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LNG FLEET NEEDS TO INCREASE BY 220% BY 2030

World LNG demand is forecast to rise from 226 billion cubic metres (bcm) during 2007 to 640 bcm by 2020 and close to 790 bcm by 2030. This represents a compound annual growth rate of 5.6%. Such trade growth will necessitate an increased vessel building programme. The current LNG fleet has over 33m cubic metres (cbm) of vessel capacity. But to match the expected development of trade volumes an additional 78m cbm of vessel capacity would be required – thus expanding the LNG fleet from approximately 260 vessels currently to over 700 vessels by 2030. 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 120-page detailed Report – entitled ‘**LNG to 2030: A Detailed Review of Future Volumes & Trends**’ – forecasts that new trading patterns will emerge as more import and export countries join the expanding LNG sector. In addition, the future use of FPSOs and FSRUs will broaden the reach of the industry to develop natural gas deposits.

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 Export Supplies to 2030

- Europe – Norway and Russia will be the main focus of LNG export volumes with future production forecast to reach 110 bcm by 2030.
- The Americas – Continued small-scale LNG production from the US, with marginal increases from Trinidad. New export countries such as Peru

and Venezuela will increase exports from the region to over 60 bcm by 2020.

- The Middle East – set to become the main LNG export hub – continued expansion of LNG production in Qatar. Iran has the potential to become one of the largest LNG producers. Overall the region is forecast to produce approximately 244 bcm by the end of the study period.
- North Africa – Algeria is forecast to considerably expand LNG production, while there is potential for increased output from both Egypt and Libya. By 2030, the region is forecast to produce 95 bcm.
- West Africa – Nigerian LNG exports are forecast to grow with the addition of new trains and liquefaction facilities. Equatorial Guinea has expansion plans and the start-up of Angola production will lift the region's LNG exporting capabilities. By the end of the study period, overall production for the region is forecast to be 94 bcm.
- Asia Pacific – Despite current production concerns, Indonesian LNG production is forecast to increase, as is Malaysian production. There are several potential export facilities planned in Australia and a new export facility in Papua New Guinea. Future production capacity in the region is forecast to be 185 bcm.

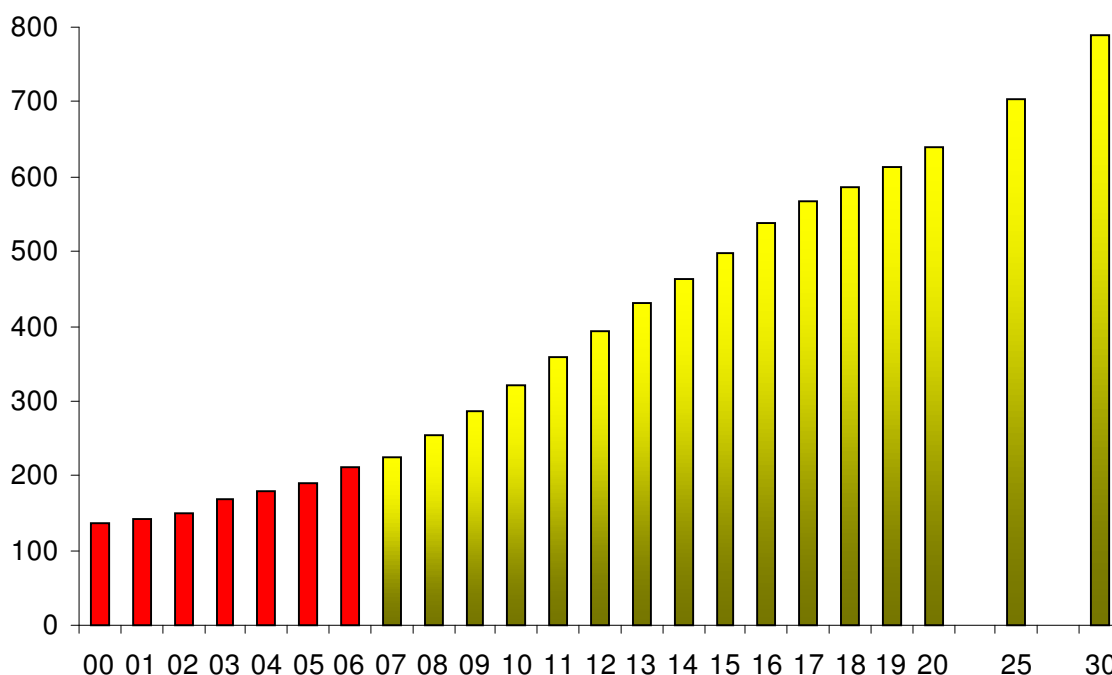
LNG Import Demand to 2030

- Europe – Continued increases in LNG demand from Spain and France, and large-scale usage from the UK will significantly increase imports into Europe. In addition, there are many countries planning LNG terminals such as Germany, Poland and the Netherlands, which will benefit the future LNG vessel market. Overall LNG demand in the region is forecast to reach 254 bcm by the end of the study period.
- The Americas – On-going terminal construction within the USA will encourage LNG consumption in the region. There is also an importing terminal in Mexico, and several other terminals are near completion. In addition there are many LNG terminals planned in Canada, Brazil, Argentina and Chile amongst others. By the end of the study period, LNG demand in the region is forecast to be 150 bcm.
- Asia Pacific – Japan and South Korea will remain the region's largest LNG consumers. LNG demand growth in China and India will significantly increase during the study period. In addition, the Philippines, Thailand and even Indonesia are planning future LNG receiving terminals. LNG demand in the region is forecast to approximate 385 bcm by 2030.

