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STRATEGIC COMMERCIAL LNG INVESTMENT, FINANCE & PROJECT MANAGEMENT

Manage the complexities of LNG investment & projects, from technical design to regulatory compliance and market positioning.



About this Training Course:

This customized 3 day LNG instructor led online or in house training program offers the critical skills and knowledge needed to excel and to drive successful LNG infrastructure development. By addressing both technical and commercial aspects of LNG, the training ensures that you will be prepared to manage the complexities of LNG projects, from technical design to regulatory compliance and market positioning. The outcome will be a more competitive, well-rounded project proposal, strengthened by advanced technical expertise, risk management strategies, and a deep understanding of the global LNG market.

A targeted learning experience that directly meets your needs as you prepare for participation in an LNG project. This program, focused on the technical, operational, and commercial dimensions of LNG, will equip you with the essential knowledge and tools to strengthen the project and support the strategic development of LNG infrastructure.

Objectives of this Training Course:

1. Technical Expertise and Infrastructure Development

The training covers the LNG value chain comprehensively, from gas composition to Regasification, LNG storage, and shipping logistics. These technical modules will enable you to:

- **Improve Project Proposals:** With in-depth knowledge of LNG technologies and operational best practices, you can incorporate technically sound, cutting-edge solutions into their project proposal. The focus on LNG storage, Regasification, and shipping operations will help them present a more robust project, backed by a clear understanding of operational standards.
- **Plan Efficient LNG Infrastructure:** Participants will gain insights into LNG Regasification facility design and the integration of these systems into broader energy infrastructure. This knowledge will assist in planning LNG facilities that meet the growing energy demands with scalable and adaptable infrastructure.

2. Operational Readiness and Risk Management

The training program includes a strong emphasis on operational safety and risk management, focusing on key operational challenges such as boil-off gas management, heel management, and re-liquefaction. These components are crucial for:

- **Operational Safety:** Learn to identify and mitigate potential risks associated with LNG operations, which will enhance their capacity to develop risk-averse project plans. These operational safety skills will provide them with a competitive edge in the bidding process by demonstrating preparedness in handling technical and operational risks.
- **Efficiency and Best Practices:** The course also covers the latest practices in LNG cargo handling, including LNG spill response and FSRU operations. By understanding these procedures, you will be better equipped to implement efficient and safe LNG operations, supporting long-term project sustainability.

3. Economic Insights and Competitive Positioning

As you position yourself to participate in an internationally significant LNG project, the course's focus on LNG pricing structures, contracting mechanisms, and market trends offers significant value. Participants will gain:

- **Knowledge of Pricing Mechanisms:** The training will explore global LNG pricing, supply contracts, and key market dynamics. This will allow to propose more competitive pricing models in their project bid and navigate future contract negotiations with better-informed strategies.
- **Financial Models for LNG Projects:** By understanding various financial structures and investment strategies for LNG projects, you will be better prepared to engage in financing discussions, helping them align their project with the financial realities of LNG infrastructure development.

4. Regulatory and Legal Framework Competence

Navigating the regulatory landscape of LNG projects can be a complex task, especially in emerging markets. The training program provides essential insights into:

- **Regulatory Compliance:** The course covers important topics related to LNG contracts, custody transfer standards, and risk allocation in international LNG supply chains. These insights will help ensure compliance with local and international regulatory frameworks, which is crucial for smooth project execution.
- **Contractual Negotiation Skills:** By learning about LNG supply chain regulations and contract risk management, be equipped to negotiate fair, transparent, and compliant contracts with partners and stakeholders.

5. Local Capacity Building

An important element of the training is its focus on workforce development and local content strategies, which are vital for the long-term success of LNG projects. The program will assist in:

- **Building Local Expertise:** With a focus on capacity building, the training will provide insights into how to develop skilled local teams for the operation and management of LNG facilities. This will enable you to create training and knowledge transfer programs, ensuring local involvement and fostering sustainable economic growth in the region.

