



Overview of the International Petroleum Business

Program Objectives

This program is designed for individuals from many different backgrounds within the international petroleum industry, including lawyers, accountants, HR, IT specialists, marketing, and others, who seek a broad introduction to the international petroleum industry. This unique program has a lecture/workshop format. During the lectures, participants learn about the business aspects of the industry from recognized experts. During the workshop sessions, participants, working in teams, make the real-life technical and financial decisions that confront managers in the petroleum industry today. The workshop focuses on developing essential technical, financial and business knowledge of all sectors of the international petroleum industry, with additional emphasis placed on effective teamwork, decision-making abilities, and presentation skills. This careful balance of lectures and workshop is an ideal way for participants to acquire the management skills and business knowledge needed for today's industry manager.

Key Benefits

- Provides a thorough grounding in such topics as petroleum exploration agreements, exploration methods, drilling, field development, production, reservoir engineering and enhanced recovery, pipeline transmission, refinery and petrochemical operations, and the marketing of crude oil and its products.
- Develops key financial skills, including project investment analysis, and measures of project performance.
- Integrates the use of these technical and financial tools through team decision-making in a simulated competitive environment.
- Encourages participants, working in teams, to apply classroom knowledge to learn the practical aspects of the oil and gas business.

Instructional Format

Details on Lecture and Workshop Sessions can be found under Program Content. Prior to the program, all participants will be asked to complete Pre-Reading materials. Pre-Reading materials include a Background Case Study of the Business Game as well as the completion of Module One of IHRDC's Petroleum Online e-Learning Series.

Who Should Attend

This program will benefit management, administrative and technical personnel who seek to broaden their knowledge of the international petroleum business. Because of the workshop format, an enrollment level of 30 is recommended.

Program Location and Schedule

This ideal program schedule would be to begin on Monday morning at 8:00AM and end Thursday noon. Participants may be asked to stay later on some of the first few evenings to complete workshop sessions.



PROGRAM CONTENT

Overview of the Energy Industry

Oil and gas measurements and units; the value chains; market structures; worldwide oil and gas reserves, production, consumption, trade and prices; major players; evolution of the integrated oil and gas business.

UPSTREAM SECTOR

Host Government Agreements

Typical host country exploration agreements: summary of the history and key provisions, including bonus payments, royalties, taxes; production sharing; participation arrangements.

Exploration Methods

The exploration process: petroleum geology, exploration geophysics, well logging, developing exploration prospects, seismic surveys, preparing and interpreting geological maps; case studies.

Drilling and Well Completions

Planning the well; logistics; drilling functions; drilling procedures; formation evaluation methods; horizontal wells; improvements in drilling.

Reserves Estimation

Reservoir fundamentals and reserves estimation. Deterministic and stochastic methods, SPE definitions.

Marketing of Crude Oil and Products

Development of the free market for oil; current international market structure; regional markets: physicals, futures, forwards, derivatives, roles of participants, price formation, price volatility; price reporting; crude oil and product pricing; negotiating and pricing petroleum sales contracts.

Field Development: Reservoir Performance and Surface Facilities Design

Field development; inflow performance; integrated reservoir management; and enhanced recovery. Surface facilities design: design for both onshore and offshore operations; production operations and management; investment analysis and reporting of performance. Case studies.



IHRDC's Business Game Workshops

MIDSTREAM SECTOR

Crude Oil Transportation

The tanker industry and market trends: an overview of the main characteristics of crude tankers; capital and operating costs; calculating tanker transportation rates; Crude oil pipelines; design, construction and operation of pipeline systems; Major pipelines in operation and new pipeline developments.

Natural Gas Transportation

Gas pipelines and LNG transportation. Major gas pipelines of the world; Gas pipeline design; capital costs and tariffs; open access systems; LNG tankers design; capital cost and voyage charges.

Refining and Petrochemicals

Crude oil and refined products; Refinery design options; refinery complexity; capital and operating costs; Refinery margins; profitability; net-back estimation and recent trends. Petrochemicals in perspective: links to refining; key product families; industry drivers: cost of production, supply/demand; profitability and price forecasting; prospects for the future: maturity, environmental concerns, global competition.

Gas Processing and Marketing of LPGs

Properties of gas and gas liquids; processing of associated gas; markets for LPGs; economics of natural gas plants.

DOWNSTREAM SECTOR

Products Distribution

Distribution and retail marketing of petroleum products; worldwide product markets; products pricing; Economics of the modern gasoline station.

Markets for Natural Gas

Gas distribution; regulation and deregulation; markets for gas, including residential, commercial, industrial, combined-cycle power plants, ammonia, methanol and gas-to-liquids.

FINANCE

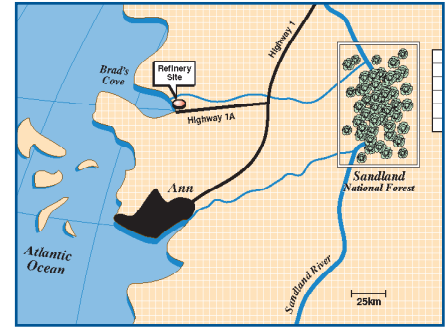
Energy Project Economics

Energy yardsticks; project cash flow before and after tax; tax expenses and benefits; net cash flow stream and payout; time value of money; present value of net cash flow; discounted cash flow analysis and internal rate of return; risk assessment and sensitivity analysis.

