

LNG FLEET NEEDS TO TREBLE BY 2020

World LNG demand is forecast to rise from 158 billion cubic metre (bcm) to 269 bcm by 2010 and to 428.5 bcm by 2020. This growth represents an average annual trade growth of 7.6% over the near-term, with a slowing to 5.4% through to 2015 and 4.9% up to 2020. Such trade growth will necessitate an increased vessel building programme. Currently there are 59 vessels on order, but to match the expected development of trade volumes an additional 33 vessels are required through to 2010, 76 vessels in the period 2010-15 and 83 vessels up to 2020. These are some of the findings of the major new Report on the rapidly evolving LNG sector, published by the UK-based independent research company *Ocean Shipping Consultants Ltd.*

The 163-page detailed report – entitled '**World LNG to 2020: Prospects for Trade & Shipping**' – forecasts that an extra US\$5.0bn of additional newbuilding vessel investment is required before 2010 and a further US\$24.1bn through to 2020. Trading patterns are set to change significantly over the next decade as new markets and suppliers emerge, vessel capacities are increased and the spot market grows in prominence.

A summary of some of the findings of this major new study, which analyses in detail the expected development in all aspects of the world LNG industry, is provided: -

LNG Trade & Imports to 2020

- Global LNG trade is set to increase by an average approximating 7.6% over the near-term, with a slowing to 5.4% in the second half of the decade. In the final part of the study period, average annual growth is forecast at around 4.9%.

- Annual trade is expected to increase from 158 bcm in 2003 to over 269 bcm in 2010, 346 bcm in 2015 and 429 bcm in 2020, this equates to a rise of 70% by 2010 and 172% by 2020.
- Of the world trade, East Asian import markets accounted for almost 109 bcm of the 2003 total of 158 bcm. Imports are set to increase to over 139 bcm by 2010 and 181 bcm by 2020.
- In early 2004, India became an importer of LNG, however there are currently no other Asian LNG markets. Large-scale imports are set to follow the start up of terminals in Thailand, the Philippines, Singapore, Myanmar and New Zealand. By 2010 the annual import total for these markets is forecast at almost 21 bcm, rising to 38 bcm by 2020.
- Western European markets imported just over 41 bcm in 2003 and are set to increase volumes to 139 bcm by 2010 and 181 bcm by 2020.
- LNG imports to the USA reached 6.8 bcm in 2003 and are expected to reach 15 bcm in 2010 and 46 bcm in 2020. In Latin America there are prospects for import developments in the new markets of Mexico, Jamaica and Brazil within the study period, with the regional total amounting to 11.6 bcm, rising to 31.8 bcm by 2020.

LNG Export Suppliers to 2020

- SE Asian exporters are set to continue to dominate world LNG trade movements – accounting for approximately 84 bcm in 2010, rising to over 97 bcm by 2020 (from a 2003 level of 67 bcm). This expansion is based primarily on increased liquefaction throughput at Indonesian and Malaysian plants, with overall growth approximating 45%.
- LNG exports from the Middle East totalled 36 bcm in 2003 and are forecast to increase to 72 bcm in 2010 and 84 bcm in 2020, an expansion of over 48 bcm (133%). The region will increase in prominence as new local exporters such as Iran and Yemen enter the LNG market.
- Shipments from Australia are set to increase from the 10.5 bcm of 2003 to over 19 bcm by 2010 and to almost 38 bcm in 2020 as several new projects come on stream.
- Exports from West Africa are set to increase – primarily from Nigeria, but also including volumes from Angola and Equatorial Guinea in the latter part of the study period.