6. Strategic Market Positioning

The course's insights into global LNG market dynamics will help to:

- **Position in Global LNG Markets:** Understanding LNG trading routes, demand forecasts, and regional market trends will help strategically position as a potential LNG hub, opening up opportunities for regional trade and collaborations.
- **Leverage Market Knowledge for Future Growth:** By gaining insights into global LNG market trends and emerging opportunities, be well-positioned to make informed strategic decisions that benefit both the company and energy sector in the long term.

Learn what participants have said about the Marine LNG Institute Courses;

We have utilised this training for our crew and LNG Tech Superintendents for several years," **Tech Superintendant China Shipping Lines (CSL)**

"In this technical LNG Maritime field particularly in the future - this course is of great benefit to our teams," **Senior Manager, CMA CGM Group**

"Marine LNG Institute Courses are very technical and informative, very approachable and professional". **Corporate Strategist Evergreen Marine Corp**

"To have this training at our disposal, when we want is terrific. The Corporate In House Trainer was a key element to this course" **Onshore DPA - Maersk Lines**

"The offshore technical aspects to the trainer's seminars are excellent," **Offshore Manager, OOCL Lines**

"Technology develops quickly. I really enjoyed the course elements and its delivery" **Chief Technology Officer [CTO] - RIO TINTO PLC**

Individualized "One to One" for 2 hours post training! To further optimise your learning experience from our courses, the Marine LNG Institute also offer individualized "One to One" for 2 hours post training **free of charge**. We help improve your competence in your chosen area of interest, based on your learning.

This course is intended for the following LNG professionals:

This course is intended for the following professions from the maritime and energy industry:

- Ship Owners and Managers
- Offshore Vessel and FPSO Owners and Operators
- Oil Majors, NOCs and Independents
- Ship Superintendents and Safety Officers
- Ship Officers and Crews (Master, Chief Officers, Chief Engineers etc)
- Bunkering industry Personnel including Loading and Mooring Masters
- STS Service Providers
- Liquid Cargo and Bunker Surveyors
- Ports and Terminal Operators
- P&I Inspectors and Executives
- LNG FSU Owners, Managers, Operators
- Company Assurance Managers and Superintendents
- Project Directors
- Asset Managers
- Project Managers
- Project Planners
- Cost Estimators
- Quality Assurance Managers
- Contract Managers
- Procurement Manager. Maritime Legal Counsels or Advisors
- LNG Commercial Managers
- LNG Vessel negotiators

- LNG Project Managers or Engineers
- LNG Commercial Managers
- Vessel Operation Managers
- LNG Business Risk Managers
- LNG Business Development Managers
- LNG Contract Managers
- LNG Sourcing / Purchasing Managers
- Corporate Strategy Managers
- Energy Regulators & Investor Relations Other useful information at a glance:

WHAT YOU GET - Other useful information at a glance:



- ✓ **Marine LNG Institute – Course Certification & Certificates** are issued upon completion
- ✓ **Individualized “One to One” for 2 hours post training!** To further optimise your learning experience from our courses, the Marine LNG Institute also offer individualized “One to One” for 2 hours post training **free of charge**. We help improve your competence in your chosen area of interest, based on your learning.
- ✓ **All Course Material and Research Downloads** from the Marine LNG Institute
- ✓ **Marine LNG Institute - Accreditation Post nominal's and Certificates**

This course is offered through Online Instructor Led Training format and ‘in House’ worldwide.

