2021 TRAINING COURSES
ECONOMICS & MANAGEMENT
A Word from the Executive Board

Emerging stronger with highly qualified personnel

With global warming challenges and consequent new cleaner energy mix perspective, the industry that will emerge from the crisis may look significantly different from the one we have known before. In this new reality, adapting energy specialists’ skills and roles to updated ways of working will remain crucial to building operating-model resilience and to respond to our industry key challenges.

Based on its 45 years of international experience IFP Training stands firmly through the current difficult period and responsively has adapted its competency development services Offer that can be customized to your organization’s requirements.

To ensure tomorrow’s energy competencies

As an integrated part of the IFP Group, IFP Training benefits from synergies with IFPEN multidisciplinary projects connected to industry needs as well as the field experience of sister companies like Axens and Beicip-Franlab.

Our competency-based training solutions cover sectors as varied as: Oil, Gas, Electricity, Refining, Petrochemicals & Chemicals, New Energies and Transport.

Please note that whether in-house or public, most of our face-to-face courses can be followed remotely. This year we also propose training simulators accessible 24/7, worldwide.

We invite you to browse our new 2021 offer. Our teams, especially our lecturers and associate experts, remain at your disposal to convince you that IFP Training’s competency development Offer is a reliable solution to help you succeed in your today and tomorrow’s challenges.
## Content

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Index</td>
<td>4</td>
</tr>
<tr>
<td>Course Calendar</td>
<td>6</td>
</tr>
<tr>
<td>Technical Fields</td>
<td>8 to 68</td>
</tr>
<tr>
<td>Upstream Economics</td>
<td>8 to 22</td>
</tr>
<tr>
<td>Oil Markets &amp; Trading</td>
<td>23 to 29</td>
</tr>
<tr>
<td>Downstream Economics</td>
<td>30 to 39</td>
</tr>
<tr>
<td>Gas, Electricity &amp; Renewable Energies</td>
<td>40 to 54</td>
</tr>
<tr>
<td>Finance &amp; Management</td>
<td>55 to 68</td>
</tr>
<tr>
<td>Our Team - Our Expertise</td>
<td>69</td>
</tr>
<tr>
<td>Registration</td>
<td>71</td>
</tr>
<tr>
<td>General Terms of Sale</td>
<td>73</td>
</tr>
</tbody>
</table>
# Course index

## Upstream Economics

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Duration</th>
<th>Dates</th>
<th>Location</th>
<th>Tuition Fees excl. VAT</th>
<th>Reference</th>
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## Oil Markets & Trading

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*Tuition fees include instruction and documentation as well as meals and beverage breaks*
### Gas, Electricity & Renewable Energies

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### Finance & Management

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Tuition fees include instruction and documentation as well as meals and beverage breaks.
# Course Calendar

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Upstream Economics & Management ................................................................. p. 8
Contractual Framework of Exploration & Production ........................................... p. 9
Contractual Framework of Exploration & Production ........................................... p. 10
Organization of Competitive Bidding for Oil & Gas Exploration-Production Projects ................................................................. p. 11
Production Sharing & Joint Operating Agreements ............................................. p. 12
Production Sharing & Joint Operating Agreements ............................................. p. 13
Negotiation of Exploration-Production Contracts ............................................. p. 14
Operating under "Local Content" ........................................................................ p. 15
Oil & Gas Fields Unitization .............................................................................. p. 16
Economic Framework of Exploration-Production .............................................. p. 17
Practice of Exploration-Production Contracts Economic Modeling .................. p. 18
Economics & Risk Analysis of Upstream Projects ............................................ p. 19
Economics & Risk Analysis of Upstream Projects ............................................ p. 20
Upstream Economist Certification ...................................................................... p. 21
Upstream Economics & Management Certification .......................................... p. 22
Course Content

Module 1: UPSTREAM ECONOMIC & CONTRACTUAL FRAMEWORK (5 days)

UPSTREAM ECONOMIC ENVIRONMENT 1 d
Economic development of the upstream sector.
Various actors in Exploration-Production and their strategies. Oil markets and prices.
Levels of investment.
Examples of finding, development and production costs.

CONTRACTUAL & FISCAL FRAMEWORK OF UPSTREAM PROJECTS 4 d
Concession and production-sharing contracts: principles, examples of tax regimes and case studies.
Objectives of a flexible and progressive tax system, flexible taxation terms.
General structure of Exploration-Production contracts.
Exploration phase: duration, commitments, surrender, data and information, etc.
Appraisal phase: work program, gas provisions, commerciality, etc.
Development phase: financing, State participation, budgets and development plans, unitization, etc.
Production phase: work conduct and supervision, audit and accounting, financing, taxation, transportation and marketing of production, hydrocarbon price determination, etc.
General terms & conditions: title transfer, force majeure, governing law and dispute resolution.
Main legal provisions in a Joint Operating Agreement, and Farm in/Farm out agreement.

Module 2: UPSTREAM PROJECT ECONOMICS (5 days)

ECONOMIC ANALYSIS OF E&P PROJECTS 4 d
Cost of capital and discount rate, value creation.
Economic criteria for project evaluation: net present value (NPV), internal rate of return (IRR), payback period, etc.
Global profitability analysis, the impact of taxation and inflation on economic indicators.
Specific method to Exploration & Production: shadow interest.
Equity profitability analysis.

RISK ANALYSIS OF E&P PROJECTS 1 d
Introduction to risk analysis and risk discount rate: sensitivity analysis, Spider and Tornado diagrams.
Probability of success, economic risk analysis in oil exploration.
Economic study of an exploration project using Min, Mode and Max scenarios.
Impact of “ringfencing” and the state participation in the decision-making process.

Module 5: UPSTREAM ACCOUNTING & FINANCE (5 days)

Upstream accounting & finance 5 d
Statements of accounts for an Oil & Gas company, upstream specificities.
Exploration: full cost, successful efforts, FAS 19.
Reserves accounting: rules, FAS 69, control.
Consolidation and Joint Venture accounting.
Contract accounting, social accounting, group accounting.
Accounting for concessions and PSCs: reserves, inventories, commitments, revenues.
Norms: asset amortization, asset retirement obligations, value impairment test, etc.
Reporting: purpose, obligations, financial communication.
Analytical accounting. Cost management and control.
Audit: general, fiscal, partners.
Tax audit: recoverable costs, common costs, sole costs.

Reference: EAM-EN-P  Only available as an In-House course.
Contact: eco.rueil@ifptraining.com
Contractual Framework of Exploration & Production

Level: KNOWLEDGE

Purpose
To provide participants with a good understanding of the shape and dynamics of Oil & Gas Exploration-Production contracts.

Audience
Professionals from the E&P sector and managers who need a practical understanding of all the concepts, principles and rules of Oil & Gas patrimonial contracts between host countries and international oil companies.

Learning Objectives
Upon completion of the course, participants will be able to:
- identify the key issues and constraints in the contractual negotiations between host countries, NOCs and IOCs,
- categorize the different tax systems and contractual frameworks in existence,
- identify the main contractual and fiscal clauses of E&P contracts.

Ways & Means
- Comparative reading on a HC law and an E&P contract.
- Exercises on rent sharing.
- Examples of petroleum laws and fiscal regimes around the world.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
Basic knowledge of technical and economic environment of E&P.

Expertise & Coordination
IFP Training trainers having expertise and experience in the legal framework of exploration-production activities.

Course Content

LEGAL FRAMEWORK
0.5 d
Objectives of actors, role of national oil companies, stakes in E&P.
Principles of rent sharing, property of hydrocarbons and State sovereignty.
Procedure for contracts awarding, different regimes and petroleum laws in the world.
Legal approach of petroleum law conception and implementation.

CONTRACTUAL & FISCAL FRAMEWORK
1 d
Main evolutions in contractual relationships.
Concessions contracts: principles, State’s revenues, examples of tax regimes and case studies.
Production-sharing contracts: principles, examples, of tax regimes and case studies.
Risk-service contracts and technical assistance contracts.
Fiscal and non-fiscal constraints.
Objectives of a flexible and progressive tax system.
Exercise: comparison of concession and production sharing contracts.
Case study: comparative reading between a HC law and an E&P contract.

MAIN ARTICLES OF E&P CONTRACTS
1 d
General structure of patrimonial contracts.
Exploration phase: duration, commitments, surrender, data and information, etc.
Appraisal phase: work program, gas provisions, commerciality, etc.
Development phase: financing, State participation, budgets and development plans, unitization, etc.
Production phase: work conduct and supervision, audit and accounting, financing, taxation, transportation and marketing of production, hydrocarbon price determination, etc.
General terms & conditions: title transfer, sole risk, force majeure, local content, environmental protection, governing law and dispute resolution.
Conclusion: recent trends in oil taxation and patrimonial contracts.

JOINT OPERATING AGREEMENTS
0.5 d
Main legal provisions in a Joint Operating Agreements (JOA).
Other agreements: JSBA (Joint Study & Bidding Agreement), unitization, farm-in/farm-out.

Reference: CCEP-EN-P. Can be organized as an In-House course.
Contact: eco.reuil@ifptraining.com

Location Start Date End Date Tuition Fees excl. VAT
Virtual Classroom 10 March 11 March $3,670

This course is also available in French: CCEP-FR-P. Please contact us for more information.
Contractual Framework of Exploration & Production

Level: KNOWLEDGE

Purpose
To provide participants a global understanding of the shape and dynamics of Oil & Gas Exploration-Production contracts.

Audience
Professionals from the E&P sector and managers who need a practical understanding of all the concepts, principles and rules of Oil & Gas patrimonial contracts between host countries and international oil companies.

Learning Objectives
Upon completion of the course, participants will be able to:
- identify the key issues and constraints in the contractual negotiations between host countries, NOCs and IOCs,
- categorize the different tax systems and contractual frameworks in existence.

Ways & Means
Pedagogical means:
- Case studies on rent sharing.
- Course materials.
Technical means:
- Availability of remote support resources and tools: LMS (Learning Management System) training platform; videoconferencing tools (Zoom, Teams or others).
- Computer resources required: at least 1.5 Mbps bandwidth for video quality in 720 P.
Technical assistance is provided by our IT staff in charge to monitor the training platform.
Our trainers provide pedagogical assistance in synchronous mode during virtual classes. Participants’ questions can also be formulated on the training platform and will be dealt with during the virtual classes.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
Basic knowledge of technical and economic environment of E&P.

Course Content

BEFORE CLASS
This sequence is structured around individual start-up activities via the distance learning platform “LMS”
This sequence will allow participants to become familiar with the pedagogical and technical means put in place to perform the virtual classroom.

DURING VIRTUAL CLASS
This sequence is structured around a virtual class.

Legal framework:
- Objectives of actors, role of national oil companies, stakes in E&P.
- Principles of rent sharing, property of hydrocarbons and State sovereignty.
- Procedure for contracts awarding, different regimes and petroleum laws in the world.
- Legal approach of petroleum law conception and implementation.

Contractual & fiscal framework:
- Main evolutions in contractual relationships.
- Concessions contracts: principles, State’s revenues, examples of tax regimes and case studies.
- Production-sharing contracts: principles, examples, of tax regimes and case studies.
- Risk-service contracts and technical assistance contracts.
- Fiscal and non-fiscal constraints.
- Objectives of a flexible and progressive tax system.
- Exercise: comparison of concession and production sharing contracts.
- Case study: comparative reading between a HC law and an E&P contract.

Joint operating agreements:
- Main legal provisions in a Joint Operating Agreements (JOA).
- Other agreements: JSBA (Joint Study & Bidding Agreement), unitization, farm-in/farm-out.

Reference: CCEP-EN-D
Can be organized as an In-House course.
Contact: em.contact@ifptraining.com

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This course is also available in French: CCEP-FR-D. Please contact us for more information.
Organization of Competitive Bidding for Oil & Gas Exploration-Production Projects

Level: KNOWLEDGE

Purpose
This course provides an overview on Petroleum Licensing rounds and Contracting strategies. It covers the recent developments in the licensing rounds to promote exploration and production activities.

Audience
People who could participate in international competitive bidding for hydrocarbon exploration & production: negotiators, project managers, explorers, engineers, lawyers, economists, advisors, managers from the public sector related to the energy sector and representatives of national companies.

Learning Objectives
Upon completion of the course, participants will be able to:
- identify the key issues and constraints in the petroleum contracts,
- categorize the different tax systems and contractual frameworks in existence,
- ensure that investors are eligible and fully qualified, both technically and financially, to undertake exploration and production activities,
- identify the main procedures for performing exploration and production work.

Ways & Means
- Comparative reading on a hydrocarbon laws and E&P contracts.
- Examples of petroleum laws & fiscal regimes around the world.
- Illustration of best practices.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
Basic knowledge of the contractual environment of E&P.

Expertise & Coordination
IFP Training trainers having expertise and experience in the negotiation of exploration-production contracts.

Course Content

PROMOTING EXPLORATION & PRODUCTION ACTIVITIES
1 d
Objectives of actors, role of national oil companies, stakes in E&P.
Principles of rent sharing, property of hydrocarbons and state sovereignty.
Pro-active exploration policy and strategy.
Steps to develop an action plan for licensing new blocks.
Awarding subsoil user rights.
Contracts versus licenses.
Data ownership and confidentiality.

TYPES OF UPSTREAM PETROLEUM CONTRACTS WITH STATE
0.5 d
Main evolutions in contractual relationships.
Concessions contracts: principles, State’s revenues, examples of tax regimes and case studies.
Production-sharing contracts: principles, examples, of tax regimes and case studies.
Risk-service contracts and technical assistance contracts.
Contracts versus licenses.
Case study: comparative reading between a HC law and an E&P contract.

CRITERIA FOR AWARDS & PROCEDURES
1 d
Procedure for contracts awarding, different regimes and petroleum laws in the world.
Prioritization and timing of awards.
Procedure for allocating awards.
Success criteria.
Industry view.
Key points for policy-makers.
Risk mitigation in the licensing process.
Essential tools in the policy process.

EXAMPLE OF BEST PRACTICES
0.5 d
Recent awards.
New approaches to design an E&P framework.

Reference: OAD-EN-P
Only available as an In-House course.
This course is also available in French: OAD-FR-P. Please contact us for more information.
Production Sharing & Joint Operating Agreements

Level: SKILLED

Purpose
To provide participants with an in-depth understanding of the concepts, mechanisms and articles of Production Sharing and Joint Operating Agreement.

Audience
Exploration and production professionals, legal personnel entering the E&P scene, service companies managers and government employees.

Learning Objectives
Upon completion of the course, participants will be able to:
- identify the main concepts, principles and articles of a Production Sharing Agreement which contractually binds petroleum companies with a ministry and/or a state oil company,
- evaluate the management of Petroleum Exploration and Production partnerships to successfully find and produce hydrocarbons,
- discuss the practical aspect of contracts: identifying key issues, understanding constraints and deadlines, getting familiar with the document.

Ways & Means
- Case studies.
- Exercises on Production Sharing Contracts.
- Analysis of Joint Operating Agreements.
- Examples of petroleum laws and fiscal regimes around the world.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
Basic knowledge of the technical and economic environment of E&P.

Expertise & Coordination
IFP Training trainers having expertise and experience in the legal framework of exploration-production activities.

Reference: CPA-EN-P

This course is also available in French: CPA-FR-P. Please contact us for more information.

Contact: eco.rueil@ifptraining.com
Virtual Classroom
This course is available in face-to-face mode

Production Sharing & Joint Operating Agreements

Level: SKILLED

Purpose
To provide participants with an understanding of the concepts, mechanisms and articles of Production Sharing and Joint Operating Agreement.

Audience
Exploration and production professionals, legal personnel entering the E&P scene, service company managers and government employees.

Learning Objectives
Upon completion of the course, participants will be able to:
- identify the main concepts, principles and articles of a Production Sharing Agreement which contractually binds petroleum companies with a ministry and/or a state oil company;
- discuss the practical aspects of contracts: identifying key issues, understanding constraints and deadlines, getting familiar with the document.

Ways & Means
Pedagogical means:
- Case studies on rent sharing.
- Course materials.

Technical means:
- Availability of remote support resources and tools: LMS (Learning Management System) training platform; videoconferencing tools (Zoom, Teams or others).
- Computer resources required: at least 1.5 Mbps bandwidth for video quality in 720 P.

Technical assistance is provided by our IT staff in charge to monitor the training Platform. Our trainers provide pedagogical assistance in synchronous mode during virtual classes. Participants’ questions can also be formulated on the training platform and will be dealt with during the virtual classes.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
Basic knowledge of the technical and economic environment of E&P.

Course Content

BEFORE CLASS
This sequence is structured around individual start-up activities via the distance learning platform “LMS”
This sequence will allow participants to become familiar with the pedagogical and technical means put in place to perform the virtual classroom.

DURING VIRTUAL CLASS
This sequence is structured around a virtual class.

Production Sharing Agreements (PSA):
- Introduction: origins, concept and scope of the PSA; comparison of PSA to other contracts; contents and structure of a typical PSA.
- PSA mechanisms: cost oil, profit oil split, “Government Take”; bonuses, first tranche petroleum, tax holiday, cost recovery ceilings, uplifts, investment credits, government “back-in”; typical PSA cash flow forecast chart.
- Case study: comparative reading of a mining law and a PSC.

Introduction to Joint Operating Agreements (JOA):
- Introduction: the purpose of the joint ventures and use of a JOA; the relationship of the JOA to other oil industry contracts; structure of a JOA, definitions and terminologies.
- The operator: appointment, rights and duties, liabilities, responsibilities, resignation, removal.
- The partners: rights and duties, liabilities, responsibilities; the operating committee and sub committees; establishment, powers and duties, notices, voting procedures, impact of voting, pass-mark.
- Case study: discussing the main articles of a selected Joint Operating Agreement (JOA).

Reference: CPA-EN-D
Contact: em.contact@ifptraining.com

Only available as an In-House course.

This course is also available in French: CPA-FR-D. Please contact us for more information.
Negotiation of Exploration-Production Contracts

Course Content

**REMINDER OF CONTRACTUAL & FISCAL FRAMEWORK OF EXPLORATION-PRODUCTION**

Concession, Production Sharing Agreement, Service Contracts. Analysis of the contract contents’ analysis. Distribution of the different items into homogeneous “bundles”: clauses related to the exploration stage, clauses conducting operations, clauses related to economic and tax calculations, to pure legal issues, to financial terms, etc. Important clauses of a contract to prepare a negotiation.

**REMINDER OF ECONOMIC EVALUATION OF E&P PROJECTS**

Cost of capital and discount rate, value creation. Economic criteria for project evaluation: net present value (NPV), internal rate of return (IRR), payback period, etc. Global profitability analysis, the impact of taxation and inflation on economic indicators.

**NEGOTIATION SKILLS**

Negotiation principles: methodology and techniques. Preparation for negotiating: principles, economic reminders, technical reminders (reserves, etc.).

**ROLE PLAY**


Level: SKILLED

Purpose

To have an overview of the EP patrimonial contract negotiation and to develop or deepen a skill in negotiating, using rigorous methodology and innovative approach.

Audience

People who could participate in one or more stages of an EP contract negotiation: negotiators, project managers, explorers, engineers, lawyers, economists, advisors, managers from the public sector related to the energy sector and representatives of national companies.