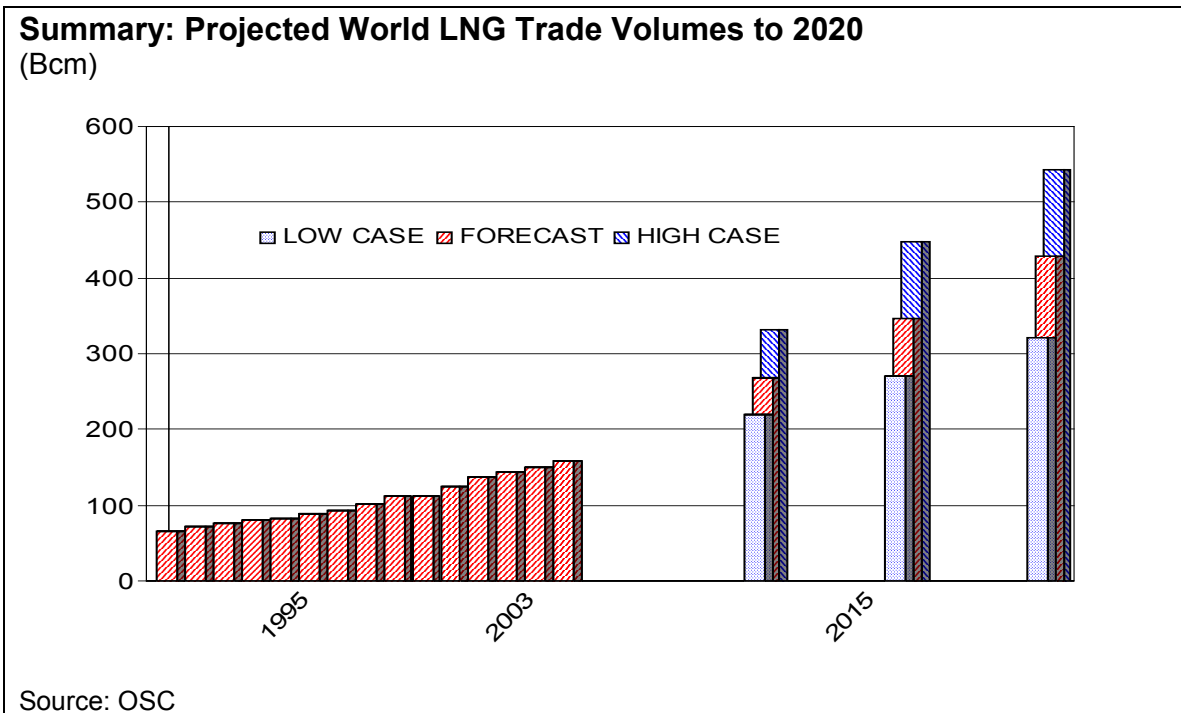
- Export levels of approximately 19 bcm by 2010 and 46 bcm by 2020, are projected for C/S America, where current export volumes approximate 5.6 bcm, but are due to increase markedly through the ongoing expansion of the Trinidad project, and the commencement of LNG exports from Venezuela later this decade.
- Total North African LNG exports are expected to show a smaller increase than other exporting regions – mainly reflecting the likely development of extra trans-Mediterranean pipeline capacity.
- Elsewhere, the Sakhalin project in eastern Russia is set to witness extensive LNG export volumes towards the end of the study period as will the Norwegian LNG project.

LNG Fleet & Shipping Requirements to 2020

- Currently there are 59 vessels on order, which represents a total cargo capacity of 8.2 million cubic metres (mcm). This represents an additional 46% of LNG capacity due to commence trading over the next 2-3 years.
- Given the age profile of the current fleet, the volume of vessel scrapping over the near-term is likely to continue to be low, although there will inevitably be higher levels of vessel demolition later in the study period.
- From the current level of 17.7 mcm, the required LNG fleet is forecast at over 30.4 mcm by 2010, rising to over 52.4 mcm by 2020. In order to handle anticipated trade volumes and patterns therefore, the LNG fleet will need to expand by over 12.7 mcm (72%) in the period to 2010 and by 34.7 mcm (196%) in the overall period to 2020.
- A total of 4.6 mcm of new tonnage (in addition to that currently on order) will need to be ordered and delivered in the second half of the current decade to match the expected development of trade volumes and patterns over the interim period. For the 2010-15 period, a total of 10.5 mcm of new fleet capacity will be required, with 11.5 mcm needed for the 2015-20 period. For the future study period as a whole, a total of 26.5 mcm of new LNG capacity will be required, in addition to the 8.2 mcm of new capacity currently on order at Asian and European yards.
- There will be a requirement for the equivalent of a total of 92 large vessels (of around 138,000 cu.m capacity) to be delivered in the period to 2010, with an extra 76 vessels in the subsequent half-