More testimonials from past participants about the trainer

*Great expert, very professional and a key speaker. I attended the PSC LNG and Offshore Technical Operations course by the trainer. Really good 3 days and got a lot out of it. It will help us develop in the future”, **Senior Base Manager, Chevron***

*“We have utilised this training for our crew and LNG Tech Superintendents for several years. There are a lot of benefits,” **China Shipping Lines (CSL)***

*“I got so much out of it. I have never been or listen to an expert speaker in this technical LNG Maritime field. He is now going to assist us as we proceed with our ventures in the future,”**Senior Manager, ShellEurope***

*“I have been to several seminars and this one was the best I have attended so far. Very technical and informative, very approachable and professional. We have since engaged the trainer for further projects and oversight,”**Technical Superintendent, Woodside Australia***

*“The offshore technical aspects to the trainer’s seminars are excellent.” **Offshore Strategic Manager, Boskalis Netherlands***

3 DAY COURSE AGENDA



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LNG: The Science behind the Energy and Fuel Source

- LNG chemical composition
- Low sulphur
- The LNG Value Chain
- Calorific Values and temps
- Lean and Heavy LNG
- Changes in heating values
- Cryogenic Science and New Fuels
- Commercial and Domestic Energy Redundancies
- Developing Energy Security Globally - Asia Pacific, Europe, Africa, China, and South East Asia

Global LNG Facilities and Infrastructure

- Existing and emerging
- Potential and worldwide energy needs for LNG
- Why LNG?
- Future and current developments
- Commercial arguments

LNG Trading, Productions and Sale Agreement methods

LNG trading route developments Asia Pacific Regions, Europe, Africa, USA and Russia

- New production facilities and locations
- New trading routes and hubs developing
- Specific Focus on Asia Pacific Trading, Africa, Europe, Middle East and Production Futures
- Off-shore industry expansion options for LNG as energy and fuel
- On shore development of infrastructure
- Remote supplies and disaster recovery, portable LNG
- LNG Storage & Regasification

Spot v s Term Contracts Exercise: Routes/Distances

LNG Storage, Transfers New Shipping Technologies and Definitions

LNG Design Configurations

- LNG Fuel Tanks
- LNG Storage
- LNG Fuel System
- Impacts on Ship Configurations and Operation
- Suitable Ship Types
- LNG and other Ship design efficiencies
- Retro fitting of existing vessels with LNG technology
- Introduction, Definitions
- Cargo Containment & Management
- Propulsion Systems
- Boil-Off, Heel, Re-liquefaction

Gas / LNG Industry Overview

- Gas / LNG chain and definitions
- Gas transmission technologies: Comparative summary of pipeline, LNG, CNG and GTL
- Technology innovation developments: Shale gas, FLNG, FRSU, small scale LNG

LNG - Transfer Procedures

Loading and Discharging Operations and Preparations

- Arrival preparations and checklists
- Pre-loading procedures alongside
 - Cryogenic pumps and hose design parameters
 - LNG Carriers and mooring options - Finger and Face terminal design considerations
 - Fire Fighting and Investigation
- Ramp up, loading and ramp down, actions and precautions

Facility and Assets (Commercial Considerations and factors)

- Current LNG MMBtu \$ pricing levels.
- Cost effective LNG Operations and development practices
- Cost plus Considerations and Capex considerations
- Vessel Operators cost and Chartering
- LNG Operations and ROI – Terminal OPEX and break even cost considerations
- Demurrage Cost reductions
- 24 Hr - Continuous Operations
- LNG Barges and Loading Facilities and Builds
- Dual fuel and Phases whilst in operations

Loading and Discharging Operations and Preparations

- Arrival preparations and checklists
- LNG Loading Arms – Technology, vendors and designs
- Cryogenic Hoses, testing and type 8 inch and 6 Inch
- Dynamic Positioning
- Manoeuvring with and without tug assistance or DP
- Jetty Approaches – Finger or Face Terminal Design Interface
- Pre-loading procedures alongside
- Ramp up, loading and ramp down, actions and precautions
- Ramp up, increasing loading rate
- Tank loading procedures
- Ramp down and the topping off tanks process
- Vapour pressure control
- Post loading operations
- Commencement of gas burning and line disconnection
- Pre-arrival preparations, terminal requirements and ship line cool down
- Discharging and ramp down, heel options
- Overview of standard discharge operations
- Ramp down for heel distribution option •discharging operations