Learning Objectives

Upon completion of the course, participants will be able to:

- describe the different ways to access acreage,
- use a rigorous methodology and innovative approach for upstream contracts negotiation,
- make an objective and comprehensive report to their management and anticipate objections.

Ways & Means

Simulation of a negotiation (role play where each stakeholder is played by a different team) allowing real-life negotiation case.

Learning Assessment

Participants will be evaluated during the training through quizzes and case studies.

Prerequisites

Basic knowledge of the contractual and economic environment of E&P.

Expertise & Coordination

IFP Training trainers having expertise and experience in the negotiation of exploration-production contracts.

Reference: CNEP-EN-P. Can be organized as an In-House course. Contact: eco.rueil@ifptraining.com

<table>
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<td>Rueil-Malmaison</td>
<td>19 April</td>
<td>22 April</td>
<td>€3,400</td>
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Operating under "Local Content"

Level: SKILLED

Purpose
To master the implications of Local Content provisions over the execution of an oil field development project, mainly in terms of procurement and personnel management.

Audience
Managers from the Oil & Gas public sector (NOCs, regulation authorities, ministries) or from IOCs having to deal or operate under a “Local Content” environment and contractual provisions.

Learning Objectives
Upon completing the course, participants will be able to:
- identify the key-factors in the Local Content provisions applicable to a given contractual context, and assess their impact over the execution of an oil field development project,
- participate in the elaboration of a Local Content Management Plan,
- take part in a procurement contract tendering, negotiation and follow-up,
- take into account the impacts of LC provisions on workforce management.

Ways & Means
- Course delivered by experts in the field of Local Content management in the Oil & Gas business.
- Practical case study on a procurement contract.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
Basic knowledge of technical and economic environment of E&P.

Expertise & Coordination
IFP Training trainers having expertise and experience in upstream project execution.

Reference: CLC-EN-P
Only available as an In-House course.

This course is also available in French: CLC-FR-P. Please contact us for more information.

Contact: eco.rueil@ifptraining.com

Course Content
3 days

WHAT IS “LOCAL CONTENT”? 0.5 d
Context and current overview.
Typology of Local Content provisions applicable in the Oil & Gas business: goods and services, workforce, know-how and technology transfer.
Challenges and opportunities.

THE LOCAL CONTENT MANAGEMENT PLAN (LCMP) 1 d
Contractual strategy.
Key-factor and associated risks.
Setting up and management of a LCMP.

CONSEQUENCES OF LC PROVISIONS ON THE EXECUTION OF A PROCUREMENT CONTRACT 1 d
Contractual strategy including impact on Oil & Gas contracts.
Tendering process.
Recommendation and awarding.
Execution - Control.
Links with maintenance and exploitation.

IMPACT OF LC PROVISIONS ON WORKFORCE MANAGEMENT 0.5 d
Employment.
Training and education.

This course is also available in French: CLC-FR-P. Please contact us for more information.
# Oil & Gas Fields Unitization

## Level: SKILLED

### Purpose
To provide the participants with a comprehensive overview of the various parameters at stake in an oil field unitization project using real-case examples, in order for them to be able to take part in negotiations for oil field unitization contracts.

### Audience
Managers et executives from the public and the private sector with a minimum 5-year experience in technical or functional positions in the upstream Oil & Gas sector, having to deal with unitization cases or projects.

### Learning Objectives
Upon completing the course, participants will be able to:
- explain the various factors at stake in the case of an unitization project, both on a national perspective (cross permit) and a transnational perspective (cross country),
- have a critical approach to the main provisions at stake in a unitization contract,
- choose the best suitable type of contract,
- take part in a negotiation team for unitization.

### Ways & Means
- Real-case studies.
- Feedbacks from experts in the field of unitization.

### Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

### Prerequisites
Basic knowledge of the contractual and economic environment of E&P.

### Expertise & Coordination
IFP Training trainers having expertise and experience in oil field unitization.

## Course Content 3 days

<table>
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<tr>
<th>Section</th>
<th>Duration</th>
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<tbody>
<tr>
<td><strong>INTRODUCTION</strong></td>
<td>0.25 d</td>
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<tr>
<td>Context - Stakes. Overview of current unitized oil developments.</td>
<td></td>
</tr>
<tr>
<td><strong>RESERVES DEVELOPMENT UNDER AN UNITIZATION PROJECT</strong></td>
<td>0.25 d</td>
</tr>
<tr>
<td>Principles. Stakes and key factors. Consequences in terms of development schemes.</td>
<td></td>
</tr>
<tr>
<td><strong>UNITIZATION IMPLICATIONS</strong></td>
<td>0.5 d</td>
</tr>
<tr>
<td><strong>STRUCTURE OF AN UNITIZATION CONTRACT</strong></td>
<td>1 d</td>
</tr>
<tr>
<td>Main provisions. Cross country case: The boundary question. Various types of contracts: unitization, commercial agreement, joint development area. Study case based on real-case examples.</td>
<td></td>
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<tr>
<td><strong>CASE STUDIES BASED ON RECENT UNITIZED DEVELOPMENT CASES</strong></td>
<td>1 d</td>
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</table>

This course is also available in French: UNIT-FR-P. Please contact us for more information.

Reference: UNIT-EN-P  Only available as an In-House course.  Contact: eco.rueil@ifptraining.com

| 16 |
Economic Framework of Exploration-Production

**Level: KNOWLEDGE**

**Purpose**
To allow the participants to get familiar with the use of decision-making tools in the field of E&P projects economics and financial analysis.

**Audience**
Engineers and commercial staff who need to extend their understanding of the economic and financial aspects of the upstream sector.

**Learning Objectives**
Upon completion of the course, participants will be able to:
- explain the economic, technical and fiscal aspects of E&P activities,
- evaluate the economic profitability of a simplified E&P project and assess its key sensitivity parameters,
- analyze the main corporate financial statements (profit/loss and balance sheet) issued by oil companies.

**Ways & Means**
- Case studies simulated on computers.
- Development of an oil field (under concession and production sharing agreements).
- Acceleration of production project with or without EOR (Enhanced Oil Recovery).
- Valuation of a decision to acquire information (seismic or drilling).
- Pricing of an exploration block.
- Analysis and construction of balance sheets, income statements and key financial statements of an Oil & Gas company.

**Learning Assessment**
Participants will be evaluated during the training through quizzes and case studies.

**Prerequisites**
Basic knowledge of Microsoft Excel.

**Expertise & Coordination**
IFP Training trainers having expertise in upstream project economic evaluation.

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**Course Content**

**UPSTREAM ECONOMIC ENVIRONMENT**
Economic development of the upstream sector.
Various actors in Exploration-Production and their strategies. Oil markets and prices.
Current Exploration and Production activities.
Levels of investment.
Examples of finding, development and production costs.

**CONTRACTUAL & FISCAL ENVIRONMENT**
General principles of oil tax systems.
Legal framework: concessions agreements, production sharing contracts, service contracts.
Impact of various contractual and technical parameters.
Sharing of the economic rent between the State and oil companies. Economic flexibility.
Legal aspects of joint ventures.
Main legal provisions in a Joint Operating Agreement (JOA).

**ECONOMIC EVALUATION OF E&P PROJECTS**
Cost of capital and discount rate, value creation.
Economic criteria for project evaluation: net present value (NPV), internal rate of return (IRR), payback period, etc.
Global profitability analysis, the impact of taxation and inflation on economic indicators.
Case studies: development of an oil field (under concession and production sharing agreements).
Introduction to risk analysis and risk discount rate: sensitivity analysis, Spider and Tornado diagrams.
Probability of success, economic risk analysis in oil exploration.
Economic study of an exploration project using Min, Mode and Max scenarios.
Case studies: valuation of a decision to acquire information (seismic or drilling) and pricing of an exploration block.

**UPSTREAM ACCOUNTING & FINANCE**
Financing of Oil & Gas projects. Basic aspects of accounting and financial analysis.
Special mandatory reporting for oil companies.
Principles of consolidation.
Accounting of exploration expenditures, full cost, successful efforts.
Amortization and depreciation methods, special provisions (depletion allowance…).
Funds from operations, cash flows, financial equilibrium, working capital.
Financial statement, return on capital employed, return on equity, financial leverage.
Cost analysis and budgeting.
Exploration costs, finding costs, development costs, replacement costs, production costs.
Capital budgeting, authorizations for expenditure, planning and scheduling, budgeting exploration activities.
Joint venture accounting, accounting procedures, cash calls, joint venture audit.
Case study: construction of an E&P company financial statements (simplified).

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Reference: CEEP-EN-P  Can be organized as an In-House course.
Contact: eco.rueil@ifptraining.com

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<td>12 April</td>
<td>16 April</td>
<td>€3,780</td>
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</table>

This course is also available in French: CEEP-FR-P. Please contact us for more information.

www.ifptraining.com
Practice of Exploration-Production Contracts
Economic Modeling

Level: SKILLED

Purpose
To provide a practical understanding of the economic modeling of Oil & Gas field development project as well as exploration projects. A number of computer case studies will be treated all along the course to apply the principles that are presented succinctly, which makes this course a very practical one.

Audience
Economists, engineers and executives involved in Exploration-Production activities who need to acquire a deep understanding of fiscal modeling for project evaluation.

Learning Objectives
Upon completion of the course, participants will be able to:
► explain the critical aspects of taxation and upstream contracts,
► build advanced economic models for the economic evaluation of Exploration-Production projects,
► analyze the economic results and carry out sensitivity analysis,
► incorporate the geological risk and uncertainty in the economic evaluation of E&P projects.

Ways & Means
Case studies simulated on computers.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
Basic knowledge of Microsoft Excel.

Expertise & Coordination
IFP Training trainers having expertise and experience in upstream project economic modeling.

Course Content

CONTRACTUAL & FISCAL FRAMEWORK OF EXPLORATION-PRODUCTION 0.5 d
Overview of E&P activities, exploration, development and production costs.
General principles of oil taxation.
Concession contracts, production sharing contracts and service contracts.
Principles of rent sharing between States and oil companies.
Case studies: examples of contracts.

OIL CONTRACT MODELING 2 d
Cost of capital and discount rate, value creation.
Economic criteria for project evaluation: net present value (NPV), internal rate of return (IRR), payback period, etc.
Global profitability analysis, the impact of taxation and inflation on economic indicators.
Specific method to Exploration and Production: shadow interest.
Case studies: development of an oil field (under concession and production sharing agreements).
Equity profitability analysis.
Case studies: LNG project and gas pipeline project with specific financing.

RISK ANALYSIS OF EXPLORATION-PRODUCTION PROJECTS 0.5 d
Introduction to risk analysis and risk discount rate: sensitivity analysis, Spider and Tornado diagrams.
Probability of success, methodology of decision tree analysis.
Analysis of economic risk in exploration.
Typical problems with uncertainties:
► Impact of ringfencing and State participation on the exploration decision process.
► Farm in/farm out, cost and value of information.
► Portfolio management for E&P projects.

CASE STUDIES
Development of an oil field (under concession and production sharing agreements).
LNG plant project with specific financing.
Impact of “ringfencing” and the state participation in the decision-making process.
Valuation of a decision to acquire information (seismic or drilling).
Pricing of an exploration bloc.

Reference: PMC-EN-P
Only available as an In-House course.
Contact: eco.rueil@ifptraining.com

This course is also available in French: PMC-FR-P. Please contact us for more information.
Economics & Risk Analysis of Upstream Projects

Course Content

ECONOMIC & CONTRACTUAL FRAMEWORK OF E&P
- Various phases of Exploration-Production.
- Technical cost, evolution of the economic environment.
- Petroleum Exploration and Production contracts.
- Concessions, production sharing contracts, service contracts.
- Sharing of the economic rent, economic flexibility in petroleum contracts.
- Economic clauses.

INVESTMENT PROFITABILITY STUDIES
- Cost of capital and discount rate, value creation.
- Economic criteria for project evaluation: net present value (NPV), internal rate of return (IRR), payback period, etc.
- Global profitability analysis, the impact of taxation and inflation on economic indicators.
- Specific method to Exploration and Production: shadow interest.
- Case studies: development of an oil field (under concession and production sharing agreements).
- Introduction to risk analysis and risk discount rate: sensitivity analysis, Spider and Tornado diagrams.
- Impact of “ringfencing” and the state participation in the decision-making process.

RISK ANALYSIS OF E&P PROJECTS
- Probability of success, analysis of economic risk in oil exploration.
- Evaluation of exploration projects and decision trees.
- Farm in/Farm out.
- Risked and unrisked economics.
- Case study: economic study of an oil project including Min, Mode and Max scenarios.
- Evaluation of development projects.
- Economic risk associated with a marginal development.
- Decision trees and subjective probabilities, decision theory.

PORTFOLIO MANAGEMENT
- Components and determinants of asset valuation at various stages of maturity: exploration and appraisal, development, production.
- Review of methodologies and processes, probabilistic analysis.
- Asset aggregation and portfolio optimization, tools of choice for comparing expected results and budget efficiencies.
- Conclusions, what works and what doesn’t.
- Contribution of risk analysis and management to successful exploration.

Ways & Means
- Case studies simulated on computers:
  - Development of an oil field (under concession and production sharing agreements).
  - Impact of “ringfencing” and the state participation in the decision-making process.
- Valuation of a decision to acquire information (seismic or drilling).
- Pricing of an exploration bloc.

Learning Assessment
- Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
- Basic knowledge of Microsoft Excel.

Expertise & Coordination
- IFP Training trainers having expertise and experience in upstream project economics.

Reference: EAR-EN-P  
Can be organized as an In-House course.

Contact: eco.rueil@ifptraining.com

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<td>Virtual Classroom</td>
<td>2 September</td>
<td>3 September</td>
<td>€1,650</td>
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</table>

This course is also available in French: EAR-FR-P. Please contact us for more information.
Virtual Classroom
This course is available in face-to-face mode

NEW Economics & Risk Analysis of Upstream Projects

Level: SKILLED

Purpose
To provide participants with a global understanding of the tools used in economic analysis and decision-making tools within the upstream industry.

Audience
Engineers, economists and project managers who need to extend their understanding of the specific methods used to evaluate Exploration-Production projects.

Learning Objectives
Upon completion of the course, participants will be able to:
- carry out investment profitability studies including all aspects of fiscal terms & inflation,
- incorporate the geological risk and uncertainty in the economic evaluation of Exploration & Production projects.

Ways & Means
Pedagogical means:
- E-learning module.
- Case studies simulated on MS Excel.
- Course materials.

Technical means:
- Availability of remote support resources and tools: LMS (Learning Management System) training platform; videoconferencing tools (Zoom, Teams or others).
- Computer resources required: at least 1.5 Mbps bandwidth for video quality in 720 P and Microsoft Excel software.

Technical assistance is provided by our IT staff in charge to monitor the training platform.

Our trainers provide pedagogical assistance in synchronous mode during virtual classes. Participants’ questions can also be formulated on the training platform and will be dealt with during the virtual classes.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
Basic knowledge of Microsoft Excel.

Course Content

BEFORE CLASS 0.25 d
E-learning module: this module will allow participants to become familiar with the fundamentals of economic calculation and the use of investment decision-making tools.

DURING VIRTUAL CLASS 2 d
This sequence is structured around a virtual class.

**Contractual & fiscal framework of E&P:**
- General principles of oil tax systems.
- Legal framework: concessions agreements, production sharing contracts, service contracts.
- Impact of various contractual and technical parameters.
- Sharing of the economic rent between the State and oil companies. Economic flexibility.

**Investment profitability studies:**
- Cost of capital and discount rate, value creation.
- Economic criteria for project evaluation: net present value (NPV), internal rate of return (IRR), payback period, etc.
- Global profitability analysis, the impact of taxation and inflation on economic indicators.
- Specific method to Exploration and Production: shadow interest.
- Case studies: development of an oil field (under concession and/or production sharing agreements).

**Risk analysis of exploration-production projects:**
- Introduction to risk analysis and risk discount rate: sensitivity analysis, Spider and Tornado diagrams.
- Probability of success, methodology of decision tree analysis.
- Analysis of economic risk in exploration.
- Typical problems with uncertainties: impact of ringfencing and State participation in the exploration decision process; farm in/farm out, cost and value of information; portfolio management for E&P projects.

**Case studies:**
- Development of an oil field (under concession and production sharing agreements).
- Impact of “ringfencing” and the state participation in the decision-making process.
- Valuation of a decision to acquire information (seismic or drilling).
- Pricing of exploration blocs.

Reference: EAR-EN-D Can be organized as an In-House course. Contact: em.contact@ifptraining.com

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<td>15 October</td>
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This course is also available in French: EAR-FR-D. Please contact us for more information.
Graduate Certificate
Upstream Economist Certification

Level: SKILLED

Purpose
This certifying training aims to provide in-depth knowledge in economics, contracts/taxation and finance in order to hold rapidly and effectively the position of upstream economist.

Audience
This course is designed for executives from the upstream sector who require a global picture of all the technical, economic, financial and contractual aspects of exploration and production activities.

Learning Objectives
Upon completion of the course, participants will be able to:
- evaluate all aspects of taxation and contracts for upstream assets,
- build advanced economic models for evaluating Exploration-Production projects,
- interpret the different financial statements published by oil companies,
- Case studies simulated on computers,
- Analyze the main corporate financial statements issued by oil & gas companies.

Ways & Means
- Case studies simulated on computers,
- Analyze the main corporate financial statements issued by oil & gas companies.

Learning Assessment
The assessment system is made up of two (02) elements:
- an entry assessment, covering all topics treated during the training in order to measure the progress of the candidates and does not validate any modules.
- in order to sanction the certification, at the end of each module from 1 to 6, participants must pass written/oral exams, lasting one hour and a half.

Prerequisites
Are allowed to take part to this certified training only applicants having:
- a Master’s degree or equivalent in engineering, economics or finance,
- an engineering degree.
Applicants must provide proof validating these prerequisites, e.g. (copy of engineering degree, Master, Bachelor Degree or equivalent).

Why an IFP Training Certification?
- An international recognition of your competencies.
- A Graduate Certificate delivered.
- An expertise confirmed in Upstream Economist Certification.
- Ready-to-use skills.

Expertise & Coordination
IFP Training trainers having expertise and industrial experience in economics, finance and auditing of exploration-production activities.

Course Content

Module 1: OVERVIEW OF OIL & GAS CHAIN
International energy scene.
Upstream economics and downstream economics.
Oil trading.

Module 2: INTRODUCTION TO PETROLEUM ENGINEERING
Reservoir engineering.
Well intervention.
Surface facilities.

Module 3: CONTRACTUAL & FISCAL FRAMEWORK OF EXPLORATION-PRODUCTION
Legal, contractual and fiscal framework.
Main clauses of petroleum contracts.
Association agreements.

Module 4: ECONOMIC EVALUATION OF EXPLORATION-PRODUCTION PROJECTS
Economic criteria and economic costs analysis.
Equity profitability analysis and project funding.
Risk analysis of exploration-production projects.

Module 5: UPSTREAM ACCOUNTING & FINANCIAL MANAGEMENT
Accounting standards and consolidated financial statements.
Financial analysis.
Introduction to audit and financial reporting.

Module 6: GOVERNANCE OF AN E&P COMPANY
Governance of companies.
Audit and Internal control.
Oil & Gas specific issues.
Best practices study.

