG importers gives overview of the global market

Our Europe editor looks at data collated from companies active in LNG imports

The France-based International Group of LNG Importers, an association also known as GIIGNL and founded in 1971 at the outset of the industry, has published its annual report as its membership grew again to 74 companies.

Its members comprise almost all companies active in LNG imports or in the operation of import terminals.

The association constitutes a forum for exchange of experience among its members, with a view to enhancing safety, reliability and efficiency of LNG imports.

Survey

Every year, the GIIGNL conducts a wide survey amongst its members to publish its global statistical report called "The LNG Industry".

Six companies joined the group in 2013. They were Dong Naturgas of Denmark, GNL Italia, Hokkaido Gas Co. and Inpex of Japan, Polskie LNG of Poland and Thailand's PTT.

"In 2013 the LNG markets remained extremely tight due to the demand pull from nuclear closures in Japan and South Korea and the difficulties to ramp-up production of new facilities in Angola and Algeria, bringing LNG price levels in the Far East to record highs in the first quarter," GIIGNL President Domenico Dispenza said in his introduction to the 48-page report.

"In addition to Cheniere's Sabine Pass, three new liquefaction projects received full approvals in the USA last year, confirming the country's path to become the world's third- largest LNG exporter by the end of the decade.

"Cameron joined their ranks in early 2014 so that at the time of this writing, a total 62.5 Mt/y of capacity have been approved to export to non-FTA countries by the Department of Energy, already impacting the LNG industry, if not in physical volume then in contracting strategy," Dispenza noted. The report said that 2013 could be considered a transition year in the LNG industry as traded volumes as a whole remained at the same level as in 2012, but new trade patterns did emerge.

"The past year may have seen a slowdown in the number of final investment decisions, counting only one greenfield (Yamal LNG) and two expansion projects, but not in capacity increase with a respectable 29 Mt/y committed in total.

Asia factor

"Demand remained strong in Asia, mainly in China, South Korea and Japan. Demand also increased in South America, strongly related to weather factors.

"Europe remained the swing provider to the world's LNG market. In a context of depressed local demand and with the utilization rate of the regasification terminals in their region at an historical low," the report said.

"European players continued with innovative transactions in search for business (such as re-loadings, two-port loadings, ship-to-ship transfers) while developing new markets for LNG as a transportation fuel," the report said.

Number of Trains Commissioned Vs. Average Train Capacity, 1964-2018

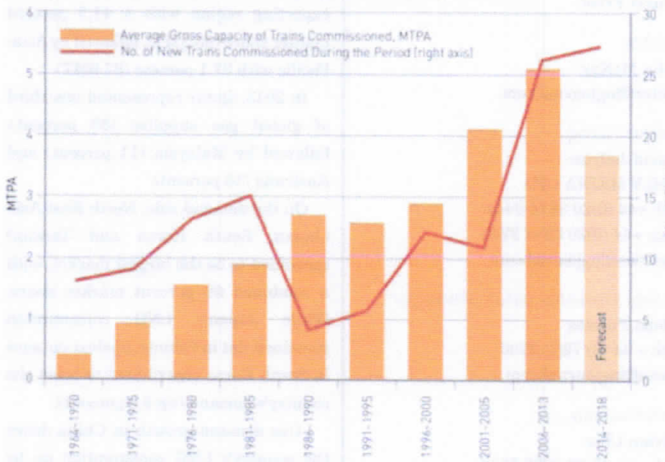

Figure 1: How the LNG production market is evolving by Train sizes

Proportion

Three new countries joined the ranks of LNG importers in 2013: Israel, Malaysia, and Singapore.

In 2013, global LNG imports remained stable compared to 2012. Total imports reached 236.9MT, a mere 0.3 percent increase over 2012.

At the end of 2013, LNG represented about 10 percent of global gas demand.

Little new supply was added during the year, as exports were curtailed by unplanned outages in several exporting countries.

While European imports sharply declined, the market tightness was sustained by strong demand growth in China, South Korea and Latin America.

Two major inter-basin LNG flows stand out: from the Middle East to Asia-Pacific (74.9MT) and intra-Asia-Pacific (84.5MT).

On the supply side, incremental

project is still planned to be online by early 2017.

