

# GULF INSTITUTE



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# International Gas Business

## INTRODUCTION

- Natural gas 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 sulfur. Its popularity as an energy source is expected to grow substantially in the future because natural gas 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.
- This interactive, application-driven 5-day International Gas Business training seminar will highlight the added value that International Gas Business can offer a professional the necessary technical, commercial, and business management training.

### This training seminar will feature:

- The fundamentals of natural gas extraction, purification, transportation, market dynamics, pricing and its business economics
- Strong perspective of the natural gas industry from wellheads to market
- Wide array of technical, commercial, contractual business transactions
- Technical and economic success factors in business to support strategic initiatives; to mitigate risk; and to direct operational decision making

## OBJECTIVES

### By the end of this training seminar, participants will be able to:

- Understand how natural gas is found in nature and how gas wells are developed
- Gain better understanding of the dynamics of the entire natural gas value chain addition from wellhead to the burner tip
- Recognize the major and common processes of the natural gas plants, and understand technical process drawings
- Determine various methods used to purify natural gas
- Understand the oil and gas facilities terminology
- Recognize how gas processing fits into the value chain for hydrocarbon products and identify the key issues at the plants
- Distinguish the difference between various gas conditioning and processing technologies, and decide which technique should be used based on the process
- Understand the principles of gas measurement and common measurement devices Discuss the market's needs for NGL, LPG, ethane, propane and butane
- Understand the pipeline transfer
- Learn economic evaluation benchmarks and determine return on investments

## TRAINING METHODOLOGY

- This training seminar will utilise a variety of proven adult learning techniques to ensure maximum understanding, comprehension and retention of the information presented. The daily workshops will be highly interactive and participative. Participants will learn by active participation throughout the training through the use of training seminar materials, case study exercises, quizzes, training videos and discussion of business cases issues in their organizations.

## WHO SHOULD ATTEND?

This training seminar is suitable to a wide range of professionals but will greatly benefit:

- 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

## Course Outline

### Setting the Natural Gas Scene in Energy Industry

- Natural Gas Fundamentals
- Introduction
- History
- Natural Gas Origin and Sources
- Natural Gas Composition & Classification
- Natural Gas Resources
- Natural Gas from Wellhead to the Market
- Exploration and Production
- Processing and Production
- Sales Gas Transmission
- Underground Storage
- Distribution
- Natural Gas Fundamentals
- Characteristics of Natural Gas
- Chemistry of Oil and Gas
- Raw Gas Contaminants
- Sales Gas and Product Specifications
- Vapor / Liquid Separation Principals
- Terminology
- Gas Traditional Processes
- Excess Water Removal
- Acid Gas Removal
- Dehydration
- Mercury Removal
- Nitrogen Removal
- NGL Separation
- Gas Sweetening and Sulfur Recovery
- Acid Gas ReInjection
- Natural Gas Liquids and Dew Point Control

## Essential Logistics in Natural Gas Business

- 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
- Liquefied Natural Gas (LNG)
- Why LNG a Growth Industry
- Compression & Refrigeration
- Transportation of LNG
- Major LNG Exporting Nations
- Major Importing Nations
- Pipeline Operations
- Basics of Gas Pipeline
- Gas Flow Measurement

## Introduction to the LNG Industry

- 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

## Risk Management and Dispute Prevention

- Handling Risks
- Risk Management Techniques
- The Risk Matrix
- Disputes
- Causes of Disputes
- Dispute Resolution
- Arbitration and Expert Determination
- LNG Project Financing Essentials
- Financial Structures in LNG
- Investment Decision Making
- The Key Value Drivers in LNG Financing

## License Agreements, Regulations, Future Trends

- Upstream Fiscal & License 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
- Market Shifts in Importation and Liquefaction
- Mid and Small Scale LNG
- Floating and Niche LNG Concepts
- Wrap-up and Summary

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