26th Annual International Gas Business Management Certificate Program

Through a careful balance of lectures by leading experts and challenging workshop sessions, this two-week program provides a comprehensive working knowledge of the technology, economics, finance, and markets that shape and affect the international gas industry today. It also teaches the management skills needed to develop projects and increase performance within an integrated gas business environment.

### UNIT ONE: UPSTREAM GAS BUSINESS

Overview of the International Gas Industry
Gas measurements and units, the gas chain, market structures, worldwide natural gas economics, major players, evolution of the integrated gas-power business.

Gas Field Performance and Reserves Estimation
Overview of production and reserve management in the gas system, production technology, well testing, reservoir performance reserves estimation.

Gas Processing: Technology, Economics, LPG, and Ethylene Markets
Overview of gas processing systems, liquid separation processes, LPG fractionation options, compression, engineering design and contracting methods, the market for LPGs, project feasibility and economics, ethylene processing, economics, and markets.

Gas Pipeline Systems
Major considerations in the cost-effective design, construction, and operation of gas pipeline systems, system design variables impact on cost and capacity, estimating project costs, pipeline load factors, typical pipeline tariff, examples of recent pipeline construction projects.

Load Balancing Systems and Tariffs
Needs for load balancing and system and customer benefits, storage options, capital and operating costs, underground, cavern, and LNG facilities; operational procedures; new options for marketing storage services, case examples.

Gas Sales Contracts
Typical terms in gas sales contracts, price-volume, risk allocation, from gas contracts to tariffs, indexing, re-openers, typical contract examples.

Measuring Financial Performance
Review of financial statements: income statement, balance sheet, cash flow, and shareholders equity, capital and operating costs, measurements of financial performance, benchmarking, taxation, the accounting and audit process.

### UNIT TWO: DOWNSTREAM GAS BUSINESS

Gas Market Analysis and Pricing
The need to identify gas markets early; gas market analysis, market pricing and interrelated competition, market segments and market opportunities.

Gas-Fired Power Plants
Overview of combined-cycle gas turbine power systems, technology: plant design, fuel efficiency, available packages, project feasibility: capital costs, economics, risk, financing, contracts, markets, capital and operating cost estimating, contracting for fuel supply and power sales, worldwide power trends, examples of recent and planned projects.

Overview of LNG Business
Overview of the role of LNG within the gas chain, technology: LNG plants, liquefaction, ship design and operations, LNG re-gasification units, LNG project feasibility: capital costs, economics, risk, financing, markets, LNG plant design, gas reserves to support a plant, contract prices, contracting, examples of recently completed and planned projects.

Petrochemical Uses for Natural Gas: Methanol, Ammonia, and Gas-to-Liquids Conversion
Use of gas for methanol and methanol and conversion to liquid fuels; processes for conversion of gas to methanol, markets and project economics; ammonia and fertilizers sources of supply, types of processes, intermediate and end products, markets; project economics; examples of recent and planned projects, gas-to-liquids conversion, available technology; major players, capital and operating costs, economic analysis.

Gas Distribution
Overview of the gas distribution system, types of customers and load factors; competition from other fuels, sources of gas supply: gas supply contracts, prices, character of gas supply, structure and regulation of local distribution companies (LDCs), marketing demands, design and construction of distribution systems, expansion, operations load balancing, distribution planning, maintenance, environmental considerations, rate-making policies and practices.

Project Financing: Commercial Debt Structuring and Case Study
Corporate and project financing, sources of debt and equity financing, public and private sources of capital, multilateral and bilateral sources of financing, risk assessment and mitigation, structuring of financing, preparing the financing plan, negotiating the term sheet, preparing the financing documents, closing, Case studies – examples of project financing: Qatar Gas Project, Colombia Power Project, U.S. Gas Storage Project.

Industry Regulation, Deregulation, and Convergence
The nature of regulation in the energy sector, history and current state of the gas industry deregulation process at the wholesale and retail-markets U.S., Europe, and elsewhere; effect of deregulation on the structure of the industry; convergence of gas and power.

Marketing Natural Gas in an “Open Access” Environment
U.S. market structure; basic deal types and when they are done; the commercial organization, and current issues in U.S. natural gas markets.

Managing Energy Price and Volume Risks: Futures and Hedging
The history of energy price risk management, physical, forward, and futures markets; typical futures market transactions, hedging, swaps, and options; volume risk management, weather derivatives.

### WHO SHOULD ATTEND
This program is intended for specialists in one or more functional areas of the international energy industry who seek a comprehensive understanding of the gas industry. Many participants have said this is the best program in the industry today, due to its broad scope, challenges, realism, and fun.

### INSTRUCTORS
David A. T. Donohue, PhD, JD, Ethan Avan, PhD
Charles Bankman, PhD, Y. Serdar Dogulu, PhD, Bradford R. Donohue, MBA, CFA, Marshall E. Frank, MS
Samy H. Ibrahim, MS, John B. (Jack) King, MBA, Kira Ramasundar, PhD, Robert V. Taylor, MS, Laura Varela, MS, Eng

### PROGRAM FEE
ONE UNIT: US$ 4,750
TWO UNITS: US$ 8,700

### ATLANTIC BASIN GAS BUSINESS GAME: EXPETRA
This business game is an integral part of the learning process. Participants, divided into teams, make real-life technical, financial, and market decisions that commonly confront managers in the international gas business today. Team performance is measured on a financial basis and is catalyzed by healthy competition.

The challenging Atlantic Basin game business game takes place in “Expetra,” a small island country in the Caribbean, north of Trinidad. Gas and condensates are expected to be discovered in the deep offshore. Teams enter into exploration agreements, explore for and discover hydrocarbon resources, and then decide on the best way to market them offshore. Teams then enter into exploitation agreements, explore for and discover hydrocarbon resources, and then decide on the best way to market them offshore. Teams enter into exploration agreements, explore for and discover hydrocarbon resources, and then decide on the best way to market them offshore. Teams enter into exploration agreements, explore for and discover hydrocarbon resources, and then decide on the best way to market them offshore. Teams enter into exploration agreements, explore for and discover hydrocarbon resources, and then decide on the best way to market them offshore. Teams enter into exploration agreements, explore for and discover hydrocarbon resources, and then decide on the best way to market them offshore.