LNG MARKETS

**LNG trade pattern**
has changed and no longer regional but global

**Impact on shipping**
tonne miles increased so ballast legs longer

**New entrants**
encouraged by high rates but did not understand this was a temporary phase

**Market rates**
are already falling with more realistic expectations

**Fuel efficiency**
new emphasis on fuel economy
LNG TRADE PATTERN
SPOT MARKET DEVELOPMENT

Expansion of Trade Flows & Routes

Growth in Spot Cargoes

No. of Trade Flows
No. of Routes

No. of Spot Cargoes

Data Source: GIIGNL

Note: Spot and short term imports defined as contracts with duration of 4 years or less
SPOT MARKET – REGIONAL TRADE

Spot Term Trade - Share of total LNG trade

Data Source: GIIGNL

Note: Spot and short term imports defined as contracts with duration of 4 years or less

* Excludes re-exports (in total re-exports reached 3.371 mil MT, of which 2.662 mil MT from Europe and 0.708 mil MT from the Americas

www.clarksons.com

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expansions</td>
<td>4.5</td>
<td></td>
<td>7.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown field</td>
<td></td>
<td>4.7</td>
<td></td>
<td>13.1</td>
<td></td>
</tr>
<tr>
<td>Green field</td>
<td>5.2</td>
<td>4.7</td>
<td>12.8</td>
<td>29.9</td>
<td>29.6</td>
</tr>
<tr>
<td>Total</td>
<td>9.7</td>
<td>4.7</td>
<td>12.8</td>
<td>41.9</td>
<td>42.7</td>
</tr>
</tbody>
</table>

Source: Clarksons LNG
LNGC DELIVERED AND ORDERBOOK BY YARD

<table>
<thead>
<tr>
<th></th>
<th>Other Chinese</th>
<th>STX Shipbuilding</th>
<th>Hudong-Zhonghua</th>
<th>Kawasaki S.C.</th>
<th>Hyundai Samho &amp; H.I</th>
<th>Mitsubishi H.I.</th>
<th>Samsung H.I.</th>
<th>Daewoo S.M.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing</strong></td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>31</td>
<td>40</td>
<td>41</td>
<td>72</td>
<td>81</td>
</tr>
<tr>
<td><strong>Orderbook</strong></td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>2</td>
<td>27</td>
<td>6</td>
<td>31</td>
<td>18</td>
</tr>
</tbody>
</table>
CONTAINMENT DISTRIBUTION

![Chart showing the distribution of vessels by type: GT, TGZ, Moss, Others. The categories are divided into Existing and On Order. The chart indicates a significant number of GT vessels compared to others in the existing category.]
MAIN PROPULSION TYPES ORDERBOOK

![Graph showing the comparison between previous and latest technology in main propulsion types: RHST/UST (Steam Turbine), SSD-R/ME-GI (2 stroke Motor), and DFDE/TFDE (4 stroke Diesel El.)]
GLOBAL FLEET CONTRACTUAL UTILISATION

Note: “Contractual Utilisation Rate” – number of vessels contracted versus uncommitted tonnage
IOCS TERM FLEET CONTRACTS

![Bar chart showing number of vessels owned, 10 yrs+, and 4-10 yrs for BG, Petronas, Shell, GDF Suez, BP, and ENI.](chart.png)
GLOBAL FLEET BY CONTRACT LENGTH

- long term contracts: 79%
- medium term contracts: 13%
- spot contracts: 8%
TRADING PATTERN OF LNG ORDERBOOK

- Flexible: 53%
- Tramline: 17%
- Unassigned: 18%
- Floating: 12%
LNGCs Delivery vs Additional Production

![Chart showing vessel deliveries and liquefaction capacity additions from 2000 to 2017.]
SUPPLY AND DEMAND - BASE CASE
LNG OWNERSHIP

Existing
- LNG Club: 46%
- Project: 13%
- Energy Major: 8%
- QGTC: 7%
- 1st wave: 21%
- 2nd wave: 2%
- Small coastal: 3%

On Order
- LNG Club: 22%
- Energy Major: 7%
- 1st wave: 53%
- Project: 2%
- Small coastal: 1%
- 2nd wave: 15%

Data Source: Clarksons
CONVENTIONAL ORDERBOOK MAR ‘13

Note: The above exclude FPSOs on order and vessels under 30,000m³

Data Source: Clarksons
### AVAILABLE SHIPPING

**LNG Tonnage Availability 2013-2016**

<table>
<thead>
<tr>
<th>Name</th>
<th>Capacity</th>
<th>Age</th>
<th>T/O</th>
<th>Builder</th>
<th>Owner</th>
<th>Commercial Control</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2013</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2014</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2015</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2016</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Legend:*
- Red: available
- Blue: committed
- Green: under construction
- Grey: reserved