Overall LNG Trade Growth Through to 2030

- Overall, LNG trade is forecast to develop from 226 bcm during 2007 to approximately 320 bcm by 2010, around 640 bcm by 2020 and close to 790 bcm by the end of the study period.
- The continuous increase in LNG trade throughout the study period will stem from increased exports from Qatar and the future world-scale production facilities of Iran and Russia joining the LNG exporting arena.
- Large-scale demand for LNG is forecast to stem from the Chinese and Indian markets, as well as significant demand increases from the US and the UK. Other emerging LNG markets such as Mexico and Brazil will source LNG on a global scale.

Forecast LNG Trade Through to 2030 (bcm)



Source: OSC

Future trade growth is also considered under alternative scenarios. These are: -

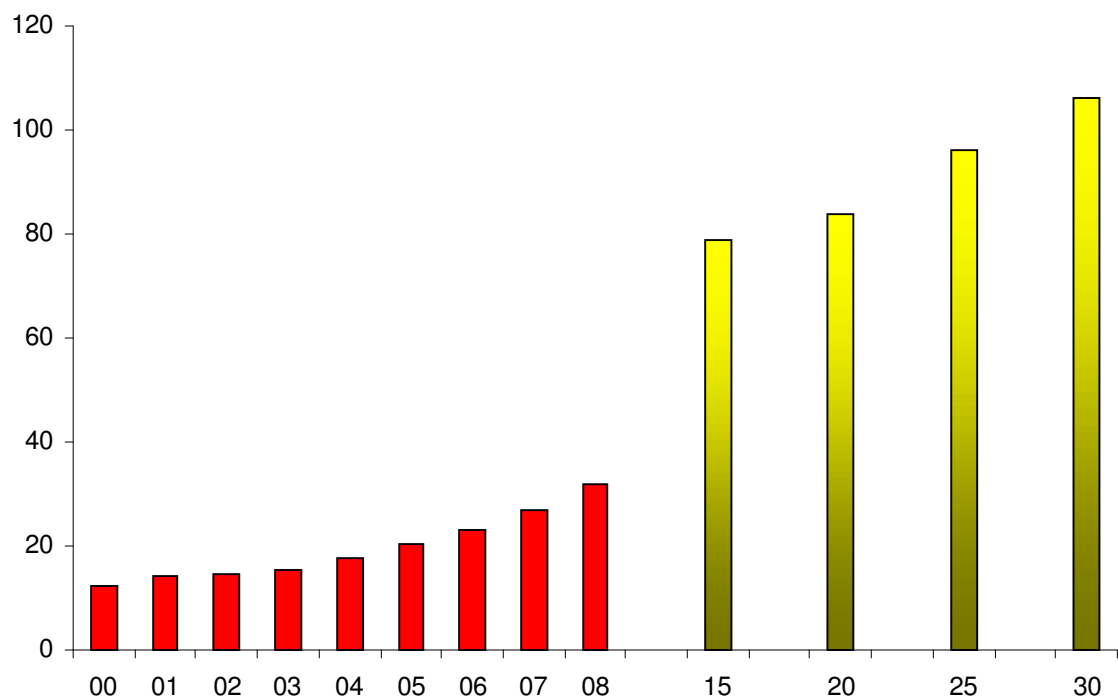
- *High Growth* – with continued economic expansion, increased exploration of new offshore fields, the continued development of new technologies for locating and exploiting inaccessible reserves and continued investment in LNG infrastructure – overall demand for LNG could reach 1,000 bcm by the end of the study period.
- *Low Growth* – with a deteriorating global economic climate, high energy prices, finance market uncertainties, increased resource nationalism reducing investment opportunities and rising labour and equipment costs

and continued construction delays – overall LNG demand could reach 600 bcm by 2030.

Future LNG Fleet

- It is likely that scrapping rates for LNG vessels will remain very low for the majority of the forecast period.
- The LNG fleet is forecast to expand to over 79m cbm by 2015 and approximately 84m cbm by 2020. By the end of the study period the fleet capacity is forecast to need to reach over 106m cbm.
- If an average vessel size of 150,000cbm is utilised, a total of 266 additional vessels would be required by 2015, with a further 34 vessels forecast by 2020 and a further 146 vessels by 2030.

Required LNG Fleet Capacity to 2030 (m cbm)



Source: OSC

The Report also considers some of the many developments that have occurred in the recent past and some of the future trends and major issues within the LNG sector. These include: -

- Floating Production Storage Offloading (FPSO) vessels.
- Floating Storage and Regasification Unit (FSRU).

- Compressed Natural Gas (CNG).
- Manning.
- The Spot Market.
- Q Vessels.

‘LNG to 2030: A Detailed Review of Future Volumes & Trends’

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