Reference: EAC-EN-P

Contact: em.contact@ifptraining.com

This course is also available in French: EAC-FR-P. Please contact us for more information.

Ways & Means

Course Content 30 days

Module 1: OVERVIEW OF OIL & GAS CHAIN
International energy scene.
Upstream economics and downstream economics.
Oil trading.

Module 2: INTRODUCTION TO PETROLEUM ENGINEERING
Reservoir engineering.
Well intervention.
Surface facilities.

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Main clauses of petroleum contracts.
Association agreements.

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Module 6: GOVERNANCE OF AN E&P COMPANY
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Audit and Internal control.
Oil & Gas specific issues.
Best practices study.

Reference: EAC-EN-P

Contact: em.contact@ifptraining.com

This course is also available in French: EAC-FR-P. Please contact us for more information.

Ways & Means

Course Content 30 days

Module 1: OVERVIEW OF OIL & GAS CHAIN
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Oil trading.

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Module 6: GOVERNANCE OF AN E&P COMPANY
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Audit and Internal control.
Oil & Gas specific issues.
Best practices study.

Reference: EAC-EN-P

Contact: em.contact@ifptraining.com

This course is also available in French: EAC-FR-P. Please contact us for more information.

Ways & Means

Course Content 30 days

Module 1: OVERVIEW OF OIL & GAS CHAIN
International energy scene.
Upstream economics and downstream economics.
Oil trading.

Module 2: INTRODUCTION TO PETROLEUM ENGINEERING
Reservoir engineering.
Well intervention.
Surface facilities.

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Legal, contractual and fiscal framework.
Main clauses of petroleum contracts.
Association agreements.

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Economic criteria and economic costs analysis.
Equity profitability analysis and project funding.
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Governance of companies.
Audit and Internal control.
Oil & Gas specific issues.
Best practices study.

Reference: EAC-EN-P

Contact: em.contact@ifptraining.com

This course is also available in French: EAC-FR-P. Please contact us for more information.

Ways & Means

Course Content 30 days

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Equity profitability analysis and project funding.
Risk analysis of exploration-production projects.

Module 5: UPSTREAM ACCOUNTING & FINANCIAL MANAGEMENT
Accounting standards and consolidated financial statements.
Financial analysis.
Introduction to audit and financial reporting.

Module 6: GOVERNANCE OF AN E&P COMPANY
Governance of companies.
Audit and Internal control.
Oil & Gas specific issues.
Best practices study.

Reference: EAC-EN-P

Contact: em.contact@ifptraining.com

This course is also available in French: EAC-FR-P. Please contact us for more information.

Ways & Means

Course Content 30 days

Module 1: OVERVIEW OF OIL & GAS CHAIN
International energy scene.
Upstream economics and downstream economics.
Oil trading.

Module 2: INTRODUCTION TO PETROLEUM ENGINEERING
Reservoir engineering.
Well intervention.
Surface facilities.

Module 3: CONTRACTUAL & FISCAL FRAMEWORK OF EXPLORATION-PRODUCTION
Legal, contractual and fiscal framework.
Main clauses of petroleum contracts.
Association agreements.

Module 4: ECONOMIC EVALUATION OF EXPLORATION-PRODUCTION PROJECTS
Economic criteria and economic costs analysis.
Equity profitability analysis and project funding.
Risk analysis of exploration-production projects.

Module 5: UPSTREAM ACCOUNTING & FINANCIAL MANAGEMENT
Accounting standards and consolidated financial statements.
Financial analysis.
Introduction to audit and financial reporting.

Module 6: GOVERNANCE OF AN E&P COMPANY
Governance of companies.
Audit and Internal control.
Oil & Gas specific issues.
Best practices study.

Reference: EAC-EN-P

Contact: em.contact@ifptraining.com

This course is also available in French: EAC-FR-P. Please contact us for more information.
Graduate Certificate
Upstream Economics
& Management Certification

Level: KNOWLEDGE

Purpose
This certifying training is part of a professional career development to managerial positions in exploration & production business, requiring specific skills in economics, contracts, taxation, finance, auditing and project management.

Audience
This course is designed for executives from the upstream sector who require a global picture of all the technical, economic, financial, contractual & audits of exploration and production activities.

Learning Objectives
Upon completion of the course, participants will be able to:
► develop negotiation skills in petroleum contracts,
► build advanced economic models for evaluating Exploration-Production projects,
► interpret the different financial statements published by Oil & Gas companies,
► prepare and conduct a contractual audit,
► effectively manage the project: engineering studies, procurement, construction and commissioning.

Ways & Means
► Case studies simulated on computers,
► Analyze the main corporate financial statements issued by Oil & Gas companies.
► Cost estimation of Exploration & Production projects.

Learning Assessment
The assessment system is made up of two (02) elements:
► an entry assessment, covering all topics treated during the training in order to measure the progress of the candidates and does not validate any modules,
► in order to sanction the certification, at the end of each module from 1 to 12, participants must pass written/oral exams, lasting one hour and a half.

Prerequisites
Are allowed to take part to this certified training only applicants having:
► a Master’s degree or equivalent in engineering, economics, finance or legal with minimum 2 years working experience,
► a Bachelor’s degree with minimum of 5 years working experience.
Applicants must provide proof validating these prerequisites, e.g. (copy of engineering degree, Master, Bachelor Degree or equivalent).

Why an IFP Training Certification?
► An international recognition of your competencies.
► A Graduate Certificate delivered.
► An expertise confirmed in Upstream Economics & Management Certification.
► Ready-to-use skills.

Expertise & Coordination
IFP Training trainers having expertise and industrial experience in economics, finance and auditing of exploration-production activities.

Course Content 60 days

Module 1: OVERVIEW OF OIL & GAS CHAIN 5 d
International energy scene. Upstream economics. Oil trading. Downstream economics.

Module 2: INTRODUCTION TO PETROLEUM ENGINEERING 5 d
Reservoir engineering. Well intervention. Surface facilities.

Module 3: NATURAL GAS CHAIN ECONOMICS 5 d

Module 4: TRADING OF CRUDE OIL & PETROLEUM PRODUCTS 5 d

Module 5: CONTRACTUAL & FISCAL FRAMEWORK OF EXPLORATION-PRODUCTION 5 d
Legal framework. Contractual and fiscal framework. Main clauses of petroleum contracts.

Module 6: JOA & NEGOTIATION OF E&P PATRIMONIAL CONTRACTS 5 d
Association agreements. Methodology of negotiation. Simulation: negotiating a PSC.

Module 7: ESTIMATION & COST CONTROL 5 d

Module 8: ECONOMIC EVALUATION OF EXPLORATION & PRODUCTION PROJECTS 5 d
Economic criteria. Economic costs analysis. Equity profitability analysis and project funding. Risk analysis of Exploration-Production projects.

Module 9: PROJECT MANAGEMENT 5 d
Introduction to preliminary studies. Feed or basic engineering studies. Project control and administration. HSE and quality management. Detail studies and procurement. Construction.

Module 10: UPSTREAM ACCOUNTING & FINANCIAL MANAGEMENT 5 d

Module 11: UPSTREAM CONTRACTS AUDITS 5 d

Module 12: HUNTING FOR OIL: SIMULATION GAME OF E&P CHAIN 5 d
The Hunting For Oil™ (HFO™) course presents a practical overview of the mostly used techniques in of the Upstream Oil & Gas industry, from prospect exploration to field development and production. Participants will learn to select and acquire license blocks, use seismic data, plan drilling activities, develop their field by analyzing technical aspects, and manage the time line, the budget and other critical factors related to field development.

Reference: EAMC-EN-P Only available as an In-House course. Contact: eco.rueil@ifptraining.com
This course is also available in French: EAMC-FR-P. Please contact us for more information.
Overview of Petroleum Economics

**Level:** KNOWLEDGE

**Purpose**
This course aims to provide an overview of the petroleum sector so that participants may understand the oil operations and business, from upstream to downstream, and identify economic challenges.

**Audience**
This course is geared towards people from the energy and petroleum sectors, industrial partners, business men and financiers, as well as public administration staff.

**Learning Objectives**
Upon completion of the course, participants will be able to:
- describe the different types of energy resources (conventional, unconventional, renewable & fossil),
- interpret the evolution of the factors affecting the energy supply and demand (crude prices, technology, reserves, geopolitics, geography, environment, etc.),
- identify the actors of the energy scene and their strategic guidelines,
- describe the main steps of the upstream sector,
- distinguish the different types of oil contracts and explain the main economic criteria to evaluate a project,
- summarize the operation of the physical and financial oil markets,
- explain the evolution of the refining sector and of the petroleum product markets.

**Ways & Means**
- Quiz and serious game on the fundamentals of the energy sector,
- Case study on the economic evaluation of an E&P project,
- Exercises on cargo transportation costs, hedging, and refining margins,
- Team games on factors affecting crude prices, the upstream sector, and oil trading.

**Learning Assessment**
Participants will be evaluated during the training through quiz and exercises.

**Prerequisites**
Basic knowledge about the oil industry.

**Expertise & Coordination**
In-house or contracted IFP Training trainers having expertise and experience in oil sector economics.

**Course Content**

**INTERNATIONAL ENERGY SCENE**
1 day
- Energy resources: definition, characteristics, conversion factor.
- Energy demand and supply: evolution factors (reserves, technology, etc.) and scenarios.
- History of the oil industry.
- Determinants impacting crude oil prices today.
- Strategies of actors: producer and consumer countries, national, independent and international oil companies, international organizations (OPEC, IEA, etc.).
- Financial and political stakes, geographical and environment constraints.

**UPSTREAM**
1 day
- Stages and technico-economic aspects of the Exploration-Production.
- Reserve evaluation.
- Economic criteria and evaluation method of an oil project.
- Oil contracts and principle of the oil rent sharing.

**MIDSTREAM**
1 day
- Business practices and pricing.
- Physical markets (spot, forward): operation, reporting agencies.
- Introduction to incoterms.
- Pricing a cargo, freight rates.
- Financial markets (futures): operation, hedging.

**DOWNSTREAM**
1 day
- Refining processes and units.
- Refining capacities, projects, strategies of actors.
- Economic aspects of the refining sector: investments, costs and margins.
- Environmental constraints, alternative fuels.
- Petroleum product markets and marketing.

**Location Start Date End Date Tuition Fees excl. VAT**

<table>
<thead>
<tr>
<th>Location</th>
<th>Start Date</th>
<th>End Date</th>
<th>Tuition Fees excl. VAT</th>
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<td>19 May</td>
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This course is also available in French: EPE-FR-P. Please contact us for more information.
Overview of Petroleum Economics

Course Content

**Level:** KNOWLEDGE

**Purpose**

This course aims to provide an overview of the petroleum sector so that participants may understand the oil operations and business, from upstream to downstream, and identify economic challenges.

**Audience**

This course is geared towards people from the energy and petroleum sectors, industrial partners, businessmen and financiers, as well as public administration staff.

**Learning Objectives**

Upon completion of the course, participants will be able to:

- describe the different types of energy resources (conventional, unconventional, renewable & fossil),
- interpret the evolution of the factors affecting the energy supply and demand (crude prices, technology, reserves, geopolitics, geography, environment, etc.),
- identify the actors of the energy scene and their strategic guidelines,
- describe the main steps of the upstream sector,
- distinguish the different types of oil contracts and explain the main economic criteria to evaluate a project,
- summarize the operation of the physical oil markets,
- explain the evolution of the refining sector and of the petroleum product markets.

**Ways & Means**

- Quiz on the fundamentals of the energy sector.
- Team games on factors affecting crude prices.
- Margins calculations.

**Learning Assessment**

Participants will be evaluated during the training through quiz and exercises.

**Prerequisites**

Basic knowledge about the oil industry.

**Expertise & Coordination**

IFP Training trainers having expertise and experience in oil sector economics.

**Course Content**

**BEFORE THE TRAINING**

1 h

Readings & videos: specialized press, IEA and consulting reports, decision-makers interviews

**DURING THE TRAINING**

2 d

**International energy scene (0.5 day)**

- Energy resources: definition, characteristics, conversion factor.
- Oil supply & demand: evolution factors.
- Strategies of stakeholders: producer and consumer countries, national, independent and international oil companies, OPEC+…
- Forecasts: key change factors (Covid-19, climate change, unconventional sources…) and IEA scenarios.

**Upstream (0.75 day)**

- Stages and technico-economic aspects of the Exploration-Production.
- Reserve evaluation.
- Economic criteria and evaluation method of an oil project.
- Introduction to oil contracts.

**Trading (0.5 day)**

- Business practices and pricing.
- Determinants impacting crude oil prices today.
- Physical markets (spot, forward): operation, reporting agencies.
- Introduction to financial markets.

**Downstream (0.25 day)**

- Refining capacities, projects, strategies of actors.
- Economic aspects of the refining sector: investments, costs and margins.
- Environmental constraints, alternative fuels.

**AFTER THE TRAINING**

7 d

Access to the Learning Management System and the discussion forum, discussions and open questions to the trainer and other trainees.

Reference: EPE-EN-D

Can be organized as an In-House course. Contact: em.contact@ifptraining.com

Location

<table>
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<tr>
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<th>End Date</th>
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<td>30 November</td>
<td>3 December</td>
<td>122,630</td>
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</table>

This course is also available in French: EPE-FR-D. Please contact us for more information.
Overview of the Energy Mix

Level: KNOWLEDGE

Purpose
This course aims to provide an updated overview of the energy sector and the upcoming economic, political and environmental challenges (Covid-19, climate change, supply and demand crisis, unconventional oil and gas…). Participants will get a complete overview of both fossil fuels and renewable energy sources, with their respective benefits and burdens.

Audience
This course is geared towards engineers from the energy sectors (oil, gas, renewables, power), industrial partners, executives (banking, insurance, consulting), public administration staff, PhD and postgraduate students.

Learning Objectives
Upon completion of the course, participants will be able to:
► understand the technical and economic characteristics of each source of energy (production, outputs, availability, markets…),
► analyze the pros and cons for each source: reserves, price, efficiency, GHG emissions…
► interpret the evolution of the factors affecting supply and demand (climate change, news, crude prices, technology),
► identify the main stakeholders and their strategic guidelines (states, international organization, public and private companies…),
► describe the main steps (up, down & midstream) of the oil and gas sector,
► appreciate the role of renewables in the current and future energy mix (maturity, intermittency, carbon footprint…).

Ways & Means
► Quiz and videos on the fundamentals of the energy sector.
► Board game about the different steps of an oil or gas project.
► Team game on the composition of the energy mix and the role of renewables.
► Team game on factors affecting crude prices, the upstream sector and trading.

Learning Assessment
Participants will be evaluated during the training through quiz and exercises.

Prerequisites
Basic knowledge about the energy sector.

Expertise & Coordination
IFP Training trainers having expertise and experience in oil sector economics.

Course Content

INTERNATIONAL ENERGY SCENE
Energy resources: definition, characteristics, conversion factor.
Supply/demand asymmetry, international trade and Kaya’s identity analysis.
Short and long-term forecasts (Covid-19 crisis, supply situation, climate change) and IEA scenarios.

OIL SECTOR ISSUES
Stakeholder’s strategy: producing and consuming states; NOC, IOC, majors; international organizations (OPEC+, IEA…).
Upstream: stages and technical-economic aspects of the Exploration-Production.
Oil contracts and principles of oil rent sharing.
Downstream: refining economics and margins, capacity and new projects.
Focus on current trends: crisis, market, evolutions, technological breaks…

GAS SECTOR ISSUES
Structure of the gas value chain: production, treatment, transportation, storage.
Pros and cons: natural gas and LNG in the energy transition.
Markets and grids, introduction to gas contracts.
Focus on current trends: crisis, market, evolutions, technological breaks…

RENEWABLES ISSUES
Overview of the main renewables: solar, wind, hydro, bio, geothermal.
Comparison and competition: outputs, costs, availability, pros, limits.
CCUS technology and use of renewables in the oil and gas sector.
Carbon taxation and markets.

Reference: MXE-EN-P
Can be organized as an In-House course.
Contact: em.contact@ifptraining.com

Location | Start Date | End Date | Tuition Fees excl. VAT
--- | --- | --- | ---
Rueil-Malmaison | 7 September | 9 September | 1,990

This course is also available in French: MXE-FR-P. Please contact us for more information.
NEW Geopolitics of Oil & Gas

Course Content

INTERNATIONAL ENERGY SCENE: SOVEREIGNTY & INTERDEPENDENCY

0.5 d

Oil and gas resources: definitions, characteristics, localization, outputs. Production and consumption: supply/demand asymmetry and trading analysis. Historical reminder on the oil and gas industry (monopoly, cartel, liberalization). Forecasts: key change factors (Covid-19, climate change, unconventional sources…) and IEA scenarios.

OIL SECTOR ISSUES

0.75 d


GAS SECTOR ISSUES

0.75 d

Gas value chain: production, treatment, transportation, storage, distribution. LNG chain, FLNG, FSRU, small scale, LNG. Pros and cons regarding gas in the energy transition. Midstream: infrastructures, transportation and main grids. Gas contracts: long-term contracts, and main clauses (take-or-pay, netback, indexation, pricing formula). Focus on current trends by region (Middle East, United States, Russia) or topic (shale, PtG, biogas…).

Learning Assessment

Participants will be evaluated during the training through quiz and exercises.

Prerequisites

Participants will be evaluated during the training through quiz and exercises.

Expertise & Coordination

IFP Training trainers having expertise and experience in oil sector economics.

Reference: GPH-EN-P

This course is also available in French: GPH-FR-P. Please contact us for more information.
Level: SKILLED

Purpose
This training provides a better understanding of the structure of the markets, the uses and the impacts of physical and financial markets for crude oil and petroleum products.

Audience
All personnel in the petroleum or associated industries needing to improve their knowledge and understanding of crude oil and petroleum products trading and pricing mechanisms.

Learning Objectives
Upon completion of the course, participants will be able to:
► analyze the parameters which influence prices of crude oil and prices of petroleum products,
► review the different oil trading markets by type of transaction,
► understand the importance of maritime transport costs in oil supply economics,
► comprehend hedging techniques available for protection against fluctuations in prices.

Ways & Means
► Syndicate works on case studies.
► Case studies.

Learning Assessment
Participants will be evaluated during the training through exercises and case studies.

Prerequisites
Bachelor’s degree +3 and/or a minimum 3 years of working experience in downstream or finance.

Expertise & Coordination
IFP Training trainers having expertise and experience in oil markets and trading.

Course Content

OIL SUPPLY & DEMAND FUNDAMENTALS
Energy resources.
Energy demand and supply.
Oil producing countries, OPEC, consuming countries, international oil companies: constraints and strategies.

SHIPPING
General features.
The market and its players-fixing of the freight rate (Worldscale).
Chartering contracts.
Risk control and environmental protection.

CRUDE & PETROLEUM PRODUCTS PHYSICAL TRADING
What is the value of a crude oil? The refiner’s point of view.
Different types of contracts: long term, spot and forward.
Main oil markets and their features.
Key benchmark crudes.
The role of the PRAs (price reporting agencies).
Links between Trading and Shipping.
Products trading.
Main provisions of a sale/purchase contract.