---

**Note:**
- The table above represents the LNG tonnage availability from 2013 to 2016, with the status of each vessel indicated by color coding.
- The 'Age' column indicates the age of the vessel in years.
- The 'Builder' column lists the shipyard where the vessel was constructed.
- The 'Commercial Control' column indicates the commercial control status of the vessel, with 'Available,' 'Committed,' 'Under Construction,' 'Reserved,' and 'Reserved' being the possible statuses.
SPOT MARKET TODAY
Thank you for your attention

Olga Vedernikova
Director LNG

OLV@clarksons.com
tel:+44 79 2002 3448

13 June 2013
### Clarksons LNG

<table>
<thead>
<tr>
<th>Market Fundamentals</th>
<th>LNG Intelligence</th>
<th>Chartering</th>
<th>Tender management</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG supply demand with fleet analysis and yard slot review. Price development and trading support.</td>
<td>Unparalleled understanding of key LNG market drivers &amp; interpretation of those into LNG business opportunities.</td>
<td>Full support and guidance for spot &amp; term contracts. Charter party structure and negotiations.</td>
<td>First hand experience in preparation and issuance of tender documents with full analysis of bids.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technical Solutions</th>
<th>Project Consultancy</th>
<th>Contracting</th>
<th>Financial Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full support on Ship Design and optimisation using latest technologies in propulsion and containment systems.</td>
<td>Technical Marine solutions for LNG projects implementation and commercial advise throughout.</td>
<td>Negotiate successful LNG carrier and LNG offshore newbuilding contracts. LNG vessel sales and purchase.</td>
<td>Structuring and facilitating shipping related projects for financial investors, arranging debt and structured finance.</td>
</tr>
</tbody>
</table>
Disclaimer

The material and the information (including, without limitation, any future rates) contained herein (together, the "Information") are provided by H. Clarkson & Co. Ltd ("Clarksons") for general information purposes.

The Information is drawn from Clarksons’ database and other sources. Clarksons advises that: (i) any Information extracted from Clarksons’ database is derived from estimates or subjective judgments; (ii) any Information extracted from the databases of other maritime data collection agencies may differ from the Information extracted from Clarksons’ database; (iii) whilst Clarksons has taken reasonable care in the compilation of the Information and believes it to be accurate and correct, data compilation is subject to limited audit and validation procedures and may accordingly contain errors; (iv) the provision of the Information does not obviate any need to make appropriate further enquiries; (v) the provision of the Information is not an endorsement of any commercial policies and/or any conclusions by Clarksons and its 'connected persons', and is not intended to recommend any decision by the recipient; (vi) shipping is a variable and cyclical business and any forecasting concerning it may not be accurate. Any future rates contained herein are only estimates. Clarksons and its connected persons make no representations or warranties of any kind, express or implied about the completeness, accuracy, reliability, suitability or availability with respect to the Information. Any reliance placed on such Information is therefore strictly at the recipient's own risk.

This Information is confidential and is solely for the internal use of the recipient. Neither the whole nor any part of the Information may be disclosed to, or used or relied upon by, any other person or used for any other purpose without the prior written consent of Clarksons. Especially, the information is not to be used in any document for the purposes of raising finance whether by way of debt or equity. All intellectual property rights are fully reserved.

To the extent permitted by law, Clarksons and its connected persons shall not be liable to the recipient or any third party for any loss or damage of any kind arising out of or in connection with the Information, including without limitation any direct, special, indirect or consequential damages (eg damage for loss of business or loss of profits) whether caused by tort (including negligence), breach of contract or otherwise, even if foreseeable. These exclusions do not apply to (i) death or personal injury caused by the negligence of Clarksons and its connected persons or (ii) the liability of Clarksons and its connected persons for fraudulent misrepresentation.

In this disclaimer ‘connected persons’ means, in relation to Clarksons, its ultimate holding company, the shareholders, subsidiaries and subsidiary undertakings of its ultimate holding company and the respective directors, officers, employees and agents of each of them.

This disclaimer shall be governed by and construed in accordance with English Law.

H. CLARKSON & CO. LTD, ST. MAGNUS HOUSE, 3 LOWER THAMES STREET, LONDON, EC3R 6HE