Governmental environmental policies on emission reductions (CO₂, SO_x, NO_x,)

- Easier access to large scale facilities
- Medium / small-scale LNG production require new transportation and receiving solutions
- Timely development of receiving terminal facilities (onshore or barge type FS(R)Us)
- Engineering Design considerations for 'In Port alongside' operations
- Developing Port Authority requirements regarding Emission Controls with LNG

LNG Contract Agreements and Negotiations – Allocation of Risk of LNG

- Claims for Shortage of Oil/LNG Cargo – Statistics
- Overview of LNG Supply Chain
- ‘Boil-Off’ During the Voyage and Bunkering
- Owners’ Warranted Performance
- BIMCO / GIIGNL / CTMS / LNG HEEL
- Charterparties for the Carriage of LNG Cargo
- LNG Radar Ullage
- Owners compensate
- Changes in chemical characteristics whilst in Transit
- LNG Risk control Mechanisms
- Parties responsible for ‘cool down’
- Examination of the Contractual Allocation of Risk under LNGVOY

LNG Trading - Investment and LNG HUB Economics

- Overview of LNG Trading and definitions
- How they work and why?
- Contract and Spot evaluations
- Asian Market Premium vs Europe and USA
- JCC markets and leverage in the LNG Import sector
- Global LNG Market leverage systems
- How to leverage LNG Imports and Hedging
- Institutional Finance market in LNG

Freight Agreements and Negotiations – Allocation of Risk in the Carriage of LNG (CONTINUE)

- Responsibility for Cargo care
- Tank conditions
- Cargo calculations
- Supervision of loading / discharging of the cargo
- Vetting the suitability of the vessel to carry LNG
- The Vessel’s containment system
- BOG management
- Forced Boil off and Boil off Cap
- LNG delivery ‘Windows’

CASE STUDY – FSRU Foreseeable Ballast voyage

- ❖ Reinforce knowledge about operations that are carried out in accordance with all relevant national and international maritime legislation, local regulations, and industry best practices.
- ❖ Evaluate the different procedures and factors affecting cost of the operation.
- ❖ FSRU Delivery to Domestic and Commercial Grid

Controls to Prevent Economic Costs

- Operating Costs Elements
- Roles and responsibility of terminal in LNG cargo transfer
- Terminal loading and discharging
- Storage tank capacity
- Storage tank types
- Brokers Fees / Fleet Management

Growing the market for “LNG to Power (L2P)” Projects through the Conversion of Existing LNG Carriers

Identifying the Right Range of LNG Regasification Terminal

LNG Value Chain & Technology Overview
Mini LNG Terminal Comparison & Mini LNG Tanks
Cost Comparison Large LNGC Vs Mini LNGC
LNG Regasification Requirement
Mini LNG for Power Generation: A Case Study

LNG INFRASTRUCTURE.

LNG Infrastructure decisions, location, designs, equipment

- Optimum location and equipment required
- LNG supplier contract and bunker cost to vessels
- Equipment types, storage tanks, pumps, Road rail requirements
- Emergency response facilities

LNG Project Facility Development

- Decide on location and facilities
- What operations will we do and how
- HAZID, what are the project risks
- Costing, development time, personnel
- Technical issues in LNG Bunkering Facility Development
- Feasibility assessment for a small-scale LNG project

LNG and other advanced technologies

- Future: LNG Test and Technology Centre – Liquid Natural Gas (LNG) has characteristics that impacts on ship design and operation
- LNG Fuelled Propulsion for Ships
- Innovative LNG transfer systems
- Development of offshore LNG Transfer

LNG Shipping

- Carrier Types, Characteristics
- Shipping Contracts (FOB, DES, COA, Chartering)
- Project Shipping Capacity / Business Models LNG Regasification / Terminals
- Process Design and Technology
- Business Models