EXCHANGES & FUTURES TRADING
The concept of volatility
Definition of a contract: the cases of WTI and Brent.
Exchanges and their organization: the cases of NYMEX and ICE.
Main Futures Markets.
Hedging principles.
Hedging imperfections, basis risk.
Market structure (contango, backwardation).
Case studies.

DERIVATIVES
Options: principles, basics and characteristics.
Interests and limits of options.
Swaps: principles, basics and characteristics.
Interests and limits of swaps.

HEDGING STRATEGIES - VARIOUS CASE STUDIES ON HEDGING
For a refiner.
For a crude oil producer.
For a marketer.
For an industrial consumer.

Reference: MTP-EN-P. Can be organized as an In-House course.
Contact: eco.rueil@ifptraining.com

<table>
<thead>
<tr>
<th>Location</th>
<th>Start Date</th>
<th>End Date</th>
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<tr>
<td>Rueil-Malmaison</td>
<td>26 May</td>
<td>28 May</td>
<td>102,430</td>
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</table>

This course is also available in French: MTP-FR-P. Please contact us for more information.
Price Risk Management in Energy Markets

Level: SKILLED

Purpose
This training provides a better understanding of the principles and techniques for Oil & Gas price risk management.

Audience
Professionals in the Oil & Gas industries impacted by the volatility of oil or gas prices: producers, marketers, refiners. Purchasing, planning and finance departments of energy consumers. Professionals from the bank sector who need to understand the specificities of Oil & Gas price risk management.

Learning Objectives
Upon completion of the course, participants will be able to:
- review the ways of evaluating price risk,
- analyze and manipulate the exchange traded products used for hedging,
- understand the different over the counter products used in hedging strategies for different Oil & Gas activities.

Ways & Means
- Selected teaching methods: case studies.
- Hedging exercises.

Learning Assessment
Participants will be evaluated during the training through exercises and case studies.

Prerequisites
Bachelor’s degree +3 and/or a minimum 3 years of working experience in oil supply chain or oil markets.

Expertise & Coordination
In-house or contracted IFP Training trainers having expertise and experience in price risk management in energy markets.

Course Content

<table>
<thead>
<tr>
<th>OIL &amp; GAS MARKETS</th>
<th>0.25 d</th>
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<tbody>
<tr>
<td>Physical Oil &amp; Gas markets. Markets structures and types of transactions. Price references and pricing mechanisms.</td>
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</table>

<table>
<thead>
<tr>
<th>PRICE EXPOSURE &amp; RISK MANAGEMENT</th>
<th>0.75 d</th>
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<tbody>
<tr>
<td>Price risk: what is at risk? How to monitor it? How to mitigate the risk: definition of hedging. How to account for the risk: Mark to Market and Value-At-Risk.</td>
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<table>
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<tr>
<th>EXCHANGE TRADED PRODUCTS: FUTURES</th>
<th>0.75 d</th>
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<table>
<thead>
<tr>
<th>OTHER DERIVATIVE INSTRUMENTS: FORWARDS, SWAPS &amp; OPTIONS</th>
<th>0.75 d</th>
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<table>
<thead>
<tr>
<th>HEDGING STRATEGIES</th>
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<tr>
<td>Various examples. Case study.</td>
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Reference: PRM-EN-P Can be organized as an In-House course. Contact: eco.rueil@ifptraining.com

Location Start Date End Date Tuition Fees excl. VAT
---|---|---|---
Rueil-Malmaison 12 October 14 October €2,820
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
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<tbody>
<tr>
<td>Downstream Economics &amp; Management</td>
<td>31</td>
</tr>
<tr>
<td>Refinery Operation Management &amp; Linear Programming</td>
<td>32</td>
</tr>
<tr>
<td>Economic Framework of Refining</td>
<td>33</td>
</tr>
<tr>
<td>Planning &amp; Economics of Refinery Operations</td>
<td>34</td>
</tr>
<tr>
<td>Economic Optimization of Refining Operations</td>
<td>35</td>
</tr>
<tr>
<td>Refining &amp; Petrochemicals Synergies</td>
<td>36</td>
</tr>
<tr>
<td>Economic Framework of Petrochemicals</td>
<td>37</td>
</tr>
<tr>
<td>Profitability Analysis of Downstream Investment Projects</td>
<td>38</td>
</tr>
<tr>
<td>Supply Chain Management</td>
<td>39</td>
</tr>
</tbody>
</table>
# Downstream Economics & Management

## Purpose

This course provides participants a complete view of the economic principles of the downstream sector as well as the methods necessary for the decision-making processes.

## Audience

Professionals from the refining, the petrochemicals and the distribution sectors in a management position where they need to deepen their understanding of all the essential economic aspects as well as the management tools used in the oil downstream sector.

## Learning Objectives

Upon completion of the course, participants will be able to:

- analyze the economic fundamentals of the energy scene, with a particular attention to the importance of oil markets dynamics and its impact on the economics of refining, petrochemicals and distribution,
- evaluate the economic values of various intermediate or semi-finished products,
- use linear programming models and management tools in order to optimize refining and petrochemical operations,
- evaluate project profitability,
- take part in the development of a marketing strategy,
- analyze the supply chain of an industry.

## Course Content

<table>
<thead>
<tr>
<th>Topic</th>
<th>Duration</th>
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<tbody>
<tr>
<td><strong>TRADING</strong></td>
<td><strong>2 d</strong></td>
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<tr>
<td>Oil supply and demand fundamentals.</td>
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Petroleum physical trading. |  
Financial trading (futures), markets place, derivatives. |  
Hedging and strategies. |
| **REFINING & PETROCHEMICALS ECONOMICS** | **3 d** |
| Brief technical overview of the main refining and petrochemical processes. |  
World refining and petrochemicals demand. |  
Evolution of the downstream supply: refining overcapacities, production nature and quantity. |  
Main challenges for the refining sector: deep conversion, new product specifications, petrochemical integration, environment, etc. |  
Refining margins and costs. |
| Case study: valuation of intermediate products of a FCC (Fluid Catalytic Cracking) unit. |  
Case study: refinery blending simulation. |  
Main characteristics of the petrochemical business: economic drivers, cyclic behavior, etc. |  
Case study: steam cracker economics. |
| **OPTIMIZATION OF REFINING OPERATION - LINEAR PROGRAMMING** | **2.5 d** |
| Linear programming (LP) principles: linear equation, objective function, profit maximization or cost minimization, Simplex method, graphic interpretation, etc. |  
Analysis of the LP results: optimum properties, marginal costs, domain of validity of the results, etc. |  
Case study on Excel: introduction to the preparation of a refinery model matrix (material balances, products specifications, utilities consumption, objective function, etc.); team work on the optimization of a cracking refinery. |
| **REFINING OPERATIONS PLANNING - SCHEDULING** | **1.5 d** |
| Principles of refining management: constraints, operations organization. |  
Monthly program to daily operations. |  
Optimization of margins from different process units. |  
Case study: management of typical sequential constraints (delays, processing problems, etc.). |
| **INVESTMENT PROFITABILITY STUDIES** | **1 d** |
| Value creation and capital cost, cash flows, discounting principle and inflation impact. |  
Standard global profitability analysis: cash flow schedule, economic criteria. |  
Introduction to risk analysis. |  
Exercises on various investment profitability studies for refineries and petrochemical plants. |
| **STRATEGIC MARKETING** | **2 d** |
| Marketing role in a firm and in the economy, marketing organization. |  
Measuring the firm’s competitiveness. |  
Designing a development strategy. |
| **SUPPLY CHAIN MANAGEMENT** | **3 d** |
| Supply chain principles: definitions, review of activities, interactions with consumers. |  
Storage management: “pull” and “push” modes, basic tools for stock management, technical and economic aspects. |  
Supply chain design and methodological approaches: analysis of the industry (organization, process, location). |  
Benchmarking context. |

Reference: EAV-EN-P  
*Only available as an In-House course.*  
Contact: em.contact@ifptraining.com
Refinery Operation Management & Linear Programming

Level: SKILLED

Purpose
This course provides an in-depth understanding of the techniques used for decision-making operations concerning supply and refining.

Audience
Managerial staff, supply planners, oil economists and personnel in charge of supply, planning, programs and product blending.

Learning Objectives
Upon completion of the course, participants will be able to:
- optimize refinery operations, crude oil assessment and crude oil selection,
- analyze the results of a linear programming model optimization,
- help optimizing a planning, from preparation of optimal monthly programs up to daily operation scheduling.

Ways & Means
- Case studies and exercises derived from present refinery situations.
- Economic optimization using Excel software and the solver.
- Quiz.

Learning Assessment
Participants will be evaluated during the training through exercises and case studies.

Prerequisites
Knowledge of refining unit operations.

Expertise & Coordination
In-house or contracted IFP Training trainers having expertise and experience in refinery operations management and linear programming.

Course Content

OIL MARKETS & TRADING
0.25 d
Oil supply and demand fundamentals and evolution.
Petroleum physical trading (spot, forward).
Crude oil and petroleum product pricing: benchmark, quality differential, etc.
Financial trading (futures) and hedging strategies for a refiner.

REFINING CONTEXT
0.5 d
World petroleum product demand.
Refining supply: overcapacity, types and quantity.
Main challenges: deep conversion, new product specifications, petrochemical integration, environment, etc.
Projects and perspectives.

REFINING MARGINS & COSTS
0.75 d
Refinery margins and costs: definitions and evolution worldwide.
Unit margins and intermediate product valuation.
Case studies: crude oil arbitrage, Fluid Catalytic Cracking (FCC) unit margin.

OPTIMIZATION OF REFINING OPERATIONS - LINEAR PROGRAMMING
2.5 d
Linear programming (LP) principles: linear equation, objective function, profit maximization or cost minimization, Simplex method, graphic interpretation, etc.
Analysis of the LP results: optimum properties, marginal costs, domain of validity of the results, etc.
Case study onExcel: parametrization and preparation of a refinery model matrix (material balances, product specifications, utilities consumption, objective function, etc.); team work on the optimization of a cracking refinery and on the result analysis.

OPTIMIZATION OF REFINERY OPERATIONS - SCHEDULING
1 d
Principles of refining management: constraints, operations organization.
Monthly program to daily operations.
Optimization of margins from different process units.
Case study: management of typical sequential constraints (delays, processing problems, etc.).

Reference: ROM-EN-P
Only available as an In-House course.
Contact: eco.rueil@ifptraining.com
Economic Framework of Refining

Level: KNOWLEDGE

Purpose
This course provides a complete view of all the fundamental aspects and challenges of the economic framework in which the refining industry is evolving.

Audience
Technical, operating and engineering personnel working in the refining industry, trading and commercial specialists, independent consultants, process licensors, catalyst manufacturers and refining subcontractors.

Learning Objectives
Upon completion of the course, participants will be able to:
- calculate product marginal value, refinery margins and process unit margins,
- identify cost savings in order to improve margins,
- simulate refinery operations and product blending,
- simulate and optimize refinery operations, crude oil selection and product manufacturing,
- analyze the result of a linear programming model optimization,
- evaluate project profitability.

Ways & Means
- Case studies and exercises derived from present refinery situations.
- Economic optimization using Excel.
- Quiz.

Learning Assessment
Participants will be evaluated during the training through exercises and case studies.

Prerequisites
Basic notions of oil chain and Microsoft Excel.

Expertise & Coordination
In-house or contracted IFP Training trainers having expertise and experience in refining sector.

Course Content

TECHNICAL OVERVIEW
Brief technical presentation of the main refining units: distillation, conversion, blending, etc.
Refinery scheme evolution.

OIL MARKETS & TRADING
Oil supply and demand fundamentals and evolution.
Petroleum physical trading (spot, forward).
Crude oil and petroleum product pricing: benchmark, quality differential, etc.
Financial trading (futures) and hedging strategies for a refiner.

REFINING CONTEXT
World petroleum product demand.
Refining supply: overcapacity, types and quantity.
Main challenges: deep conversion, new product specifications, petrochemical integration, environment, etc.
Projects and perspectives.

REFINING MARGINS & COSTS
Refinery margins and costs: definitions and evolution worldwide.
Unit margins and intermediate product valuation.
Case studies: crude oil arbitrage, Fluid Catalytic Cracking (FCC) unit margin.

REFINERY BLENDING SIMULATION
Case study: managing the blending operation of a refinery taking into account the economic and technical (product specifications, capacities, etc.) constraints.

OPTIMIZATION OF REFINING OPERATIONS - LINEAR PROGRAMMING
Linear programming (LP) principles: linear equation, objective function, profit maximization or cost minimization, Simplex method, graphic interpretation, etc.
Analysis of the LP results: optimum properties, marginal costs, domain of validity of the results, etc.
Case study on Excel: explanation of a refinery model matrix (material balances, product specifications, utilities consumption, objective function, etc.); team work on the optimization of a cracking refinery and on the result analysis.

OPTIMIZATION OF REFINERY OPERATIONS - SCHEDULING
Principles of refining management: constraints, operational organization.
Monthly program to daily operations.
Optimization of margins from different process units.
Case study: management of typical sequential constraints (delays, processing problems, etc.).

INVESTMENT PROFITABILITY STUDIES
Value creation and capital cost, cash flows, discounting principle and inflation impact.
Standard global profitability analysis: cash flow schedule, economic criteria (net present value, internal rate of return, etc.).
Introduction to risk analysis.
Exercises on various investment profitability studies for refineries and petrochemical plants.

Reference: CER-EN-P

Can be organized as an In-House course.

Contact: eco.rueil@ifptraining.com

Location | Start Date | End Date | Tuition Fees excl. VAT
--- | --- | --- | ---
Rueil-Malmaison | 17 May | 21 May | €3,300

This course is also available in French: CER-FR-P. Please contact us for more information.

www.ifptraining.com
Planning & Economics of Refinery Operations
In collaboration with the Energy Institute, London

| Level: SKILLED |
| Purpose |
This course provides a better understanding of the essential elements of refinery operations in order to review the various parameters which affect refinery profitability and to develop a working knowledge of the management tools used in the refining industry.

| Audience |
Technical, operating and engineering personnel working in the refining industry, trading and commercial specialists, independent consultants, process licensors, catalyst manufacturers and refining subcontractors.

| Learning Objectives |
Upon completion of the course, participants will be able to:
▸ assess the latest trends in product specifications, and refining schemes,
▸ calculate product value, refinery margins and process unit margins,
▸ simulate and to optimize refinery operations, crude oil selection and product manufacturing,
▸ analyze the results of a linear programming model optimization.

| Ways & Means |
▸ Case studies and exercises derived from present refinery situations.
▸ Economic optimization using Excel.
▸ Quiz.

| Learning Assessment |
Participants will be evaluated during the training through exercises and case studies.

| Prerequisites |
Basic notions of Microsoft Excel.

| Expertise & Coordination |
In-house or contracted IFP Training trainers having expertise and experience in refinery operations.

| Course Content | 3 days |
| TECHNICAL OVERVIEW | 0.25 d |
Brief technical presentation of the main refining units: distillation, conversion, etc.

| REFINERY MARGINS & COSTS | 0.75 d |
Refinery margins and costs: definitions and evolution worldwide.
Notion of break-even point.
Unit margins and intermediate product valuation.
Case studies: crude oil arbitrage, Fluid Catalytic Cracking (FCC) unit margin.

| REFINERY BLENDING SIMULATION | 0.5 d |
Case study: managing the blending operation of a refinery taking into account the economic and technical (product specifications, capacities, etc.) constraints.

| OPTIMIZATION OF REFINING OPERATIONS - LINEAR PROGRAMMING | 1 d |
Linear programming (LP) principles: linear equation, objective function, profit maximization or cost minimization, Simplex method, graphic interpretation, etc.
Analysis of the LP results: optimum properties, marginal costs, domain of validity of the results, etc.
Case study on Excel: explanation of a refinery model matrix (material balances, product specifications, utilities consumption, objective function, etc.); team work on the optimization of a cracking refinery and on the result analysis.

| CRUDE OIL ASSESSMENT & SELECTION | 0.5 d |
Different methods to assess a crude: netback value, method of the complementary crude.
Case study: crude oil ranking using a LP model.

Reference: PERD-EN-P  Only available as an In-House course.
Contact: eco.reuil@ifptraining.com
Economic Optimization of Refining Operations

Course Content

TECHNICAL OVERVIEW
0.25 d
Petroleum demand.
Crude oils - Qualities and characteristics.
Petroleum products - Characteristics and specifications.
Refining schemes and processes.

PRICE CONSTITUTION OF CRUDE OILS & PETROLEUM PRODUCTS
1 d
The different types of crude oils and their interactions.
Notions of incoterms (FOB, CIF…).
Price determination from reporting agencies (e.g.: Platt’s and Argus).

REFINING MARGINS & COSTS
1 d
Definitions.
Different types of margins and indicators.
Principle of estimation of the real margin in a refinery from the reference indicator.
Refining variable and fixed costs.
Definitions and principle of a refinery break-even point.

REFINING MANAGEMENT ITEMS
1 d
Economic impact of unit yields.
Product valorization challenges.
Notion of constraint cost.
The use value of intermediate, semi-finished and finished products.
Examples.

VALUE & SIMULATION OF INTERMEDIATE & SEMI-FINISHED PRODUCTS
0.75 d
Value of a product depending on its use and the economic context.
Notion of marginal cost, netback value.
Capital gain or loss of separation, product blending or transformation operations; examples.
Case study of the premium “straight-run” for atmospheric residues.

HOW TO IMPROVE THE REFINING MARGIN DAILY?
0.5 d
Blending optimization.
Energy integration, maintenance management.
Monitoring and control of consumption (energy, chemicals, catalysts) and losses.
Inventory management, working inventory.
Organization, reactivity, employees training.
Implementation analysis and performance monitoring tools (KPI: Key Performance Indicators)...

OPTIMIZATION OF THE FEEDSTOCKS - KEY CRITERIA
0.5 d
Crude oil case study: tools and models used, basic knowledge of linear programming.
Case study.

Ways & Means
- Case studies.
- Example cost of give-away.
- Calculation of a working inventory.

Learning Assessment
Participants will be evaluated during the training through exercises and case studies.

Prerequisites
Basic notions of oil chain and Microsoft Excel.

Expertise & Coordination
In-house or contracted IFP Training trainers having expertise and experience in economic optimization of refining operations.

Reference: OER-EN-P
Can be organized as an In-House course.
Contact: eco.rueil@ifptraining.com

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<th>Location</th>
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<td>13 December</td>
<td>17 December</td>
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This course is also available in French: OER-FR-P. Please contact us for more information.

www.ifptraining.com
Refining & Petrochemicals Synergies

Course Content

TECHNICAL REVIEW OF REFINING & PETROCHEMICALS

Main petroleum and petrochemicals products: key product specifications review.
Refining and petrochemicals schemes.
HSE specifications: refining (H₂S, etc.), petrochemicals (product instability, etc.).

SYNERGIES BETWEEN REFINING & PETROCHEMICALS

Utility exchanges: H₂, gas, fuel.
Supply: ethane, LPG, naphtha, atmospheric gasoil, vacuum distillate.
Product exchanges: pyrolysis gasoline, olefins.
Common treatment of the C₄ cuts: BTX (Benzene-Toluene-Xylene) extraction.
Pooling services.