WORKSHOP

International Petroleum Business Game

Participants, divided into teams, compete with each other in the development of an integrated oil company in Sandland, a fictitious country on the west coast of Africa. Teams explore for and develop oil and gas reserves and then decide on the optimal way to develop and market the production. In each session, the teams are given background information on the technical and economic aspects of the decision to be made during each session. They then make decisions that require the commitment of both capital and operating funds. The business simulation takes place over a 20-year period and individual teams are evaluated on their financial performance during this period. Decisions are made during 3 years of exploration, 2 years of development, and 15 years of production.



The sessions include:

- Workshop Orientation
- Review of Exploration Agreement Terms
- Purchase and Interpretation of Seismic Surveys
- Exploration and Delineation Drilling
- Field Development and Reservoir Management
- Gas Processing and Marketing of LPGs
- Crude Oil Marketing and Refining
- Markets for Associated Natural Gas: Power Generation, Ammonia, and Export Pipeline
- Evaluation of Performance and Presentation of Results

INSTRUCTORS

For this program there will be a senior lecturer (Dr. David Donohue, Jack King or Dr. Kermit Walrond). He will be assisted by Maher Habbal, an IHRDC Modeling Specialist who will direct the simulator sessions of the workshop. Their backgrounds are as follows:

Dr. David A.T. Donohue is the Founder and President of both IHRDC and Arlington Storage Corporation. Dr. Donohue is a technical specialist, businessman, attorney and lecturer who is highly regarded for the teaching of management programs devoted to the “business of oil and gas.” He has successfully designed and taught these “business game” programs to more than 10,000 members of the international oil and gas industry on both in-house and public bases. He was the developer of an innovative video-based learning system for the upstream petroleum industry, which has now been converted to IPIMS, a widely licensed e-Learning system. Dr. Donohue is also the developer and owner of independent underground gas storage facilities in New York State. In his early career he held various positions in engineering and research for Exxon and, for four years, served on the faculty of Pennsylvania State University. Dr. Donohue holds the Ph.D. in Petroleum & Natural Gas Engineering from Pennsylvania State University and a J.D. degree from Boston College Law School. He is active in public affairs in his hometown, a Distinguished Member of the SPE and Alumni Fellow of Pennsylvania State University.



John B. (Jack) King, is an expert in the international natural gas industry, both in pipeline natural gas and LNG, with over 26 years experience in Mobil and ExxonMobil Corporations. Jack began his career as a production engineer in the Gulf of Mexico. He then progressed through a number of senior executive natural gas marketing positions for both Mobil and ExxonMobil affiliates in the United States, Indonesia, Qatar, Peru, Venezuela, Japan and Russia. From Indonesia, he participated in successful long-term LNG sales contract negotiations with gas consumers in Japan, South Korea and Taiwan. In Qatar, he was instrumental in leading the successful LNG sales negotiations to kick-off the RasGas LNG project with Korea Gas Corporation, as well as lead Mobil's efforts in contract negotiations with Japanese buyers in the QatarGas project. He was instrumental in initiating LNG sales contract negotiations with LNG consumers in Thailand, Turkey, Taiwan, India and Italy. He led both Mobil Corporation's efforts in the Camisea gas project in Peru and ExxonMobil's participation in the Venezuela LNG project. As Project Executive for the Sakhalin-1 project, he concluded a successful feasibility study to bring pipeline natural gas from ExxonMobil's Sakhalin-1 project, in Russia, to Japanese utilities and concluded a successful long-term agreement to bring pipeline natural gas to China from the Sakhalin-1 project. Jack received a B.S. in General Engineering and Military Art from the United States Military Academy at West Point, New York, and earned a Masters in Business Administration from Tulane University.



Dr. Kermit Walrond is a Management Consultant who has served as Deputy Chairman of the Board of Directors of Neal & Massy Energy Company in Trinidad & Tobago, Chairman of the Board of Directors of NM Wood Group Ltd. and as Special Advisor to the Board of Governors of the Trinidad & Tobago Institute of Technology. In 2000 he had accumulated 33 years of international service with British Petroleum, Shell, Amoco and BP. He has three degrees in Petroleum Engineering - a B.Sc. (Honors) from the University of Birmingham, United Kingdom, and the MS and PhD from Pennsylvania State University. Dr. Walrond was a Distinguished Lecturer for the SPE in 1988-89 and was elected a Distinguished Member in 1991. The Pennsylvania State University has honored him as a Centennial Fellow, College of Earth & Mineral Sciences (1996) and as an Alumni Fellow (1997).



Maher Habbal is Manager, Business Simulators Development/Applications for IHRDC. He is responsible for developing and implementing the business simulation models used in IHRDC management programs and workshops. To date he has built five such simulators: one for the oil industry, two for the gas, and two for power. His other responsibilities include internal financial reporting, analysis and forecasting. Before joining IHRDC, Mr. Habbal worked three years with Arthur D. Little, Inc. as a Senior Financial Analyst on financial reporting and modeling. Also, as a member of the teaching staff at the Arthur D. Little School of Management Master of Science in Management Program, he taught Finance, Economics and Accounting. Mr. Habbal holds a Master of Science Degree in Management from Arthur D. Little School of Management and a B.S. in Business Economics from the Lebanese American University.