World LNG Terminals Industry Novelties

- Floating LNG
- Floating Storage Regasification Units (FRSU)

Exercise & Case Study & Comparison Analysis

- The commercial arguments for LNG as marine fuel
- LNG and Low-sulphur fuels LSFO explained. LSFO vs. LNG as alternative fuel sources

Recent Developments in LNG Procedures and Standards

- Applicable codes
- International Safety Management (ISM)
- Tanker Management Self-Assessment (TMSA)
- International Ship and Port Security (ISPS)
- International code safety of ships using gases as fuel (

- Charter Party Agreements

Plan and Review STS / FSRU Exercises

- Plan review and discuss checklists and equipment items required
- Confirm any training requirements

Introduction to Simulation training and bridge team resources management

LNG Custody Transfer Measurement Agreements and Economic Calculations for Commercial and Domestic infrastructure and Shipping

- How it's done
- LNG Long-Term duration Investments
- OEM commercial and domestic suppliers of new Technology for heavy industry
- National Energy supplies of LNG for Industry Investments
- System setup parameters
- Joint Venture Agreements and Investments
- Collaboration between Large Exporters and Importers
- Ship and surveyor roles
- Certificate of Loading

Types of LNG Custody Transfer Measurement Systems and Equipment

- Liquid form measurement
- Volumetric measurement
- Temperature measurement
- Custody Transfer Measurement system
- Dynamic Metering
- Ultrasonic Metering
- Vortex Metering
- Coriolis Metering
- (CTMs) testing and checks
- LNG Custody Transfer Procedure

Pre-planning and Risk Assessment Considerations – FLNG/FSRU

- What is LNG? Hazards and Risks vs. Oil
- Screening / Compatibility Studies of participating vessels
- Ship compatibility, and OPTIMOOR
- Criteria in selecting transfer area and Approval from the authorities
- Security issues
- Preparations
- Risk Assessments and Management, Helicopter operations, Cargo Hazards, weather conditions, personnel injury, mooring unmooring operations
- Oil v/s LNG any differences? LNG and Liquid/Gas Transfer System Architectures and available technologies
 - Ship to Ship to shore
 - Ship to Platform
 - Ship to Ship
 - Barge to Ship

LNG Operations and Procedures for various delivery methods

Barge

- Key principles of LNG STS
- Parties involved, pre planning and equipment
- Mooring, operations and manoeuvring
- Cargo transfer operations

Land to Ship

- Truck to Ship (TTS) and Loading Arm options
- Parties involved and roles in preparedness
- Equipment and compatibility
- Key steps in preparation
- Operations

Terminal pipeline

- ISO standard (28460-2010)
- Pilotage and Vessel Traffic Services (VTS)
- Tug and mooring boat operators
- Terminal layout and operations
- Terminal and ship operator collaboration

FPSO, FSRU, FPO Systems and Designs

- Factual Case studies and developments
- Recent build designs from South Korea, China shipyards
- LNG vessel past and future design developments
- Development of cryogenic equipment and designs
- BOG Roll over considerations and tank designs
- Cryogenic Hoses designs and testing facilities around the globe
- QCDC
- Manifold, Saddle and ESD 1 and 2 designs

LNG Trading route developments

- New production facilities and locations
- New trading routes and hubs developing
- Off-shore industry expansion options for LNG as fuel
- On shore development of infrastructure
- Remote supplies and disaster recovery, portable LNG
 - Floating LNG based Power Generation

LNG Port and Vessel Planning – Considerations, Consultations

- Market assessment – demand
- Port and Vessel operations, emergencies, mooring systems
- Other options road tankers, ship to ship, alongside jetty
- Public relations, environment, jobs, education
- Risk Assessment, Operational and Safety benchmarks for LNG Bunkering Facilities

LNG and other advanced technologies

- Future: LNG Test and Technology Centre – Liquid Natural Gas (LNG) has characteristics that impacts on ship design and operation
- LNG Fuelled Propulsion for Ships
- Innovative LNG transfer systems
- Development of offshore LNG Transfer
- Robotics and AI technology available
- Fibre optics and software compatibilities