REFINING & PETROCHEMICALS ECONOMICS

Refining and petrochemical margins and costs.
Location and unit severities effects.
Gains due to synergies.
Case study: economics of a refinery, of a steam cracker and of the integration of both (with some synergies).

Ways & Means

Quiz, examples.
Case studies and exercises in team work.

Learning Assessment

Participants will be evaluated during the training through exercises and case studies.

Prerequisites

▸ Basic knowledge of refining and petrochemicals unit operations.
▸ Basic notions of Microsoft Excel.

Expertise & Coordination

In-house or contracted IFP Training trainers having expertise and experience in refining and petrochemicals sectors.

Reference: IRP-EN-P

Can be organized as an In-House course.

Contact: eco.rueil@ifptraining.com

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<td>18 November</td>
<td>19 November</td>
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This course is also available in French: IRP-FR-P. Please contact us for more information.
Economic Framework of Petrochemicals

Level: KNOWLEDGE

Purpose
This course allows the participants to deepen their knowledge on the petrochemicals sectors and to assess the main economic challenges in these sectors.

Audience
All professionals wishing to improve their understanding of the functioning of petrochemicals industry.

Learning Objectives
Upon completion of the course, participants will be able to:
- understand the economic framework and the key challenges of petrochemicals industry,
- identify key interfaces between petrochemicals and other hydrocarbon sectors such as upstream (Oil & Gas) and downstream value chain (refining/petrochemicals),
- understand the traditional and on purpose processes and the technologies used in the industry (such as steamcracker, FCC, reforming…),
- evaluate project profitability.

Ways & Means
Case studies and exercises in groups.

Learning Assessment
Participants will be evaluated during the training through exercises and case studies.

Prerequisites
Basic notions of downstream economics and Microsoft Excel.

Expertise & Coordination
In-house or contracted IFP Training trainers having expertise and experience in petrochemistry.

Course Content

ENVIRONMENT FRAMEWORK & UPSTREAM PETROCHEMICALS
Industry fundamentals: from coal/oil/gas to petrochemicals and global/regional outlook.
Petrochemicals: key building blocks processes:
- Olefins (C2, C3, C4),
- Aromatics (benzene, paraxylene),
- and associated traditional technologies (steamcracker, FCC, reforming…).
Steamcracker economics:
- World/regional capacities,
- Typical yields and cost of production (methodology and comparison),
Petrochemicals: opportunities (shale gas) and challenges (climate change, capex, shale gas…).
Case study: optimization of steamcracker feedstock, steam cracker margin/income.

OLEFINS (C2/C3/C4)
Review of processes (cracker and FCC) and new technology (MTO, CTO, PDH…).
Key players and market perspectives (new investments).
Sector challenges (production increase, production costs…).

C4 & AROMATICS
C4 value chain (butadiene and butylenes), brief technical review of technologies, key actors and markets.
C5 value chain (isoprene, DCPD, PIPS).

INVESTMENT PROFITABILITY STUDIES
Value creation and capital cost, cash flows, discounting principle and inflation impact.
Standard global profitability analysis: cash flow schedule, economic criteria (net present value, internal rate of return, etc.).
Introduction to risk analysis.
Case study: steamcracker profitability.
Profitability Analysis of Downstream Investment Projects

Level: SKILLED

Purpose
This course provides a better understanding of the concepts underpinning the capital budgeting theory, helping improve the economic analysis of investment projects. A number of exercises and computer case studies will be treated all along the course to apply the theoretical principles that are presented, which makes the course a very practical one.

Audience
Staff involved in capital investment decisions. Project managers, engineers, commercial staff and support functions. Decision makers wishing to better understand analyses carried out by project teams.

Learning Objectives
Upon completion of the course participants will be able to:
- better understand the difference between a profit and loss statement and a cash flow statement,
- develop a computer model for the economic evaluation of downstream projects,
- compute and analyze the key economic evaluation criteria (NPV, IRR...),
- take into account inflation in their analysis,
- assess the break-even point of a project from an economic point of view,
- include the risks and uncertainties of Downstream projects in their economic evaluation,
- understand the difference between the global economic profitability of a project and the profitability for equity holders taking into account a specific financing plan.

Ways & Means
- Exercises and case studies on Microsoft Excel including.
- Quiz.

Learning Assessment
Participants will be evaluated during the training through exercises, case studies and quizzes.

Prerequisites
Basic notions of technical and economics in refining, Microsoft Excel basic notions.

Expertise & Coordination
In-house or contracted IFP Training trainers with expertise and experience in downstream investment projects’ economic evaluation.

Course Content

VALUE CREATION & DISCOUNTING CASH FLOW METHODOLOGY 0.75 d
Introduction.
Brief refresher on financial statements. Difference between a profit and loss account and a cash flow statement.
Key performance ratios at company level.
Value creation and cost of capital (WACC). Gearing impact.
Discounting principles: time value of money, corporate discount rate.

INVESTMENT PROJECT GLOBAL PROFITABILITY ANALYSIS 1.75 d
Constructing of a project’s cash flow schedule: profit and loss account vs. cash flows, dealing with taxes, working capital impact, and economic life.
Calculating and understating the key economic analysis criteria: Net Present Value (NPV), Internal Rate of Return (IRR), payback time, financial exposure, profitability index.
Considering monetary erosion: nominal and real term values concepts. Impact on projects’ profitability.
Economic cost/break-even.
Working with several currencies.

INTRODUCTION TO RISK ANALYSIS 0.25 d
Identifying risks and taking them into account in the economic analysis (Pestle analysis, risk premium).
Sensitivities (Tornado chart, Spider diagram), scenarios, decision trees.

GEARED CASH FLOW ANALYSIS 0.25 d
Project financing and equity profitability.

Participants will be asked to work on various exercises and case studies along the course such as:
Calculation of the ROCE and ROE of an Oil & Gas company.
Computation of the cost of capital of an Oil & Gas company.
Impact of working capital on a polypropylene plant project.
Isomerization vs. alkylation project.
Profitability of a hydrocracker project.
Sensitivity calculations for a refinery construction project.
Gas pipeline geared profitability.
The list of exercises and case studies above may be adapted by IFP Training at the time of the course to best suit the participants’ profile and learning objectives.

Reference: PPA-EN-P
Can be organized as an In-House course.
Contact: eco.rueil@ifptraining.com

<table>
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<th>Location</th>
<th>Start Date</th>
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<td>Rueil-Malmaison</td>
<td>8 June</td>
<td>10 June</td>
<td>102,160</td>
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This course is also available in French: PPA-FR-P. Please contact us for more information.
Supply Chain Management

Level: SKILLED

Purpose
This training provides a deeper knowledge of all technical, economic, administrative and environmental constraints of the petroleum logistics from the refinery to the gas station to optimize it more effectively.

Audience
All personnel in the petroleum industries, distributors, large consumers concerned with supply logistics issues, transportation and storage.

Learning Objectives
Upon completion of the course, participants will be able to:
- set up a logistics plan and establish different modes of supply.
- establish the characteristics between the various tools of storage and transportation.
- analyze the economic aspects of a supply chain.

Ways & Means
Case studies.

Learning Assessment
Participants will be evaluated during the training through case studies.

Prerequisites
Minimum 3 years of working experience in Oil Supply chain.

Expertise & Coordination
Contracted IFP Training trainers having expertise and experience in supply chain management.

Course Content

<table>
<thead>
<tr>
<th>Module</th>
<th>Duration</th>
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<tbody>
<tr>
<td>INTRODUCTION &amp; PRINCIPLES</td>
<td>0.5 d</td>
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<tr>
<td>Definition: what is logistics? What is a supply chain?</td>
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<tr>
<td>Principles of the distribution of petroleum products.</td>
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<tr>
<td>Review of activities, supply chain link production to consumers.</td>
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<td>Definition of actual tools.</td>
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<td>Implementation of supply chain schema.</td>
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<tr>
<th>Module</th>
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<tbody>
<tr>
<td>STORAGE MANAGEMENT</td>
<td>0.5 d</td>
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<tr>
<td>Factors of entry points (refiners and import terminals).</td>
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<tr>
<td>Factor of exit points (to consumers).</td>
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<tr>
<td>“Pull” and “push” modes.</td>
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<tr>
<td>Basic tool for stock management.</td>
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<tr>
<th>Module</th>
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<tbody>
<tr>
<td>TECHNICAL ASPECTS OF STORAGE</td>
<td>0.75 d</td>
</tr>
<tr>
<td>Review of the different storages (above ground and underground).</td>
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<tr>
<td>Operation equipment and control.</td>
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<tr>
<td>Stocks measurements.</td>
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<tr>
<td>Losses (tank breathing, product movement, loss control).</td>
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<tr>
<td>Flow measurements. Safety equipment.</td>
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<tr>
<th>Module</th>
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<tbody>
<tr>
<td>ECONOMICS OF STORAGE &amp; TRANSPORT OPERATIONS</td>
<td>0.75 d</td>
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<tr>
<td>Cost breakdown for mixed products and petroleum products.</td>
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<tr>
<td>Maintenance policy and costs. Distribution cost pricing policy.</td>
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<tr>
<th>Module</th>
<th>Duration</th>
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<tbody>
<tr>
<td>SECURITY STORAGES</td>
<td>0.25 d</td>
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<tr>
<td>Why security storages?</td>
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<tr>
<td>IEA mission. Example in different countries in the world.</td>
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<tr>
<td>Review of technical problems due to long term storage.</td>
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<tr>
<th>Module</th>
<th>Duration</th>
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<tbody>
<tr>
<td>SHIPPING</td>
<td>0.5 d</td>
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<tr>
<td>General features.</td>
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<tr>
<td>The Market and its players-fixing of the freight rate (Worldscale).</td>
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<tr>
<td>Chartering contracts (voyage charter, COA, time charter…).</td>
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<td>Risk control and environmental protection.</td>
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<tbody>
<tr>
<td>SUPPLY CHAIN DESIGN &amp; METHODOLOGICAL APPROACH</td>
<td>0.25 d</td>
</tr>
<tr>
<td>Operational optimization. Status and alternatives’ analysis.</td>
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<tr>
<td>Key Performance Indicators.</td>
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<tr>
<td>Benchmarking context.</td>
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<th>Module</th>
<th>Duration</th>
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<tbody>
<tr>
<td>CASE STUDY</td>
<td>0.5 d</td>
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<tr>
<td>Case study based on an actual situation and containing applications of most of the main principles explained.</td>
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<tr>
<th>Module</th>
<th>Duration</th>
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<tbody>
<tr>
<td>CASE STUDIES (treated all along the course)</td>
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</table>

Reference: LOG-EN-P

Only available as an In-House course.

Contact: em.contact@ifptraining.com
Overview of Natural Gas Economics

Level: KNOWLEDGE

Purpose

This training provides an overview of the economic and contractual aspects of the natural gas value chain, all the way from production and transport to marketing.

Audience

This training is designed for professionals with experience in the oil industry who now need to broaden their understanding and knowledge of the natural gas business. Professionals from other sectors, such as banking or government, that require an understanding of the natural gas business to better assist their clients are also welcome to attend.

Learning Objectives

Upon completion of the course, participants will be able to:

► evaluate the importance of natural gas in the world energy balance, and the strategies of the main industry actors,
► identify the outlets of natural gas and the new trends in gas industry,
► identify the main technical, economic and contractual features of the natural gas value chain, from the production well to the final consumer,
► explain the framework of liberalization of natural gas markets and its impact on gas contracts and prices.

Ways & Means

► Quizzes.
► Exercises on the costs of gas infrastructures.
► Examples of contracts and calculations on quantities.
► Videos.

Learning Assessment

Participants will be evaluated during the training through quizzes and exercises.

Prerequisites

Bachelor’s degree or equivalent experience in the energy sector.

Expertise & Coordination

Permanent and contracted IFP Training trainers having expertise in technical and economic aspects of the gas chain.

Course Content

GLOBAL GAS SCENE

Importance of natural gas in the world energy balance.
Outlets for natural gas.
Reserves, production, development zones.
International gas markets.
Impact of unconventional gas on the world demand/supply and on gas prices.

STRUCTURE & COSTS OF THE NATURAL GAS CHAIN

Description of the gas chain and associated costs.
Gas treatment and transportation.
Storage costs and distribution costs.
Liquefied Natural Gas (LNG), FLNG, FSRU, small scale LNG.

LONG-TERM NATURAL GAS & LNG CONTRACTS

Contractual framework of Exploration-Production.
Structure and principles of a long-term contract.
Principles of take-or-pay, netback, indexation and gas price formulas.
Tolling agreements.

SPOT, FORWARD & FINANCIAL MARKETS

Spot and forward natural gas markets.
Why and how to access those markets?
Prices in the different markets.
Financial contracts, hedging strategies and examples.

GAS MARKETING IN A LIBERALIZED MARKET

Drivers and concepts of liberalization.
Principles of the EU gas directive, progress in various countries, take-or-pay issues.
Role of the regulator, network development, transport, tariffs, etc.
Contractual aspects between suppliers, transporters and distributors.

Ways & Means

► Quizzes.
► Exercises on the costs of gas infrastructures.
► Examples of contracts and calculations on quantities.
► Videos.

Learning Assessment

Participants will be evaluated during the training through quizzes and exercises.

Prerequisites

Bachelor’s degree or equivalent experience in the energy sector.

Expertise & Coordination

Permanent and contracted IFP Training trainers having expertise in technical and economic aspects of the gas chain.

Reference: EGN-EN-P  
Can be organized as an In-House course.  
Contact: eco.rueil@ifptraining.com

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<td>9 September</td>
<td>€2,840</td>
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This course is also available in French: EGN-FR-P. Please contact us for more information.
Liquefied Natural Gas Economics

Purpose
This training provides an overview of the economic and contractual aspects of the LNG (Liquefied Natural Gas) value chain.

Audience
This training is beneficial to professionals from the oil, gas or power industries or from the banking, insurance, and consulting sectors who need to understand LNG activities and their economic stakes.

Learning Objectives
Upon completion of the course, participants will be able to:

- evaluate the economics of each part of the LNG value chain,
- analyze the basic structure of LNG contracts,
- identify the main LNG markets and their evolution,
- evaluate the profitability of investments in the LNG industry.

Ways & Means
- Quizzes.
- Videos.
- Examples of contracts.
- Exercises on LNG contracts.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
- Familiar with Excel spreadsheet tool.
- A basic knowledge of natural gas.
- A basic understanding of the economics of the natural gas chain.

Expertise & Coordination
Permanent and contracted IFP Training trainers having expertise in technical and economic aspects of the liquefied natural gas (LNG) chain.

Course Content

GLOBAL GAS SCENE & LNG MARKETS
1 d
Natural Gas uses, reserves, supply and demand.
New outlets for LNG (retail LNG).
International gas trades and importance of the LNG.
Evolution of the LNG trading and pricing.
Main LNG markets: America, Europe and Asia (mature markets: Japan and South Korea and emerging markets: China, India…).
Risks for the different LNG actors: liquefaction, shipping, portfolio players, buyers…
Unconventional gas and its impact on LNG markets.

TECHNICAL ASPECTS OF THE LNG CHAIN
1.5 d
LNG: properties and specifications.
Design of the different parts of the LNG chain.
Liquefaction plants, LNG tankers, regasification terminals.
Main projects of LNG terminals in the world and their exploitation.
Capital expenditures and operating costs.
Economic evaluation of a LNG project.
Business structures of LNG projects:
- Classical “Buy/Sell” model.
- Processing model.
New trends in the LNG industry:
- Floating concepts: FLNG, FSRU.
- Small scale LNG.
LNG as a retail product:
- Retail LNG.
- LNG as a transportation fuel: land transportation (road and rail); LNG bunkering (infrastructures, opportunities and challenges).

LNG CONTRACTS
1.5 d
Main features and important articles in LNG contracts.
LNG pricing: price formulae, indexation and net-back value.
Tolling agreements.
Impact of gas markets liberalization and third-party access to regasification terminals.
Coexistence between long-term contracts and short-term contracts.

Reference: EGL-EN-P
Can be organized as an In-House course.
Contact: eco.rueil@ifptraining.com

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This course is also available in French: EGL-FR-P. Please contact us for more information.
Liquefied Natural Gas Bunkering

Level: KNOWLEDGE

Purpose
This training provides an overview of the economic and contractual aspects of the LNG (Liquefied Natural Gas) bunkering.

Audience
This training is beneficial to professionals from the oil, gas or power industries or shipping sector who need to understand the economic and technical stakes of the LNG bunkering.

Learning Objectives
Upon completion of the course, participants will be able to:
- identify the main LNG markets and their evolution,
- understand the evolutions of the LNG prices,
- identify the stakeholders involved in the LNG bunkering activity,
- evaluate the economics and the technical aspects of the LNG bunkering,
- analyze the key-drivers of the LNG bunkering development.

Ways & Means
- Quizzes.
- Videos.

Learning Assessment
Participants will be evaluated during the training through quizzes and exercises.

Prerequisites
A basic knowledge of the natural gas value chain and some experience with Excel.

Expertise & Coordination
Contracted IFP Training trainer having expertise in technical and economic aspects of the LNG chain.

Course Content

<table>
<thead>
<tr>
<th>LNG SUPPLY &amp; DEMAND</th>
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<tbody>
<tr>
<td>Evolution of natural gas demand and supply.</td>
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<tr>
<td>Importance of the LNG in the international gas flows.</td>
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<tr>
<td>Evolution of the LNG markets:</td>
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<tr>
<td>Atlantic LNG market (North &amp; South America, Europe).</td>
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<tr>
<td>Asian-Pacific LNG markets (Japan, South Korea, China, India, Australia…).</td>
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<tr>
<td>Emerging LNG markets (Africa &amp; Middle East).</td>
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<tr>
<td>New outlets for LNG (retail LNG).</td>
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<tr>
<th>REGULATION ON LNG AS A FUEL</th>
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<tbody>
<tr>
<td>Evolution of environmental regulations.</td>
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<tr>
<td>Evolution of specifications for bunker fuels: IMO (International Maritime Organization) regulation, ECA (Emission Control Areas)…</td>
<td></td>
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<tr>
<td>European regulation.</td>
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<tr>
<td>Technical solutions (scrubber, diesel, LNG).</td>
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<tr>
<th>TECHNICAL ASPECTS OF LNG BUNKERING</th>
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<tbody>
<tr>
<td>LNG: properties and specifications.</td>
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<tr>
<td>Design of the different parts of the LNG chain and small scale LNG.</td>
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<tr>
<td>The stakeholders involved in LNG bunkering: LNG producers, shippers, port operators, utilities, final customers…</td>
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<tr>
<td>LNG receiving terminals and port infrastructures designed for LNG bunkering.</td>
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<tr>
<td>Technical evolutions related to small scale LNG for LNG and port operators, and shippers.</td>
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<tr>
<td>Specific challenges regarding LNG bunkering:</td>
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<td>LNG barge vs. onshore LNG supply.</td>
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<tr>
<td>The management of LNG storage, partial fill and sloshing.</td>
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<tr>
<td>boil-off gas (BOG), reliquefaction and subcooling.</td>
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<tr>
<td>LNG transfer.</td>
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<tr>
<th>LNG CONTRACTS</th>
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<tr>
<td>Factors impacting LNG prices and their evolutions on the markets.</td>
<td></td>
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<tr>
<td>Costs of investments of LNG bunkering infrastructures.</td>
<td></td>
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<tr>
<td>The investments dynamics in road transportation and shipping.</td>
<td></td>
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<tr>
<td>Costs related to the transportation and distribution networks.</td>
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Reference: SGNL-EN-P - Can be organized as an In-House course.
Contact: em.contact@ifptraining.com

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This course is also available in French: SGNL-FR-P. Please contact us for more information.

www.ifptraining.com
Gas Markets & Trading

Course Content

GAS SUPPLY & DEMAND
Evolution of gas demand. Projections.
Gas reserves and production.
Gas producing countries. International supply projects.
Regional gas demands.
International trade. LNG trading.