Eastern Australia

- On the East coast, the Queensland Curtis LNG (QCLNG) project (2 Trains of 4.25 MTPA) led by BG is still planned to come on stream in 2014.
    - In November 2013, the building phase was 70 percent completed and the project entered the commissioning phase in December. On Train 1, the joint venture with CNOOC has moved to 75 percent BG – 25 percent CNOOC on the upstream part, and 50-50 on the liquefaction plant. LNG sales have been agreed on a long-term basis with CNOOC (85 percent of the quantities), and both companies agreed to invest in the construction of four LNG carriers in Chinese shipyards.
    - On Train 2 (BG 97.5 percent, Tokyo Gas 2.5 percent) BG sold 1.2 MTPA FLNG to Tokyo Gas for 20 years starting in 2015, and will keep the remaining quantities for its portfolio.
- Also on Curtis Island, the 2 X 4.5 MTPA Australia Pacific LNG project (APLNG) led by ConocoPhillips (37.5 percent), Origin Energy (37.5 percent) and Sinopec (25 percent) was 50 percent completed at end of 2013. LNG will be sold on a long-term basis to Sinopec (7.6 MTPA) and Kansai Electric (1 MTPA). Start-up of Train 2 could be delayed to early 2016.
- Led by Santos (30 percent), Total (27.5 percent), Petronas (27.5 percent) and Kogas (15 percent), the 2 X 3.9 MTPA Gladstone LNG project was 72 percent completed as of December 2013. First deliveries are still expected around the end of 2015. Out of the total capacity of 7.8 MTPA, more than 90 percent of the LNG production (7.2 MTPA) will be sold (50-50) to Malaysian and Korean partners, on a long-term basis.

Cameroon: In Cameroon, the geotechnical and geophysical surveys were launched in 2013 on the future plant site of the GDF Suez-led Cameroon LNG project. The feedstock situation remains still uncertain. No FID date has been announced yet.

Canada: In British Columbia, five major LNG export projects - all sourced from unconventional gas - have been granted export licenses by the NEB (National Energy Board):

- Kitimat LNG project, developed by Chevron (50 percent) and Apache (50 percent) including two Trains of 5 MTPA.
- LNG Canada project, led by Shell (40 percent), Mitsubishi (20 percent), Kogas (20 percent) and Petrochina (20 percent). Also located in the Kitimat district, the project includes four Trains for a total capacity of 24 MTPA. Start-up of the first two trains is expected around 2019.
- Prince Rupert project, led by BG Group. Located on Ridley Island, the project was granted an export license for up to 21.6 MTPA over a period of 25 years.
- Pacific Northwest LNG: Brunei has recently bought a 3 percent interest in the project led by Petronas (87 percent) and Japex (10 percent). Two 6 MTPA Trains are planned with a potential third Train expansion. NEB granted an export license in December for 19.7 MTPA over a period of 25 years, starting in 2019.
- West Coast Canada LNG, led by Exxon and Imperial Oil. The project was granted a license to export 30 MTPA but various locations for the plant are still under assessment.

Colombia: In Colombia, Exmar is currently building the Pacific Rubiales LNG project. The 0.5 MTPA FLRSU is planned to be on line by the second quarter of 2015. Pacific Rubiales LNG signed an agreement with Gazprom Marketing & Trading for the first five years of production on a free-on-board (FOB) basis.

Egypt: In Egypt, LNG production is in a critical situation due to the government's decision to save indigenous gas supply for the domestic market. In these conditions, no LNG was produced from the Damietta plant in 2013, and both Trains at the Idku plant produced only at one third of capacity, i.e. around 2.8MT for the full year.

Indonesia:

- Indonesia struggled to maintain its production level - around 19MT – in 2013, and searched to limit exports and save gas supply (including LNG production) for domestic consumption.
- Within this framework, a third LNG Train (3.8 MTPA) in Tangguh is still uncertain. The FID could be reached in 2014 with first deliveries in 2019.
- Donggi-Senoro (1 x 2 MTPA): the project led by Mitsubishi (45 percent), Kogas (15 percent), Pertamina (29 percent) and Medco (11 percent) is currently dedicated to exports. The project is planned to be on line at the end of 2014.
- Pertamina has planned full decommissioning of the Arun plant in 2014. In 2013, the company reached FID for a new regasification facility, which will be the first conversion of a liquefaction plant into a regasification terminal.

