

Anatomy of LNG Shipping & Operations

13 - 17 May 2018
The Møller Centre • Cambridge

Organised by



Cambridge Academy of Transport

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Cambridge Academy of Transport

Registration Form

ANATOMY OF LNG SHIPPING & OPERATIONS

13-17 MAY 2018

To register, please complete this form and send it by fax or email to Tulika Singh at the number given below.

PARTICIPANT 1: Title _____	First name(s) _____
Family name _____	
Company position _____	
PARTICIPANT 2: Title _____	First name(s) _____
Family name _____	
Company position _____	
PARTICIPANT 3: Title _____	First name(s) _____
Family name _____	
Company position _____	
Company name _____	
Address _____	

Nature of business: _____	
Tel: _____ Fax: _____	
E-mail: _____	

Enclosed is a cheque Please invoice my Company I wish to pay by Credit Card (details below)

Seminar Fees: The fee of **£3,900** includes UK Value Added Tax, tuition, accommodation, all meals, documentation and a full social programme. Payment can be made by cheque, bankers draft or inter-bank transfer. Cheques should be made payable to Cambridge Academy of Transport in Sterling drawn on a Bank in the United Kingdom. Our Bank details are:

Barclays Bank Plc, 28 Chesterton Road, Cambridge CB4 3AZ, UK
Account Number: 60224553 Sort Code: 20-17-35
IBAN: GB23 BARC 2017 3560 2245 53 SWIFTBIC: BARCGB22

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Return this form to:

Tulika Singh, Course Organiser
Cambridge Academy of Transport
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Course Programme

Anatomy of LNG Shipping & Operations
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Seminar Leader

**Paul Veldhuizen • Former Operations and Business Development Manager • Shell
International Trading & Shipping Co Ltd • London • UK**

Sunday 13 May	INTRODUCTION	Session 1
	Welcome & Course Introduction Welcome, introductions, expectations, housekeeping	1645-1730
	Cambridge Orientation	1730-1800
	INTRODUCTION TO THE ENERGY MARKETS	
Monday 14 May	The Energy Mix <ul style="list-style-type: none">– Coal, Oil, Gas and Renewables – overview– Factors influencing Supply and Demand– Demand outlook and forecast for LNG in the mix	Session 2 0830-1000
	Introduction to Energy Trading and Shipping <ul style="list-style-type: none">– Introduction to energy trading– the role of shipping	Session 3 1015-1045
	NATURAL GAS AND LNG	
	Supply-side Considerations <ul style="list-style-type: none">– Physical properties and challenges– LNG Production, Storage and Handling– Distribution<ul style="list-style-type: none">○ Pipeline vs. Liquid○ Economic and political considerations	Session 4 1045-1200
	The LNG Trade <ul style="list-style-type: none">– LNG Trade Patterns: Historic and Current– Emergence of LNG Commodity Market – impact and implications	Session 5 1200-1300

CARRIER DESIGN & CHARACTERISTICS

Session 6
1400-1515

Key Elements of Carrier Design - I

- Challenges
 - o Physical challenges
 - o Construction costs
 - o Capacity trends
 - o Management
- Containment Systems – past, present and future

Session 7
1530-1700

Key Elements of Carrier Design - II

- Propulsion Systems – past, present and future
 - o Economic evaluation
- Reliquefaction
- Floating Regasification
- Compressed Natural Gas (CNG) options
- Floating LNG terminals (FLNG) and other new developments

LNG TERMINALS

Tuesday
15 May

Session 8
0830-1000

Design Features of Load and Discharge Facilities

- Land installations
- Floating facilities
 - o Floating Storage Regasification Units (FSRU),
 - o FLNG

Session 9
1015-1115

Logistics Challenges

- Annual Delivery Programmes
- The art of scheduling
- Impact of cool-down
- Ship/Shore compatibility
- Emergency Shut-Down Systems
- Safety Procedures

VESSEL OPERATIONS

Session 10
1130-1245

Primary Features of Vessel Operations

- Boil-Off Gas
 - o Its use as fuel
 - o Reliquefaction options
 - o Use of the Gas Combustion Units (GCU)
- Heel – purpose and management

Session 11
1245-1315

Case Study #1: Heel Management

Session 12
1415-1445

Cargo Handling

- Cool-down
- Tank preparation
- Fill limits
- Sea conditions and the effect of sloshing

		Session 13 1445-1530
	Ship Management	
	<ul style="list-style-type: none"> - Operating cost structure - Crew matrix and other crewing considerations - Maintenance & repair experience of marine cryogenic systems 	
	VOYAGE & DEAL ECONOMICS	
		Session 14 1545-1715
	Fundamental Cost & Revenue Criteria	
	<ul style="list-style-type: none"> - The distinction between voyage and deal economics - Contract terms and margin expectation - Measuring vessel earning 	
Wednesday 16 May		Session 15 0830-1030
	Factors Specific to the LNG Business	
	<ul style="list-style-type: none"> - Introduction to LNG specific factors - Heel Retention vs. Cool-Down - worked examples - Fuel vs. Force Vapourising - Bunkering Strategies e.g. Low Emission Trading Areas 	
		Session 16 1045-1145
	Case Study #2: Voyage Economics	
		Session 17 1145-1245
	Performance of the Voyage	
	<ul style="list-style-type: none"> - Voyage Orders and Communications Protocols - Emergency Response - Piracy and General Security 	
	CHARTERING	
		Session 18 1345-1515
	Chartering in the LNG Market	
	<ul style="list-style-type: none"> - An overview of the Global LNG fleet by <ul style="list-style-type: none"> o Age o Size o Ownership o Regional differences - Introduction to the charter market <ul style="list-style-type: none"> o Key players o Terminology o Conduct in the market 	
		Session 19 1530-1700
	Charter Parties Used in the LNG Trades	
	<ul style="list-style-type: none"> - Adaptation of Standard Charter Party Forms - Differing Formats and their merits - Charter Party Clauses - Negotiation practices 	
Thursday 17 May		Session 20 0830-0900
	Cargo versus Vessel Contracts	
	<ul style="list-style-type: none"> - The gap between the cargo contract and the charter party - Lay/Can considerations - Laytime inconsistencies 	

Case Study #3: Introduction to the Chartering Game	Session 21 0900-0930
The Chartering Game	Session 22 0930-1030
The Chartering Game - <i>continued</i>	Session 23 1045-1130
The Chartering Game: Round-up and Discussion	Session 24 1130-1200
Q&A and “Stretch Time”	Session 25 1200-1245
FUTURE TRENDS	
Global Energy Demand	Session 26 1345-1415
<ul style="list-style-type: none">– Energy Conservation– Expansion of renewable sources– Their impact on the market for LNG and shipping	
Ship Propulsion and Containment Systems	Session 27 1415-1445
<ul style="list-style-type: none">– Propulsion systems<ul style="list-style-type: none">○ Steam turbines○ Conventional versus Ultra High Pressure○ Two versus four-stroke diesel engines○ Dual-Fuel Diesel Electric (DFDE)○ Tri-Fuel Diesel Electric (TFDE)○ Gas turbines○ Respective thermal and fuel efficiencies– Use of boil-off gas versus gas recovery– Containment Systems<ul style="list-style-type: none">○ Self-supporting versus membrane technology○ Advantages and disadvantages of each○ GTT latest technology	
LNG as a Fuel	Session 28 1445-1545
<ul style="list-style-type: none">– LNG as fuel– Economic and environmental justifications– Risk of LNG as a marine fuel– Is retro-fitting an economic proposition	
Course Conclusion	Session 29 1545-1600