LONG TERM CONTRACTS
Types of contracts.
Features of long term contracts.
Contractual quantities, nominations and Take-or-Pay.
Gas pricing: indexation principle.
Concepts of market value and cost plus.

SPOT & FORWARD MARKETS
Spot markets.
Forward contracts.
North American Hubs.
Spot markets in UK and continental Europe.
Price References and the role of reporting agencies.

FUTURES MARKETS
Features of gas Future contracts.
Exchanges and their organization: NYMEX, ICE.
Hedging using Future contracts.
Basis risk and hedging imperfections.

RISK MANAGEMENT
Swaps: principles, basics and characteristics.
Options (call, puts): principles, basics and characteristics.
OTC derivatives: caps, floors, collars.

Ways & Means
- Examples of contracts.
- Statistical data.

Learning Assessment
Participants will be evaluated during the training through quizzes and exercises.

Prerequisites
Basic knowledge of natural gas and LNG chain.

Expertise & Coordination
Contracted IFP Training trainer having expertise and experience on the management of short-term agreements and negotiation of gas long-term contracts.
Natural Gas & Electricity Trading
Market Risks & their Operational Management

Purpose
This training provides participants a global and synthetic view on the risk management of the various trading activities of gas and electricity.

Audience
All managers who need to learn the ways of managing risk in the market of natural gas and electricity.

Learning Objectives
Upon completion of the course, participants will be able to:
- assess the risks associated with each phase of the gas trading and electricity,
- understand the different hedging tools of the financial markets and assess their efficiency and limits,
- put in place means of detecting, measuring and controlling the risks through a proper trading organization (procedures, segregation of duties),
- implement control measures, including market risk and credit risk.

Ways & Means
Case studies and examples.

Learning Assessment
Participants will be evaluated during the training through case studies.

Prerequisites
Basic notions of Microsoft Excel.

Expertise & Coordination
Contracted IFP Training trainers having expertise and experience in gas and electricity trading and their associated risks.

Course Content

MARKETS
Main features of gas and electricity markets.

RISK MANAGEMENT
Basic statistics.
Risk typologies:
- Credit risk.
- Market risk.
- Operational risk.
Value at risk.

HEDGING & MODELING
Nature.
Products:
- Futures, forwards, swaps, options.

CASE STUDIES
Compute sensitivities on a gas procurement contract.
Compute the V@R of the contract using Monte Carlo and parametric methods.

Reference: TEG-EN-P  Can be organized as an In-House course.
Contact: eco.rueil@ifptraining.com

Location  Start Date  End Date  Tuition Fees excl. VAT
Rueil-Malmaison  28 September  29 September  €2,150
## Power Generation Development & Energy Management

**Level:** KNOWLEDGE

**Purpose**
This training provides an understanding of the chronology of the development and the management of a power generation fleet of assets, based on the energy strategy of the country, its economic environment and the technical and financial criterion of the power plants installed.

**Audience**
This training is intended for industrial leaders, investors, buyers, energy suppliers and anyone involved in the energy field (administrations, consulting, audit, banks, regulatory bodies).

**Learning Objectives**
Upon completion of the course, participants will be able to:
- identify the needs of an energy producing country,
- define and compare energy resources,
- evaluate and arbitrate the technological choices of electricity production,
- explain energy supply and electricity sales contracts,
- explain the EPC and operation & maintenance contracts for the means of energy production,
- structure the development and management of a portfolio of electrical generation assets.

**Ways & Means**
- Quiz about the different resources and means of energy production.
- Case study on the optimal choice of the electricity production technology.
- Case study on the structuring of a power generation project proposal.
- Case study on a power plant portfolio management.

**Learning Assessment**
Participants will be evaluated during the training through quizzes and case studies.

**Prerequisites**
- Have a basic knowledge of financial tools and notions of Excel
- Have knowledge of the fundamentals of electricity markets

**Expertise & Coordination**
Contracted IFP Training trainer having expertise in technical and economic aspects of power generation development and energy management.

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### Course Content

**OVERVIEW OF ENERGY RESOURCES**
- Fossils and renewable primary energy resources: definitions, characteristics and prices.
- Global electricity resources: definitions, origins.

0.25 d

**ELECTRICITY PRODUCTION**
- Power generation: principle, pros & cons.
- Electricity network: interconnection and electricity market.
- Power plant technologies: description and benchmark of the different technologies of nuclear, thermal, combined cycle, renewables & hydro, hybrids and gas to power solutions (FSRP, network extension).
- Technical presentations: fuel supply, advantages/drawbacks/risks, CAPEX, OPEX and project overview.

1 d

**ECONOMICS CRITERIA: LCOE**
- Reminder of economic criterion.

0.25 d

**PROJECT DEVELOPMENT STRATEGY: DECISION CRITERION**
- Needs of an industrial company.
- Needs of an electricity supplier.
- Decision criterion.

0.5 d

**PROJECT DEVELOPMENT**
- Project management and organization: invitation to tender, organization and planning, selection of suppliers, chronology of the development and construction phases, cost structuring and financing.
- Contractual structuring: fuel supply contract, electricity sales contract, operating and maintenance structure.

0.5 d

**POWER GENERATION & ASSET MANAGEMENT**
- Introduction to energy portfolio management and price risk.
- Operational excellence: asset management, operation and maintenance optimization, local and corporate management.

0.5 d

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**Reference:** GPE-EN-P  
This course is also available in French: GPE-FR-P. Please contact us for more information.

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<td>12 May</td>
<td>€2,510</td>
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Contact: em.contact@ifptraining.com
Graduate Certificate

Gas & LNG Economics Certification

Level: KNOWLEDGE

Purpose

The certifying training is part of a professional career move to a post that requires in-depth knowledge of the economic and contractual stakes of the Gas & LNG chain.

Learning Objectives

Upon completion of the course, participants will be able to:
- be aware of the components of the global gas scene,
- specify the characteristics of natural gas and detail the natural gas chain,
- be aware of the technical, operational and commercial conditions concerning shipping,
- make investment profitability analysis in the gas sector,
- identify the main clauses of gas and LNG agreements,
- understand the operational responsibilities of the actors from the chain Front-to-Back.

Ways & Means

- Quiz.
- Case studies simulated on computers.
- Exercises on contracts and simulation of negotiation.

Learning Assessment

- The assessment system is made up of two (02) elements:
  - An entry assessment, covering all topics treated during the training.
  - In order to sanction the certification, at the end of each module from 1 to 7, participants must pass written/oral exams, lasting one hour and a half.

Prerequisites

- Are allowed to take part to this certified training only applicants having:
  - a Master’s degree or equivalent,
  - an engineering degree with a minimum of 2 years working experience,
  - a Bachelor’s degree with minimum of 5 years working experience.
- Applicants must provide proof validating these prerequisites.

Why an IFP Training Certification?

- An international recognition of your competencies.
- A Graduate Certificate delivered.
- An expertise confirmed in Gas & LNG Economics Certification.
- Ready-to-use skills.

Expertise & Coordination

Permanent and contracted IFP Training trainers having expertise in technical and economic aspects of the gas and LNG chain.

Course Content

35 days

Module 1 - NATURAL GAS: TYPES, SPECIFICATIONS & PROCESSING TECHNOLOGIES 5 d

- Fundamentals of natural gas composition, characteristics, production and field processing.
- Technical issues and specific constraints of natural gas transport and storage.
- Review of the various end-user markets available for valorizing natural gas.
- Key natural gas chain economic issues.

Module 2 - UPSTREAM ECONOMICS & MANAGEMENT 5 d

- Key issues and constraints in the contractual negotiations between host countries, NOCs and IOCs.
- Overview and analysis of the different tax systems and contractual frameworks in existence.
- Main contractual and fiscal clauses of E&P contracts.

Module 3 - GAS & LNG CHAIN ECONOMICS 5 d

- Natural gas in the world energy balance, and the strategies of the main industry actors.
- Outlets of natural gas and the new trends in gas and LNG industry.
- Main technical, economic and contractual features of the natural gas value chain, from the production well to the final consumer.
- Gas and LNG markets and their evolution (prices, hedging...).

Module 4 - CONTRACTUAL FRAMEWORK OF GAS & LNG MARKETING 5 d

- Main articles of long-term natural gas and LNG agreements.
- Key points of the commercial clauses.
- The principles of natural gas pricing and transportation.
- The technics of negotiation of master sale and purchase agreements.

Module 5 - LNG – RISKS, TECHNOLOGIES & OPERATIONS 5 d

- The LNG chain: liquefaction, transport, storage, regasification.
- Specific properties of LNG - cryogenics.
- LNG risk control and environmental protection.
- Liquefaction and revaporization processes.
- Vessel specifications, operation and operations.
- Regas terminals: storage, loading/unloading, regasification.
- Operation of LNG facilities.
- New LNG tendencies - Research and new developments: floating LNG, FSRU, small-scale, retail.

Module 6 - INVESTMENT PROFITABILITY STUDIES IN THE GAS INDUSTRY 5 d

- Development of advanced computer models for the economic evaluation Gas projects.
- Incorporation of specific financing plan through equity profitability analysis.
- Analysis of the economic results and carry out sensitivity analysis.
- Incorporation of the risk and uncertainty in the economic evaluation of Gas projects.

Module 7 - INVESTMENT & PROJECT MANAGEMENT ALONG THE GAS VALUE CHAIN 5 d

- Preliminary studies, conceptual studies, EPC phase and project implementation plan.
- Local content and sustainable development.
- Phases of a gas project.
- Detailed engineering of an LNG project and associated activities.
- Technical contracts.
- Project organization, governance, interface and communication management.
- HSE management, quality and risks.
- Project control: costs and planning.
- Case studies.

Reference: GCEG-EN-P

Contact: em.contact@ifptraining.com

This course is also available in French: GCEG-FR-P. Please contact us for more information.
Energy Transition: Positioning of the Key Players

Level: AWARENESS

Purpose
As governments and public opinion debate the way forward on the energy transition, companies are trying to position themselves in consequence. The purpose of this course is to cut through the noise and sometime conflicting information to provide a summary of the pros and cons of various alternatives to fossil fuels, the challenges linked to development of these, and of the positioning of key stakeholders from Society to Governments and the incumbent Oil & Gas sector. This to help companies, and/or public decision makers adopt the most appropriate strategy for their activities.

Audience
Strategic planning, Business development, Marketing staff, and other staff of various sectors wanting to understand better the potential impact of the energy transition on their business. Public decision makers having to make choices with regards to energy policy, subsidies, and/or promotion.

Learning Objectives
Upon completion of the course participants will:
► have a better comprehension of the role of energy in CO2 emission, and of energy consumption and CO2 emission trends,
► have gained detailed insights on pros and cons of alternatives available to fossil fuels in transport and power generation,
► be able to understand better the challenges faced by policy makers, comparing different approaches taken across various countries,
► appreciate better societal trends and ambivalence vs. the energy transition,
► have learned how some Oil & Gas companies are adjusting their activities facing the energy transition challenge.

Ways & Means
► Self-discovery based on real life documentation.
► Exercises in small groups.
► Quiz.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
► No prerequisites are necessary.
► A positioning questionnaire is sent to the participants before the training in order to better understand their profile and expectations.

Expertise & Coordination
Contracted IFP Training trainer with expertise and industrial experience in the field of energy, qualified in pedagogy and drawing on his international experience in the energy mix.

THE NEW ENERGY MIX
The role of energy consumption in CO2 emissions.
Fundamentals of climate change theory.
Overview of greenhouse gases emissions.
Energy mix and CO2 intensity.
Energy consumption and CO2 emissions trends:
Key drivers underpinning energy consumption growth
Geographic differences.
Energy consumption growth and energy mix scenarios (IEA, Oil & Gas companies’ scenarios): quiz; global energy consumption game (based on a few questions participants in small groups to assess energy demand annual growth % - to better understand key drivers underpinning energy growth).

The energy transition in the transport and power sector:
Alternatives to fossil fuels in each of these sectors and pros and cons of these.
What could accelerate the energy transition or slow it down?
Self-discovery: participants in small groups to identify the pros and cons of various alternatives to fossil fuels in these sectors based on a dossier they will be given by the presenter during the session, containing relevant news articles, Oil & Gas companies’ investor presentations and annual reports extracts. Each group to work on a separate theme and brief the others in plenary for debate (e.g. one group to focus on electricity for transport, one group on biofuels, one on Wind for power, one on solar…).

STAKEHOLDERS BEHAVIORS & STRATEGIES
Government intervention policies:
Dealing with a global challenge: regulation international cooperation.
Status of progress vs. the Paris agreement.
Positioning of the key players: US, Europe, China and India.
Societal trends and ambivalence:
Social reactions to climate change.
Compared analysis of various countries “climate plans” and/or climate initiatives.
Advocacy against fossil fuels.
Participants to compare in small groups different approaches to climate change policy from a social acceptability point of view e.g. Dutch climate change plan which strongly influenced subsequent election vs. the carbon dividend plan of the energy council.

Reaction of incumbent Oil & Gas companies:
How have companies adjusted their strategy?
Communication and advocacy with governments and society at large.
Ability to compete with new clean energy small players.
Participants to debate in small groups on strengths and weaknesses of Oil & Gas companies vs. news smaller players.

Reference: DETE-EN-D
This course can be organized as an In-House course. Contact: em.contact@ifptraining.com

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This course is also available in French: DETE-FR-D. Please contact us for more information.
Energy Transition: Positioning of the Key Players

Level: AWARENESS

Purpose

As governments and public opinion debate the way forward on the energy transition, companies are trying to position themselves in consequence. The purpose of this course is to cut through the noise and sometime conflicting information to provide a summary of the pros and cons of various alternatives to fossils fuels, the challenges linked to development of these, and of the positioning of key stakeholders from Society to Governments and the incumbent Oil & Gas sector. This to help companies, and or public decision makers adopt the most appropriate strategy for their activities.

Audience

Strategic planning, Business development, Marketing staff, and other staff of various sectors wanting to understand better the potential impact of the energy transition on their business. Public decision makers having to make choices with regards to their business. Public decision makers having to make choices with regards to on their business. Public decision makers having to make choices with regards to on their business. Public decision makers having to make choices with regards to on their business. Public decision makers having to make choices with regards to on their business.

Learning Objectives

Upon completion of the course participants will:

- have a better comprehension of the role of energy in CO2 emission, and of energy consumption and CO2 emission trends,
- have gained detailed insights on pros and cons of alternatives available to fossil fuels in transport and power generation,
- be able to understand better the challenges faced by policy makers, comparing different approaches taken across various countries,
- appreciate better societal trends and ambivalence vs. the energy transition,
- have learned how some Oil & Gas companies are adjusting their activities facing the energy transition challenge.

Ways & Means

- Self-discovery based on real life documentation.
- Exercises in small groups.
- Quiz.

Learning Assessment

Participants will be evaluated during the training through quizzes and case studies.

Prerequisites

- No prerequisites are necessary.
- A positioning questionnaire is sent to the participants before the training in order to better understand their profile and expectations.

Expertise & Coordination

Contracted IFP Training trainer with expertise and industrial experience in the field of energy, qualified in pedagogy and drawing on his international experience in the energy mix.

Course Content

THE NEW ENERGY MIX

The role of energy consumption in CO2 emissions.
- Fundamentals of climate change theory.
- Overview of greenhouse gases emissions.
- Energy mix and CO2 intensity.
- Energy consumption and CO2 emissions trends:
  - Key drivers underpinning energy consumption growth
  - Geographic differences.
- Energy consumption growth and energy mix scenarios (IEA, Oil & Gas companies’ scenarios); quiz; global energy consumption game (based on a few questions participants in small groups to assess energy demand annual growth % - to better understand key drivers underpinning energy growth).

The energy transition in the transport and power sector:
- Alternatives to fossil fuels in each of these sectors and pros and cons of these.
- What could accelerate the energy transition or slow it down?
- Self-discovery: participants in small groups to identify the pros and cons of various alternatives to fossil fuels in these sectors based on a dossier they will be given by the presenter during the session, containing relevant news articles, Oil & Gas companies’ investor presentations and annual reports extracts. Each group to work on a separate theme and brief the others in plenary for debate (e.g. one group to focus on electricity for transport, one group on biofuels, one on Wind for power, one on solar…).

STAKEHOLDERS BEHAVIORS & STRATEGIES

Government intervention policies:
- Dealing with a global challenge: regulation international cooperation.
- Status of progress vs. the Paris agreement.
- Positioning of the key players: US, Europe, China and India.
- Societal trends and ambivalence:
  - Social reactions to climate change.
  - Compared analysis of various countries “climate plans” and/or climate initiatives.
  - Advocacy against fossil fuels.
- Participants to compare in small groups different approaches to climate change policy from a social acceptability point of view e.g. Dutch climate change plan which strongly influenced subsequent election vs. the carbon dividend plan of the energy council.
- Reaction of incumbent Oil & Gas companies:
  - How have companies adjusted their strategy?
  - Communication and advocacy with governments and society at large.
  - Ability to compete with new clean energy small players.
  - Participants to debate in small groups on strengths and weaknesses of Oil & Gas companies vs. news smaller players.

Reference: DETE-EN-P

Virtual Classroom 3 February 4 February €1,620

Can be organized as an In-House course.

Contact: em.contact@ifptraining.com
Successfully Developing Renewable Project

**Level:** KNOWLEDGE

**Purpose**
Current developments in the energy sector are expected to lead to a new wave of mergers and acquisitions (M&A). Traditional Oil & Gas players will have to adapt (or continue to adapt for the most advanced) their business portfolio to the energy transition, and also to meet the challenges of the recent health crisis. The growth of renewable energy could also lead to consolidation amongst the first entrants as the sector matures. The objective of this training is to enable participants to successfully manage their acquisition operations and/or asset sales so that they can best position themselves for the future.

**Audience**
Oil & Gas, renewables companies’ commercial, technical, financial managers and support functions staff involved in external growth operations. Public administration decision makers and personnel (industry, finance, energy, environment).

**Learning Objectives**
At the end of this training, participants will be able to:
- lead/contribute to an M&A project through a structured process,
- evaluate assets to buy or sell using different methods (e.g.: multiples, discounted cash flows),
- determine the purchase or sale price of assets taking into account synergies/di-synergies and risks,
- analyze a data room, an information memorandum, and conduct typical due diligence operations,
- assess transaction structuring legal and tax options with experts,
- establish a negotiating strategy and understand the key clauses of M&A contracts,
- assess the possibility of mobilizing external financing for acquisitions.

**Ways & Means**
- Exercises.
- Analysis of recent transactions.
- Case studies: setting the maximum purchase price.
- Case study: Critical review of a sale and purchase agreement.
- Quiz.