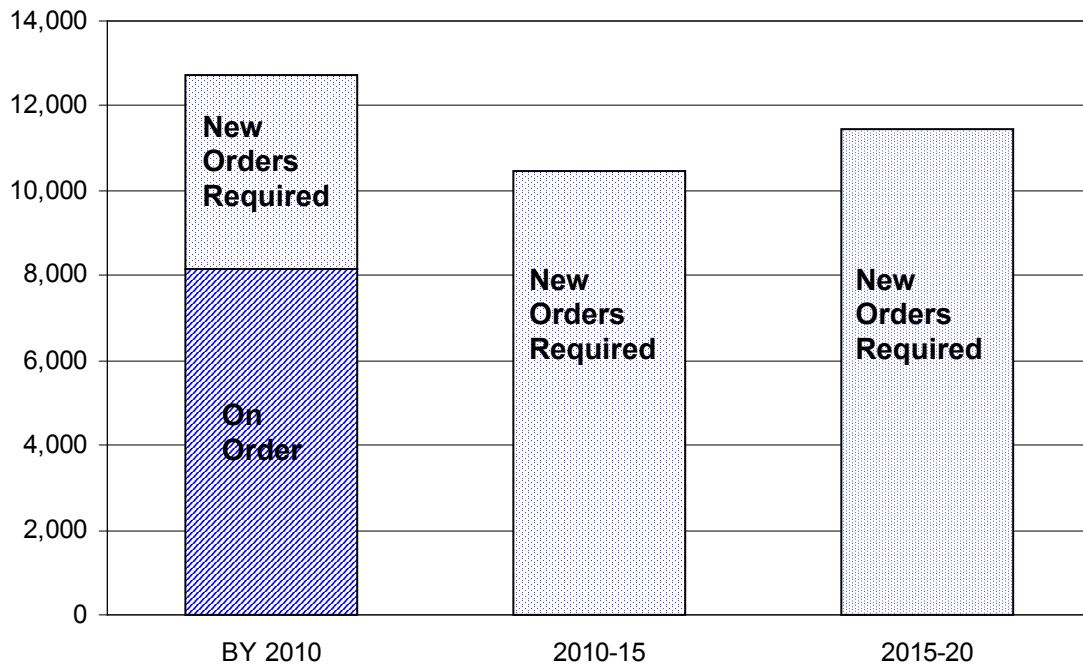
decade and an additional 83 through to the end of the study period. With 59 vessels already on order, this implies a need for 33 new orders to be delivered in the remainder of the current decade, and 159 vessels between 2010 and 2020.

- At current newbuilding prices, the forecast vessel requirements translate to US\$5.1bn of extra new orders to be placed up to 2010, and a further US\$24.1bn in the following decade.
- The current orderbook will be sufficient for the anticipated trade expansion over the near-term, with an inevitable time-lag between vessel completion and full active employment resulting in vessel supply exceeding demand by 2-3 mcm over 2005-07. However, a shortage of 1.8 mcm vessel capacity is anticipated by 2009 and a massive 4.3 mcm by 2010.
- If LNG supplies were cut off – due for example to terrorist actions – from a leading exporter, the effect could be a massive boost in vessel requirements, due to the required re-routing of supplies from other sources. In the case of Algeria, this could be the equivalent of 28 extra vessels at the present time, rising to 33 vessels by 2010. However, a more likely scenario will see the European pipeline network increase capacity in the near-term and thus reduce the extra number of vessels required to transport LNG to the European markets.



Forecast LNG Newbuilding Requirements to 2020

('000 Cu.m)



Source: OSC

In 163 pages, the highly detailed and extensive new Report contains analysis of all aspects of the world LNG sector. With detailed forecasts of developments throughout the period to 2020, the Report is essential reading for all parties with an interest in the future development of any aspect of the rapidly developing LNG sector.

'World LNG to 2020: Prospects for Trade & Shipping'

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