

# Mini MBA Understanding the Dynamics of the LNG Industry

## INTRODUCTION

- LNG is natural gas (predominantly methane) that has been converted to liquid form for ease of storage or transport. It takes up about 1/600th the volume of natural gas in the gaseous state. It is odorless, colorless, toxic and non-corrosive. LNG is the most energy efficient fossil fuel— it offers important energy saving benefits when it is used instead of oil or coal. It is also a source of hydrocarbons for petrochemical feedstock and a major source of elemental sulphur. Its popularity as an energy source is expected to grow substantially in the future because LNG can help achieve two important energy goals for the twenty-first century— providing the sustainable energy supplies and services needed for social and economic development and reducing adverse impacts on global climate and the environment in general.
- The LNG processing and transportation in refrigerated compressed tanks are highly capital intensive and dynamic. To achieve maximum effectiveness, managers and professionals must continually expand their business knowledge and sharpen their skills.
- This 5-day Understanding the Dynamics of the LNG Industry training course will highlight the added value of Liquefied Natural Gas (LNG) business from Wellhead to the burner tip.

This training course will feature:

- The fundamentals of LNG, production, transportation, pricing and its business economics
- Global supply-demand, global production, global market dynamics
- Analysis of technical, commercial, contractual business transactions
- LNG Sales, Marketing and Trading
- Understanding Upstream agreements
- Understanding LNG Sales & Purchase Agreements
- Understanding LNG Shipping arrangements
- Understand LNG Project Financing and Project Management
- Technical and economic success factors in business to support strategic initiatives; to mitigate risk; and to direct operational decision making

## OBJECTIVES

- Gain better understanding of the dynamics of the entire LNG value chain
- Understand LNG production, storage, transportation and distribution
- Understand the LNG terminology
- Distinguish various sales, marketing terms and conditions
- Understand the various terms in LPG sales and purchase agreements
- Learn economic evaluation benchmarks and determine return on investments

## TRAINING METHODOLOGY

- This Understanding the Dynamics of the LNG Industry training course will utilise a variety of proven management learning techniques to ensure maximum understanding, comprehension and retention of the business tools, techniques and best practices presented. The daily workshops will be highly interactive and participative. Participants will learn by active participation throughout the programme through the use of programme materials, case study exercises, quizzes, training videos and discussion of business cases issues in their organizations.

## ORGANISATIONAL IMPACT

- By sending their employees to this Understanding the Dynamics of the LNG Industry training course, the organization will gain a wider range of skills that participants gain and henceforth apply in their workspace that will directly benefit their respective companies.
- Offers a wider management perspective of global petrochemical business and highlights the success factors in each category of several business models
- Defines how innovations in energy and petrochemicals are helping to drive economic growth and improve living standards around the world
- Clarifies how we can achieve these goals while delivering value to shareholders
- Inculcates the corporate culture of effectively dealing with the core issues, tactics and essential concepts of successfully running the petrochemical business

## WHO SHOULD ATTEND?

- Business Development Managers
- Corporate Planning Professionals
- Geoscience & Engineering Professionals
- Supply Planners & Scheduling Professionals
- Government Regulators
- Law Professionals
- Tax & Finance Advisors
- Auditing Personnel
- Compliance Officers
- Equity Analyst and Bankers
- Joint Venture Officers
- Negotiators and Contracting Professionals
- Trading Professionals

## Course Outline

### Introduction to the LNG Industry

- Exploration, Development and LNG Production, Shipping, Importation
- Cost and Value Drivers: Shareholder Expectations
- The Value Chain: From Wellhead to Burner Tip
- Players: Governments, NOCs, IOCs, Banks and Insurers, etc.

### Natural Gas Value Chain

- Exploration and Production
- Processing and Production
- Sales Gas Transmission
- Underground Storage
- Distribution
- Sales Gas and Product Specifications

### Global Production

- Where and Who are the Producers of LNG
- Projects Currently under Development

### Global Markets

- Where and Who are the Users of LNG
- Projects currently under Development

### Gas Conditioning Processes

- Excess Water Removal
- Contaminants Removal
- LNG Separation

### Essential Logistics of LNG

#### Nitrogen Rejection Processes

- Cryogenic Process
- Absorption Process (using lean oil or solvent) Membrane Separation
- Adsorption Process (activated carbon) Storage System

## Storage Tanks

- Vapour Recovery System LACT Unit
- Sampling
- Natural Gas Transportation
- Pipeline Components
- Compressor Stations
- Metering Stations
- Valves
- Control Stations

## Pipeline Operations

- Basics of Gas Pipeline
- Gas Flow Measurement

## Liquefied Natural Gas (LNG)

- Why LNG a growth industry?
- Compression & Refrigeration
- Transportation of LNG
- Major LNG Exporting Nations
- Major Importing Nations

## LNG Sales, Marketing and Project Risks

### LNG Sales, Marketing and Trade

- Price Disparity in Different Regions
- LNG Benchmarks
- Major Changes in LNG Business

## Business Sector

- Industry and Market Structure
- Natural Gas Demand
- Natural Gas Supply
- Economics of the Natural Gas Plants

## Global Markets

- Where and Who are the Users of LNG
- Projects currently under Development

## Key Project Risk and Value Identification

- Understanding the Fundamental Commercial Drivers for Project Success
- Identification of Key Project Risks (from a commercial perspective) and Mitigation Strategies
- Reserves Definitions and Reserves Certification
- Completion and Cost Overrun Risks
- Cost Linkages to Oil and Gas Prices

## LNG Project Financing and Project Management Gas Plant Project Management

- Project Management Overview
- Industry Perspective
- The Project Management Process
- Project Controls & Quality Controls
- Quality Assurance
- Commissioning and Start-up
- Dispute Prevention & Arbitration
- Disputes
- Arbitration and Expert Determination

## Commercial Structures

- Alternative Commercial Structures
- Complexity of Integrating Requirements
- FOB vs. DES Sales

## LNG Project Financing Essentials

- Financial Structures in LNG
- Investment Decision-making
- The Key Value Drivers in LNG Financing

## Overview of LNG Financing Options

- Balance Financing
- ECA and Multilateral Agency Funding
- Capital Markets
- Asset based Financing
- Project Financing and Structured Recourse Financing

## LNG Agreements, Regulations and Future Trends

### LNG Agreements

- Overview of the Contractual Terminology
- Stakeholder Analysis and Drivers
- Upstream Agreements
- LNG Supply Purchase Agreements SPA
- EPC Contracts
- LNG Shipping Arrangements / Agreements
- LNG Regasification Terminal Agreements
- Fiscal and Legal Regimes Worldwide
- Production Sharing Arrangements

### Regulations

- The History of Regulations
- The Market under Regulation
- The Environmental Impact

### The Future Trends in Natural Gas Trends

- Trends in LNG Markets
- Latest Changes and Movements in LNG Trading
- The Impact of Shale Gas
- Hubs vs. oil for price setting