**Learning Assessment**
Participants will be evaluated throughout the training through exercises, cases and a quiz.

**Prerequisites**
- Microsoft Excel basic notions.
- Some understanding of the basic principles of economic evaluation (discounted cash flows).

**Expertise & Coordination**
In house or contracted IFP Training trainer having expertise and experience in business development / M&A in the Energy sector.

**Course Content**

### KEY STEPS & RISKS OF M&A TRANSACTIONS
0.25 d
The various types of transactions: assets/equity.
The main stages of an acquisition/divestment project.
M&A transactions risks: key success factors.
Key participants in the process.

### DETERMINING THE PURCHASE/SALE PRICE
1 d
The different valuation methods: multiples (comparable transactions, EBITDA, PER), discounted cash flows.
Discounted cash flow method and analysis criteria refresher (NPV, IRR, payback time). Calculating the residual value/terminal value.
Defining the maximum purchase price (or minimum sale price) taking into account synergies/di-synergies and risks.
Price adjustment options to manage uncertainties/close valuation gaps between buyer and seller.
Taking into account debt.

### DUE DILIGENCE & DEAL STRUCTURING
0.5 d
Preparing an Information memorandum.
Risk management. The due diligence process and datarooms.
Choosing the legal and tax structure of the transaction.
Assessing the impact of competition laws.

### NEGOTIATIONS & KEY CLAUSES OF SALE & PURCHASE AGREEMENTS
1 d
Pros and cons of the various sale methods: auctions, negotiations.
Counterparties’ assessment.
Conditions/precedents.
Commitments and guarantees.
Completion adjustments.

### FINANCING
0.25 d
What types of funding can be mobilized.
What prerequisites.

**Reference:** RPER-EN-P

Can be organized as an In-House course.

**Contact:** em.contact@ifptraining.com

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<td>Rueil-Malmaison</td>
<td>5 October</td>
<td>7 October</td>
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This course is also available in French: RPER-FR-P. Please contact us for more information.
Managing the Socio-Economic & Environmental Impact of Energy Projects

Level: KNOWLEDGE

Purpose

Energy is a critical driver of economic growth, but energy projects have had mixed impacts on the countries where these are carried out. They have been accused of contributing to corruption and not having enough positive impact for the populations of the areas of operation. They have been blamed as well for having a negative impact on their immediate environment (e.g. deforestation, soil pollution) in addition to contributing to climate change. Renewables projects are also challenged on their environmental and social impact, such as wind or biofuels projects. This training provides participants with an overview of best practices in this area, enabling energy operators to better manage their projects, avoiding controversies and costly delays. It also enables public actors to improve the conditions of access to their resources and to better select their partners.

Audience

Business development managers, project managers and staff (commercial, technical and support functions), new CSR managers, energy sector engineers, investors, private sector employees (banking, consulting, insurance), as well as public administration decision makers and staff (industry, finance, energy, environment).

Learning Objectives

At the end of this training, participants will be able to:
- assess the positive and negative social and economic impacts of energy projects,
- compare the environmental risks of different energies,
- interpret the most common sustainable development policies, standards and regulations,
- estimate the impact and opportunities of sustainable finance on their projects,
- manage their projects’ risks and key stakeholders through a structured process,
- analyze best practices in terms of ethical, societal and environmental commitments to adapt them to their projects.

Ways & Means

- Exercises.
- Impact assessment model.
- Case study: Dutch disease, recent oil and gas projects, challenges to wind development.
- Critical analysis of the “sustainability reports” of various energy companies.
- Examples of practices from various countries.
- Quiz.

Learning Assessment

Participants will be evaluated throughout the training through exercises, case studies and a quiz.

Prerequisites

To have a basic knowledge of energy (physical principles, units, issues and knowledge of different energy sources).

Expertise & Coordination

In house, or contracted, IFP Training trainer having expertise and hands-on experience in business development in the energy sector.

Course Content

<table>
<thead>
<tr>
<th>Topic</th>
<th>Duration</th>
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<tbody>
<tr>
<td>POSITIVE &amp; NEGATIVE IMPACTS OF ENERGY PROJECTS</td>
<td>1 day</td>
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<tr>
<td>Economic and social benefits. Potential risks and negative impacts:</td>
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<tr>
<td>Dutch disease, inequality in the distribution of created wealth,</td>
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<tr>
<td>corruption risk. Weight and impact of energy taxation. Impact of</td>
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<tr>
<td>risks at project level. Environmental risks of the different energies:</td>
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<tr>
<td>fossil and renewables.</td>
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<tr>
<td>SUSTAINABLE DEVELOPMENT POLICIES, STANDARDS &amp; REGULATIONS</td>
<td>0.5 day</td>
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<tr>
<td>The United Nations’ sustainable development goals.</td>
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<tr>
<td>Major international agreements. Non-financial reporting obligations</td>
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<td>(e.g. EU Directive 2014/95). ISO 26000 standards, 14000.</td>
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<tr>
<td>TOOLS TO MANAGE PROJECTS’ SOCIO-ECONOMIC ISSUES</td>
<td>1 day</td>
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<tr>
<td>Risk assessment (PESTEL analysis). Stakeholder management. Reputa-</td>
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<td>tion, communication and crisis management. Compliance, ethics</td>
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<td>charters. Societal and environmental commitments.</td>
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<tr>
<td>SUSTAINABLE FINANCE</td>
<td>0.5 day</td>
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<td>International financial mechanisms (e.g. funds, subsidies) for the</td>
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<td>environment and to deal with climate change (e.g. global environment</td>
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<td>facility, green climate fund). Equator principles. Green bonds, green</td>
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<td>investment funds. Shareholder activism.</td>
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Reference: IEP-EN-P. Can be organized as an In-House course.

Contact: em.contact@ifptraining.com

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This course is also available in French: IEP-FR-P. Please contact us for more information.
NEW Gas to Power
From Natural Gas to Electricity

Level: KNOWLEDGE

Purpose
This training aims to provide a comprehensive technical and economic review of natural gas and its use to produce electricity through thermal power plants and other combined cycles adapted to the country’s context.

Audience
This training is aimed at managers, regulators, economists, lawyers, financiers, engineers and technicians looking for technical information about power generation facilities using natural gas as primary energy.

Learning Objectives
At the end of the training, participants will be able to:
- explain the basics of natural gas production and transportation, its markets and use,
- provide technical knowledge about electricity generating installations and the principle of operation of the equipment used in such installations,
- understand the economics and operation of power plants, in particular combined cycle and renewable power plants,
- make a choice of an energy mix appropriate to the country context,
- detail the treatment technologies available to produce energy efficiently,
- understand the management of an electrical network.

Ways & Means
Numerous exercises inspired by the electricity, gas and thermal power plant industries.

Learning Assessment
Participants will be evaluated during the training through case studies.

Prerequisites
Bachelor’s degree or equivalent experience in the energy sector.

Expertise & Coordination
Permanent and contracted IFP Training trainers having expertise in technical and economic aspects of the gas and electricity chain.

Reference: GTP-EN-P Only available as an In-House course. Contact: em.contact@ifptraining.com

Course Content
4 days

PRIMARY ENERGIES
0.5 d
Overview of fossil and renewable primary energy resources: definitions, characteristics and prices.
Opportunities for natural gas in the global energy mix.
World electricity resources: definitions, origins.
Natural gas:
- International gas scene: the role of gas in global energy demand.
- Types and characteristics of natural gas fields. Production techniques.
- Natural gas processing and bringing to commercial specifications.
Transportation:
- Transport and storage of natural gas in the gas phase.
- Transport of natural gas in liquid phase. LNG and regasification.
Economic aspect of gas:
- Gas markets.
- Gas contracts, specifics of LNG contracts, prices, shipping contracts.

POWER PLANTS & NETWORKS
1 d
Introduction to thermal power plants.
The power grid.
Electricity demand.
Electric power generation: principle, advantages and drawbacks:
- Characteristics of thermodynamic cycles associated with thermal power plants: Carnot and Rankine cycles.
- Energy performance characteristics.
- Overview of the different power plants and characteristic equipment.
- Environmental considerations.
- Concept of energy performance. Energy quantification:
  - Energy balance.
  - Energy efficiency.

TECHNOLOGY OF ELECTRICAL CENTRALS
1 d
The different power plant sectors: Thematic power plants, combined gas/steam, nuclear and renewable cycles:
- Description and operating conditions.
- Fuels.
- Main equipment.
- Performance.
- Consideration of externalities: CO₂, regulations, quota systems, prices.
- Combined cycles: gas/steam.
- Production of heat and energy:
  - Steam production.
  - End use of steam.
  - Gas turbines and energy recovery.
- Project development and production cost:
  - Project structure.
  - Economic criteria for cost of production: OECA.
  - Energy independence: choosing the right channels for each country.
  - Discounted energy cost: definition and examples.
  - Comparison of projects.

INTEGRATED ENERGY MIX & RENEWABLE GAS SUPPLEMENTARITY
0.5 d
Gas power plant overview: advantages of gas turbines and combined cycle power plants.
- History and development.
- Operation and maintenance.
- Structure and organization chart of an operating company.
- Renewable power plants: the choice of the solar thermal and PV sector:
  - Development and current technologies.
  - Efficiency and costs.
- Management of an electrical production park: role of CCGTs:
  - Management of the energy portfolio and price risk.
  - Operational excellence: optimization of operation and maintenance, local and corporate management.
- The long term - Investment choices for a generating fleet:
  - Project organization and management: tendering, organization and planning, supplier selection, chronology of the development and construction phase, cost structure and financing.
  - Contractual structuring: fuel supply contract, power sales contract, operation and maintenance structure.
- Fundamentals of the electricity markets:
  - Electricity network.
  - Price formation.
  - Modelling and forecasting of electricity demand.
Energy & Climate Change

**Level:** KNOWLEDGE

**Purpose**
This training will enable participants to better understand the evolution of the energy mix and the pros and cons of various alternative energies. An overview of the main regulatory and fiscal mechanisms introduced, as well as the evolution of green finance, complete this curriculum in order to address the issue of energy transition from a technical, economic and societal perspective.

**Audience**
Private sector personnel responsible for strategic planning, market analysis (regulation mechanisms and price creation), energy procurement, financing and management of energy projects to anticipate technical constraints, to understand the risks (economic, legal, technical, environmental, geopolitical) State organisation in charge of energy policy choices, subsidies and/or promotion, as well as those in charge of missions within administrations and local authorities.

**Learning Objectives**
Allow participants to:
- integrate a strategic vision to anticipate changes in energy consumption patterns,
- decipher public policies in terms of their technical and economic aspects and their impact on the environment,
- identify the players on the energy scene and their strategic lines of action,
- identify challenges in the transformation of energy value chains,
- know and understand the global societal challenges of renewable energies,
- discover the panorama of technical, economic, legal, geopolitical and financial aspects conditioning energy choices.

**Ways & Means**
- Quiz on the different renewable energies.
- Videos.
- Case study.
- Examples of practices in various countries.

**Learning Assessment**
Participants will be evaluated throughout the training through quizzes and exercises.

**Prerequisites**
Have a basic knowledge of energy.

**Expertise & Coordination**
Permanent or contracted IFP Training trainers with expertise and industrial experience in energy transition and new energies.

**Course Content**

**WHY MAKE AN ENERGY TRANSITION NOW?**

1 d
Evolution of the energy scene: myths and realities:
- Energy as a resource to be shared: the changing energy landscape up to 2050.
- Energy demand and economic growth.
- Theory and threat of global warming, growth of CO₂ and GHG emissions.
- Problems of energy access.
- The new geopolitical challenges associated with renewables: emissions reduction, security of supply and competitiveness.

Environmental impacts and climate change challenges:
- International negotiations on climate and the environment: history and prospects.
- Diversity of public action: environmental policy tools.
- Energy demand and economic development: principles of sustainable development and the circular economy.
- Prospects for alternative mobility (electric, gas, hydrogen, biofuels) and challenges of electromobility.

Techno-economic and financial instruments for environmental management:
- The levers of a controlled transition.
- Green finance.
- Energy efficiency.
- Carbon taxation to control CO₂ emissions.
- Footprint indicators.

**FUTURE SOLUTIONS TO DECARBONATE THE ENERGY MIX**

1 d
Overview of renewable energies: solar, wind, hydraulic and marine energy, geothermal, hydrogen, biogas and biomass:
- Technical characteristics of the different energies, advantages and limitations.
- Evolution of production costs.
- New development trends.
- Innovations behind new modes of production and consumption.
- Associated environmental risks.
- Economic challenges - Competitiveness of renewables.

Problems of energy storage:
- Intermittent source management.
- Distributed generation systems.
- Network integration.
- Smart grids.
- Power to gas.
- Stakes of the CO₂ capture and storage sector.
- The place of nuclear power in the energy transition.
O&G Companies Towards Carbon Neutrality: Challenges & Solutions

Level: KNOWLEDGE

Purpose
In the perspective to adapt their business to energy transition, O&G companies have to reach carbon neutrality in the coming period as already define for Total, Shell, BP and others. This training course aim at focusing to main challenges O&G business will face, from reducing energy consumption and mitigating carbon emissions, to include renewable energies in their energy mix. Moreover, they will shift their business to new models.

Audience
The training is dedicated to international O&G operators (NOC and IOC) and is adapted from technical managers to top management.

Learning Objectives
Upon completion of the course, participants will be able to:
- focus on the main drivers that will affect O&G business in the coming period,
- implement strategies to consider carbon in their day to day business,
- review available technologies (flare gas recovery, energy recovery, rotating machinery…) and assess potential implementation to their activities,
- design wide CCS and CCUS implementation from demonstration project to brown field or new plants
- integrate RE into their business, organizing a shift of activities,
- share experience on existing implementation, insisting on enhancing economics, thanks to international financing mechanisms.

Ways & Means
- Quiz.
- Team games.
- Case studies.
- Calculations through economics and KPI’s.

Learning Assessment
Participants will be evaluated during the training through quiz and exercises.

Prerequisites
3-years’ experience in the energy industry and/or Master’s degree in engineering or finance.

Expertise & Coordination
Trainers having expertise and experience in energy transition and O&G sector economics.

Course Content

ENERGY CONTEXT FOR OIL & GAS
Climate change and potential impacts for companies.
Carbon constraint.
Global perspectives on energy transition: market, client expectations, stakeholders and NGO.

ENERGY EFFICIENCY FOR O&G SITES
Identification of main consumer systems.
Global energy balance for typical site (benchmark).
Flare gas recovery, flaring reduction.
Energy efficiency: economizers, waste heat recovery, motors, pumps and compressors…

CARBON MANAGEMENT
Methodology to reduce carbon footprint path to carbon neutrality.
CCS value chain: capture, treatment, transportation and storage.
From CCS to CCUS: what are potential industrial usages of carbon?
Economics: cost of each item

RENEWABLE ENERGIES
Presentation of the main sources: solar, wind, bioenergies, geothermal.
Technical and markets statements.
Comparison from an economical point of view: USD/kWh, ROI, CAPEX.
Pros and Cons.

NEW BUSINESS MODELS
Perspectives for gas market.
Electricity: the new business for petroleum companies.
Hydrogen: the future?

MANAGE ENERGY TRANSITION PROGRAM
Define energy roadmap for the group.
Evaluate KPI, Key Performance Indicators.
International mechanisms to finance project.
Conclusions and perspectives.

Ways & Means
- Quiz.
- Team games.
- Case studies.
- Calculations through economics and KPI’s.

Learning Assessment
Participants will be evaluated during the training through quiz and exercises.

Prerequisites
3-years’ experience in the energy industry and/or Master’s degree in engineering or finance.

Expertise & Coordination
Trainers having expertise and experience in energy transition and O&G sector economics.

Reference: NCS-EN-P
Can be organized as an In-House course.

Contact: em.contact@ifptraining.com

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This course is also available in French: NCS-FR-P. Please contact us for more information.
Finance & Management

Strategic Management in International Oil & Gas Business ................................................................. p. 56
M&A in the Energy World .................................................................................................................... p. 57
Financial Management in the Energy Business ................................................................................ p. 58
Financial Management of an International Oil & Gas Company ...................................................... p. 59
Upstream Budget Practice .................................................................................................................. p. 60
Upstream Contracts Audit ................................................................................................................... p. 61
Upstream Auditing Certification ......................................................................................................... p. 62
Investment Funding in the Oil & Gas Industry ...................................................................................... p. 63
Investment Profitability Studies for Energy Projects .......................................................................... p. 64
Investment Profitability Studies for Energy Projects .......................................................................... p. 65
Investment Projects Governance & Assurance ................................................................................ p. 66
Enterprise Risk Management for Oil & Gas Companies ................................................................... p. 67
Governance of an E&P Company ....................................................................................................... p. 68
Strategic Management in International Oil & Gas Business
Essential Business Management Skills for Energy Professionals

Level: SKILLED

Purpose
The participants will participate actively as well in the various lectures they will have to cover the economics of the energy value chain as well as the management tools used in the industry; putting everything back in perspective with their company’s business.

Audience
The course is designed for high potential executives with minimum of two years experience. It is suitable to both technical and non-technical professionals who seek to develop good business awareness and understanding of the Oil & Gas industry & energy transition.

Learning Objectives
Upon completion of the course, participants will have:
- seen the main economic, market, physical, environmental and political forces driving energy demand, supply, and prices,
- connected the key links and terms of the Oil & Gas industry, from the exploration well to the final products,
- understood the fundamental management tools and decision processes in an international energy company,
- applied practical decisions and experienced the risk of doing business in the Oil & Gas industry on a worldwide scale through a computer “Strategic Management Game”.

Ways & Means
This course is built on interactive presentations, exercises and team games. Working in competing teams, participants have to:
- evaluate and anticipate the driving factors of oil prices through the “Oil price game”,
- rebuild the E&P chain of an offshore project,
- take a quiz on natural gas business,
- price a cargo of crude oil,
- calculate refining margins and the main economic indicators,
- evaluate the economic profitability of an oil field development, gas pipeline & LNG plant,
- implement business decisions & evaluate its impact through the use of an Excel simulator “Strategic Management Game”.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
Basic knowledge of Microsoft Excel.

Expertise & Coordination
IFP Training trainers having expertise and experience in Oil & Gas business.