Israel: Developments of LNG exports from Israel are subject to the size of gas reserves (Tamar, Dalit and Leviathan fields) and to the level of domestic gas consumption. Two Floating LNG projects (3 MTPA each) are currently under consideration.

Malaysia: In Malaysia, Petronas took an FID on a 9th liquefaction Train of 3.6 MTPA at Malaysia LNG (Bintulu - Sarawak), bringing the total liquefaction capacity of Bintulu to 27.8 MTPA. The new Train is planned to come on stream at the end of 2015.

Mozambique: In Mozambique, Anadarko and ENI's strategies to develop the country's huge gas reserves are still undefined given political and technical uncertainties. Two independent projects could emerge:

- The first one, onshore, led by Anardako (26.5 percent), Mitsui (20 percent), ONGC (16 percent), Bahrat Petroleum (10 percent), ENH Mozambique (15 percent), PTT E&P (8.5 percent) and Oil India (4 percent).
- The second project could be a 5 MTPA FLNG developed by Eni (50 percent), PetroChina (20 percent), Kogas (10 percent), Galp Energia (10 percent) and ENH Mozambique (10 percent).

Norway: In the Snohvit natural gas field, Statoil encountered operational issues in the first half of 2013, but production recovered at full capacity in the second half and reached 70 percent on average over the full year. Expansion for a second Train is no longer under consideration for the time being.

Papua New Guinea: In Papua New Guinea, the 6.9 MTPA PNG LNG project is nearly completed and expected to come on line by mid-2014. SPAs for 6.5 MTPA have been signed with Sinopec, Tokyo Electric Power Co., Osaka Gas and Taiwan's CPC. The remainder is being sold under spot or short-term deals. A third Train is under consideration, pending additional reserves.

Peru: In 2013, Repsol sold its 20% equity stake in the Peru LNG project and its 18 year offtake contract (100 % of LNG volumes) to Shell. The deal was finalized in January 2014.

Russia: In December, Novatek and Total took the FID for the 16.5 MTPA Yamal LNG project (3 x 5.5 MTPA Trains). China's CNPC entered the project in January 2014 as a new partner (20 percent equity) diluting Novatek's share to 60 percent. Total remains at 20 percent. The first Train is targeted to be on stream in 2017.

USA: In the United States, Cheniere took an FID in May 2013 for two new Trains (train 3 & 4) at Sabine Pass. The design capacity of the four Trains is 18 MTPA and the DOE approved 16 MTPA of LNG exports (FTA and non-FTA) from these Trains. Four other export projects have been authorized to export LNG to both FTA and non-FTA countries but had not yet reached FID at the end of 2013:

- Freeport (Freeport LNG 100 percent) 13.2 MTPA: FID should be reached in 2014 and production is planned to start in 2017-2018.
- Lake Charles (BG 50 percent and Energy Transfer-Southern Union 50 percent) 15 MTPA: FID is planned for 2015 with production starting in 2019
- Cove Point (Dominion – 100 percent) 5.25 MTPA: FID is planned for 2014 and beginning of production for the end of 2017.
- Cameron LNG (Sempra LNG 50.2 percent, Mitsubishi, Mitsui & GDF-Suez 16.6 percent each) 12 MTPA: FID should be reached in 2014 and production is expected by 2018.

Yemen: In Yemen, the plant produced at full capacity (7.2 MTP) in 2013.

Regas Changes

On the regasification front, 104 LNG receiving terminals - including 15 floating facilities - were in operation at the end of 2013.

Israel, Malaysia and Singapore joined the ranks of LNG importer nations in 2013, which brings to 29 the number of receiving countries.

At the end of the year, the combined nominal send-out capacity of the facilities reached 721 MTPA (974 Bcm/y). Compared to an annual LNG consumption of 236.9 MTPA, the global average utilization rate of regasification facilities slightly decreased to 33 percent.

Twelve new receiving terminals - including five floating units - were commissioned in 2013, adding a 39.8 MTPA of regasification capacity. There were nine in Asia, including four in China, two in India and one in Japan, Malaysia and Singapore.