- FLNG and FSRU

LNG Pricing and Economics

- Basic principles and main drivers
- Gas pricing methodologies: Cost plus, cost of service, net back / market value
- Regional price formation
- Current international gas/LNG pricing trends
- Joint venture economics. How they do it. – WIN - WIN
- Global LNG pricing methodologies: Oil price indexation, (JCC crude parity, Brent etc), Henry Hub (USA), NBP (UK) & TTF (NL), Negotiated base price (P0) indexed by crude derivatives (weighted)

LNG Compatibility Risks

- FSRU and STS OPTIMOOR studies
- Simulator training for FSRU and STS equipment
- Cargo discharge
- LNG Cargo Unloading arms and Hoses

STS / FSRU – Best Practices Oil and LNG comparisons

- Discuss main considerations
- FSRU Operational Case Study
- Time / durations / Locations and Regulations
- Basic questions
- Contracts objectives
- Gas / LNG chain contracts
- Operational, commercial and legal basis for long-term contracts
- Contract perspectives of Buyer and Seller: Obligations, risk mitigation and value

MARINE LNG INSTITUTE – COURSE CERTIFICATION & CERTIFICATES ARE ISSUED UPON COMPLETION

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REGISTRATION FORM

STRATEGIC COMMERCIAL LNG INVESTMENT, FINANCE AND PROJECT MANAGEMENT		MAX 10 PAX	<p>Group bookings at the same time from the same company receive the following: 3 or more at 5% off 5 or more at 7% off 8 or more at 10%</p> <p>All other promotions including early bird are exclusive of the group discount.</p>
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DELEGATE DETAILS

Delegate 1

Mr Ms Mrs Dr Others: _____

Name : _____

Job Title : _____

Department : _____

Telephone No. : _____

Email : _____

PAYMENT METHODS

By Direct Transfer. Please quote your Students Name via email to student enrolments via our website. www.marinelnginstitute.com

All bank charges to be borne by payer. Please ensure that the full invoiced amount per student is received in USD.

We do not accept By Credit Card.

As Payment through credit card incurs a 3.5% admin fee payable by the payer. Payment through credit card is not applicable.

Delegate 2

Mr Ms Mrs Dr Others: _____

Name : _____

Job Title : _____

Department : _____

Telephone No. : _____

Email : _____

PAYMENT POLICY

Payment is due in full at the time of registration and enrolment. Full payment is mandatory for event attendance. By submitting this registration form, you have agreed to payment terms.

CANCELLATIONS & SUBSTITUTIONS

You may substitute delegates at any time. For cancellations received in writing more than seven (7) days prior to the training course, delegates will receive a 100% credit on the amount paid which can be used in another training course for up to one year from the date of issuance.

Company : _____

Address : _____

The credit is transferable to other persons in the same company and applicable against any future public course. For cancellations received seven (7) days or less prior to an event (including day 7), no credit will be issued.

Country : _____ Postcode: _____

Attention : _____

Invoice to : _____

Telephone No. : _____

In addition, a cancellation fee equivalent to 15% of the course fee will be charged. In the event that we postpone or cancels a course, delegate payments at the date of cancellation or postponement will be refunded in full. MLNGI does not provide refunds for cancellations and postponements or waive fees for unpaid invoices upon receipt of registration

Fax No. : _____

3 EASY WAYS TO REGISTER

Please note

- Indicate if you have already registered and made payment by Email + or Web.
- If you have not received an acknowledgement by email before the training course, please contact us to confirm your booking.
- Photocopy this form to register multiple delegates.

3 EASY WAYS TO REGISTER

Marine LNG Institute www.marinelnginstitute.com Contact Enquires: Student Enrolments

Email: info@marinelnginstitute.com

Website Portal: [Enrol – Marine LNG Institute](#)