Course Content

INTERNATIONAL OIL ENVIRONMENT
Energy demand and supply. Crude oil reserves and production.
History of the petroleum industry. Role of main actors: OPEC, NOCs, IOCs, INOCs, IEA.
Oil price evolution and long-term scenarios.
Present and future constraints of the Oil & Gas industry (alternative energies, investments, etc.).
0.5 d

UPSTREAM ECONOMICS
Fundamental steps of the upstream business.
Economic aspects and costs, risks.
Understanding the E&P value chain.
Legal and fiscal framework for exploration-production (concessions, production sharing contracts, service contracts).
0.5 d

NATURAL GAS ECONOMICS
Natural gas reserves and production around the world.
Main gas markets; their structures and constraints.
Liquefied natural gas chain, economics and trade.
Long-term sales and purchase gas contracts. Take-or-pay provisions and gas price formulas.
0.5 d

TRANSPORT & INTERNATIONAL OIL MARKETS
International trade and shipping of crude and products.
Various types of markets and contracts: long-term contracts, forward and spot markets.
Case study: how to price & hedge a cargo of crude oil?
0.5 d

REFINING ECONOMICS & PETROCHEMICALS
Basic technical aspects. Development in refining capacity.
Refining margins and costs.
Evolution of products specifications and structure of demand.
Inter-relationship between refining and petrochemicals.
Main petrochemical sectors; environmental and economic trends. Coping with economic cycles.
Case study: working in teams, participants have to calculate refining margins and the main operating indicators.
0.5 d

PROJECT ECONOMICS & DECISION ANALYSIS TOOLS
Economic criteria for investment project evaluations (NPV, IRR, POT, etc.).
Global profitability analysis. Economic cost analysis.
Introduction to risk analysis. Risk management, financial and cost management.
Case studies: participants have to evaluate the economic profitability of a gas pipeline project and LNG project.
1.5 d

STRATEGIC BUSINESS GAME
Introduction to strategy and financial management.
Introduction to the strategic game: participants are introduced to the use of strategic tools.
Communication and workshop:
Participants analyze their respective situation (SWOT analysis) in each of the branches (upstream, refining, retail and petrochemical).
Participants have to implement their decisions and evaluate its impact through the use of an Excel simulator.
1 d

Reference: SBA-EN-P
Only available as an In-House course.
Contact: eco.rueil@ifptraining.com
M&A in the Energy World

Level: KNOWLEDGE

Purpose

Current developments in the energy sector are expected to lead to a new wave of mergers and acquisitions (M&A). Traditional Oil & Gas players will have to adapt (or continue to adapt for the most advanced) their business portfolio to the energy transition, and also to meet the challenges of the recent health crisis. The growth of Renewable Energy could also lead to consolidation amongst the first entrants as the sector matures. The objective of this training is to enable participants to successfully manage their acquisition operations and/or asset sales so that they can best position themselves for the future.

Audience

Oil & Gas, Renewables companies’ commercial, technical, financial managers and support functions staff involved in external growth operations. Public administration decision makers and personnel (industry, finance, energy, environment).

Learning Objectives

At the end of this training, participants will be able to:

- lead/contribute to an M&A project through a structured process,
- evaluate assets to buy or sell using different methods (e.g.: multiples, discounted cash flows),
- determine the purchase or sale price of assets taking into account synergies/di-synergies and risks,
- analyze a data room, an information memorandum, and conduct typical due diligence operations,
- assess transaction structuring legal and tax options with experts,
- establish a negotiating strategy and understand the key clauses of M&A contracts,
- assess the possibility of mobilizing external financing for acquisitions.

Ways & Means

- Exercises.
- Analysis of recent transactions.
- Case studies: setting the maximum purchase price.
- Case study: Critical review of a sale and purchase agreement.
- Quiz.

Learning Assessment

Participants will be evaluated throughout the training through exercises, cases and a quiz.

Prerequisites

- Microsoft Excel basic notions.
- Some understanding of the basic principles of economic evaluation (discounted cash flows).

Expertise & Coordination

In house or contracted IFP Training trainer having expertise and experience in business development/M&A in the energy sector.

Reference: FAE-EN-P • Can be organized as an In-House course. Contact: em.contact@ifptraining.com

Location | Start Date | End Date | Tuition Fees excl. VAT
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Rueil-Malmaison | 19 October | 21 October | 12,510

This course is also available in French: FAE-FR-P. Please contact us for more information.
NEW Financial Management in the Energy Business

Level: KNOWLEDGE

Purpose
The energy sector is changing. The energy transition is increasing the pressure on traditional Oil & Gas activities’ profitability. Renewable energy value levers are changing rapidly. In this context it is important for managers of these activities to understand the stakes of the firm’s financial management and its key tools in order to better contribute to the performance of their organization.

Audience
This training is intended for technical executives, economists and young high-potential executives of Oil & Gas and renewable energy companies, as well as public administration decision makers and staff (industry, finance, energy, environment).

Learning Objectives
At the end of this training, participants will be able to:
- interpret the main financial indicators of their organization to better contribute to value creation,
- calculate the value of a business using a variety of methods,
- assess a company’s ability to create wealth through the analysis of its financial statements,
- interpret investment projects economic assessment criteria (NPV, IRR, payback time),
- understand the criteria for choosing a company’s financial structure,
- estimate a company’s creditworthiness and ability to finance its investments,
- discuss with experts various risk management techniques at the corporate level (business portfolio management) as well as at the operational level (hedging, insurance).

Ways & Means
- Exercises.
- Analysis of shareholder presentations of Oil & Gas and renewable energy companies.
- Case study: evaluation of the profitability of an investment project.
- Games: fund manager, choosing a portfolio of activities.
- Quiz.

Learning Assessment
Participants will be evaluated throughout the training through exercises, case studies and a quiz.

Prerequisites
Microsoft Excel basic notions.

Expertise & Coordination
In house or contracted IFP Training trainer having expertise and experience in finance management in the Energy sector.

Course Content 3 days

DEFINITIONS 0.5 d
Financial management objectives.

VALUE MANAGEMENT 1.25 d
Measuring the value of the company (market value, accounting value, “Intrinsic Business Value”).
Investment profitability calculation (NPV, IRR, payback time).

OPTIMIZING THE FINANCIAL STRUCTURE OF THE FIRM 0.5 d
Gearing. Solvability, borrowing capacity.
Examples of typical energy financing methods: project financing, reserve based lending.

MANAGING RISKS 0.75 d
Risk identification (PESTEL analysis).
Operational risk management: hedging, insurance.
Asset portfolio management: asset risk profile (by sector: upstream, downstream, renewable energy and by contract types).
Scenarios and sensitivities.

Reference: AGFE-EN-P
Can be organized as an In-House course. Contact: em.contact@ifptraining.com

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This course is also available in French: AGFE-FR-P. Please contact us for more information.
Financial Management of an International Oil & Gas Company

Level: SKILLED

Purpose
This course provides a deeper knowledge on accounting in the oil industry and to introduce the tools of financial analysis and management.

Audience
Upstream professionals who would like to understand the bases of financial analysis in the upstream Oil & Gas activities.

Learning Objectives
Upon completion of the course, participants will be able to:
- appreciate the specificities of the international petroleum accounting standards,
- define fundamentals of cost analysis and control,
- analyze the financial situation of a company,
- use the methodology and techniques of audit.

Ways & Means
Case studies and exercises.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
Basic knowledge of corporate finance, technical and economic environment of E&P.

Expertise & Coordination
IFP Training trainers having expertise and industrial experience in upstream project accounting & finance.

Course Content

Module 1 - FUNDAMENTALS OF OIL & GAS ACCOUNTING & COSTS CONTROL METHODOLOGY

E&P FUNDAMENTALS 0.5 d
Overview.

ACCOUNTING STANDARDS 2.5 d
Accounting principles
- Accounting system and principles, accounting plan, financial statements, valuation of assets.
- Depreciation and provision, income statement, balance sheet, cash flow statement and cash flow table.
- International accounting standards: IFRS and FAS, US GAAP, SEC requirements.
- Specific cases: relinquishment and site restoration, deferred taxes, potential badwill of fixed assets, etc.

COST ANALYSIS & COST CONTROL 2 d
Fundamentals of cost analysis:
- Direct and indirect costs, fixed and variable costs, total cost, etc.
- Methodology of cost allocation.
Standard costs: purpose, identification and implementation.
Budget and cost control:
- Cost accounting definition and implementation.
- Labor costs, inventories, etc.

Module 2 - FUNDAMENTALS OF FINANCIAL MANAGEMENT & AUDIT METHODOLOGY

EXTERNAL & INTERNAL FINANCIAL AUDIT 2 d
Methodology and techniques of financial audit.
Define an audit program.
Evaluate the quality of internal control.
Audit of the main business lines (inventories, procurement, fixed assets, payroll).
Conduct of the audit.
Audit report.

FINANCIAL MANAGEMENT & FINANCIAL ANALYSIS 3 d
Fundamentals of financial analysis:
- Value creation and management, earnings and cash flow, free cash flow.
- Working capital, capital expenditures, return on assets, cost of capital.
Short-term financial management: cash and cash equivalents, short-term debts, cash management.
Financial management:
- Long-term financial resources, risk and return.
- Financial securities: bonds and other debt, shares, other tools of corporate financing.
Project financing:
- Definition, pros and cons, criteria of choice.
- Examples of success and analysis of failures, debt restructuring.

Reference: MFP-EN-P
Only available as an In-House course.

Contact: em.contact@ifptraining.com

This course is also available in French: MFP-FR-P. Please contact us for more information.
Upstream Budget Practice

Course Content

5 days

Purpose & Required Financial Statements
1 d
Purpose of the budgetary process.
Main characteristics of the financial statements required for budget preparation.
Projected balance-sheet.
Projected income-statement.
Projected uses and sources of funds.

Listing Process for Required Information Collection
1 d
Type of required information.
Related company departments.
Data collection methodology.
Data collection.

Financial Statements Drafting & Budget
2 d
Financial statements drafting.
Main data consolidation.
Budget presentation report preparation.

Budget Monitoring & Control
1 d
Monitoring indicators preparation.
Whistleblower signals.

Level: SKILLED

Purpose
To allow the participants to go through the full budgetary process from information gathering to budget presentation.

Audience
Upstream professionals who need to fully master the E&P budgeting process.

Learning Objectives
Upon completion of the course, participants will be able:
- to list the required information for the budgeting process,
- to draft the required financial statements,
- to set up monitoring and performance parameters.

Ways & Means
Budget preparation, set up and presentation through workshop practice with a subject-matter expert.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
Basic knowledge of the financial and accounting environment of E&P.

Expertise & Coordination
IFP Training trainers having expertise and industrial experience in upstream project accounting and finance.

Reference: PBA-EN-P

Only available as an In-House course.

Contact: em.contact@ifptraining.com

This course is also available in French: PBA-FR-P. Please contact us for more information.
Upstream Contracts Audit

**Level:** SKILLED

**Purpose**
This course provides participants a detailed understanding of principles and methods of upstream contracts audit.

**Audience**
Auditors and upstream professionals who will conduct joint-venture audits, or will be audited by partners in a joint venture, for State auditors in charge of auditing Oil & Gas contracts, for executives who look for a comprehensive understanding of issues linked to contractual audit.

**Learning Objectives**
Upon completion of the course, participants will be able to:

- prepare and lead a contractual audit,
- identify the risks related to accounting in Oil & Gas industry,
- set up an audit structure.

**Ways & Means**
Case studies and exercises based on recent industrial cases.

**Learning Assessment**
Participants will be evaluated during the training through quizzes and case studies.

**Prerequisites**
Basic knowledge of the contractual and financial environment of E&P.

**Expertise & Coordination**
IFP Training trainers having expertise and experience in auditing of exploration-production activities.

**Course Content**

<table>
<thead>
<tr>
<th>5 days</th>
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<tbody>
<tr>
<td><strong>CONTRACTUAL ACCOUNTING</strong></td>
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</tbody>
</table>

- Joint Operating Agreements and accounting appendix.
- Upstream tax issues.
- Production Sharing Contracts (PSC) and accounting procedures.
- Joint costs and recoverable costs.
- At cost principle and implementation.
- Bases of operator’s cost accounting.

<table>
<thead>
<tr>
<th>1.5 d</th>
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</thead>
<tbody>
<tr>
<td><strong>SPECIFICITIES OF JOINT VENTURE AUDIT</strong></td>
</tr>
</tbody>
</table>

- Audit rights.
- Organization of the audit: partners, operator.
- Auditing respect of at cost principle.

<table>
<thead>
<tr>
<th>1.5 d</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIFICITIES OF STATE AUDIT</strong></td>
</tr>
</tbody>
</table>

- Audit rights.
- Organization of the State audit, auditors qualification.
- Articulation between joint-venture audit and State audit.
- Key elements of contract and accounting procedure.

<table>
<thead>
<tr>
<th>1 d</th>
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<tbody>
<tr>
<td><strong>CONDUCTING A CONTRACT AUDIT</strong></td>
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</tbody>
</table>

- Audit preparation.
- During the audit.
- Conclusion of the audit.
- Audit supervisor role.
- Audit report and follow-up.

**Location**

<table>
<thead>
<tr>
<th>Location</th>
<th>Start Date</th>
<th>End Date</th>
<th>Tuition Fees excl. VAT</th>
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</thead>
<tbody>
<tr>
<td>Rueil-Malmaison</td>
<td>6 December</td>
<td>10 December</td>
<td>€3,770</td>
</tr>
</tbody>
</table>

This course is also available in French: ACEP-FR-P. Please contact us for more information.

Reference: ACEP-EN-P (Can be organized as an In-House course.)

Contact: eco.rueil@ifptraining.com
Advanced Certificate

Upstream Auditing Certification

Level: SKILLED

Purpose

This course is designed to master the framework, principles, objectives, methodology, roll-out and follow-up of various upstream audits: petroleum contract auditing, JOA auditing as well as petroleum aspects of internal auditing.

Audience

This course is intended for managers from the Oil & Gas public (NOCs, ministries, regulation authorities…) and private sectors who deal with different types of petroleum auditing missions (petroleum contract auditing, JOA auditing, petroleum aspects of internal auditing) from the preparation phase to the roll-out and follow-up phases.

Learning Objectives

Upon completion of the Upstream Auditing Certification, participants will be able to:

► identify the risk-zones and key factors to audit,
► take part in an audit, following specifications and schedules,
► write recommendations and exceptions,
► propose recommendations for strategic and/or organizational choices.

Ways & Means

Modules are delivered by upstream auditing professionals. The evaluation process includes a mock case preparation, roll-out and follow-up of an audit.

Learning Assessment

Participants will be evaluated during the training through quizzes and case studies.

Prerequisites

► Participants with a Bachelor’s degree in engineering or business with 5 years of management experience in the Oil & Gas industry are ideal candidates.
► In addition, fundamental knowledge of financial (general accounting, financial statements, financial accounting) and upstream petroleum contracts is required and will be assessed through a preliminary test.

Why an IFP Training Certification?

► An international recognition of your competencies.
► An Advanced Certificate delivered.
► An expertise confirmed in Upstream Auditing Certification.
► Ready-to-use skills.

More info

* Duration includes one day of assessment.

Expertise & Coordination

IFP Training trainers having expertise and experience in auditing of exploration-production activities.

Reference: ADVUA-EN-P

Only available as an In-House course.

Contact: eco.rueil@ifptraining.com

This course is also available in French: ADVAM-FR-P. Please contact us for more information.
## Investment Funding in the Oil & Gas Industry

**Level:** KNOWLEDGE

**Purpose**
This course initiates participants to the objectives and methods of companies’ financial management and their application to investment projects funding in the Oil & Gas industry.

**Audience**
This course is aimed at finance staff taking responsibilities in financing/project funding; technical staff, economists involved in project management and wishing to better understand financing constraints.

**Learning Objectives**
Upon completion of the course, participants will be able to:
- identify the funding requirements of a company,
- choose an optimal combination of financial resources,
- understand the criteria for choosing how to fund a major investment project,
- understand the impact of funding decisions in investment evaluation.

**Ways & Means**
Case studies and exercises.

**Learning Assessment**
Participants will be evaluated during the training through quizzes and case studies.

**Prerequisites**
- Basic knowledge in business finance management and investment evaluations (such as provided by the Investment Profitability Analysis course).
- Participants need to be comfortable with the use of Microsoft Excel.

**Expertise & Coordination**
IFP Training trainers having expertise and industrial experience in Oil & Gas accounting & finance.

### Course Content

<table>
<thead>
<tr>
<th>Course Content</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FINANCIAL MANAGEMENT OF A COMPANY</strong></td>
<td>0.75 d</td>
</tr>
<tr>
<td>Definition, objectives and methods. Estimating short, medium and long-term financing requirements. Key factors determining a company’s optimal financial structure.</td>
<td></td>
</tr>
<tr>
<td><strong>MEETING FINANCING NEEDS</strong></td>
<td>0.75 d</td>
</tr>
<tr>
<td>Own funds: equity and quasi equity. Debt structure choice. Borrowings, direct market access.</td>
<td></td>
</tr>
<tr>
<td><strong>FINANCING MAJOR INVESTMENT PROJECTS</strong></td>
<td>1 d</td>
</tr>
<tr>
<td><strong>PROJECT FINANCING</strong></td>
<td>1 d</td>
</tr>
<tr>
<td><strong>IMPACT OF PROJECT SPECIFIC FINANCING ON ECONOMIC EVALUATION</strong></td>
<td>0.5 d</td>
</tr>
<tr>
<td>Geared vs. ungeared economics. Financial leverage.</td>
<td></td>
</tr>
<tr>
<td><strong>CASE STUDY AND EXERCISES</strong></td>
<td></td>
</tr>
<tr>
<td>Participants will work on case studies and exercises along the course.</td>
<td></td>
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</tbody>
</table>

**Reference:** IFI-EN-P

*Only available as an In-House course.*

*This course is also available in French: FIP-FR-P. Please contact us for more information.*

Contact: em.contact@ifptraining.com

www.ifptraining.com
Investment Profitability Studies for Energy Projects

Course Content

**ECONOMIC EVALUATION CRITERIA**
0.5 d
Corporate finance, capital costs and discount rate of the company.
Construction of project cash flows schedule.
Economic criteria for project evaluation: net present value (NPV), internal rate of return (IRR), payback period, etc.
*Case studies: development of an oil field under concession.*

**GLOBAL PROFITABILITY ANALYSIS**
1 d
Methodology for assessing the global profitability of capital invested.
Impact of taxation and inflation in profitability investment studies.
Choosing an investment program with a limited budget, scarcity cost of capital.
*Case studies: accelerating production project (EOR) project of upgrading a refinery (Hydrocracking unit).*

**ECONOMIC COST ANALYSIS**
0.5 d
Accounting cost vs. economic cost, after-tax cash outflows.
Total discounted cost, annual economic cost.
Economic depreciation, unit economic cost, optimal economic lifetime.
*Cases studies: issues related to purchasing of equipment and definition of an optimal economic lifetime.*

**EQUITY PROFITABILITY ANALYSIS**
0.5 d
Financing Oil & Gas projects, project finance and B.O.T. structures.
Various financing plans and debt repayment.
Analysis of equity cash flows, return on equity capital, financial leverage.
*Case studies: construction of LNG plant and gas pipeline projects with specific financing.*

**RISK ANALYSIS**
0.5 d
Introduction to risk analysis and risk discount rate: sensitivity analysis, Spider and Tornado diagrams.
Probability of success, economic risk analysis in oil exploration.
Economic study of an exploration project using Min, Mode and Max scenarios.
*Case studies: valuation of a decision to acquire information (seismic or drilling) and pricing of an exploration bloc.*

**CASE STUDIES**
Oil field development project.
Acceleration of production project with or without EOR (Enhanced Oil Recovery).
Isomerization vs. alkylation project.
FCC project (Fluid Catalytic Cracking).
Project of upgrading a refinery.
Hydrocracking unit project.
Polypropylene Plant Project.
LNG plant project with specific financing.
Gas pipeline project with specific financing.
Service station modernization project.
Gas-fired power plant project.
Valuation of a decision to acquire information (seismic or drilling).
Pricing of an exploration bloc.

Reference: ERP-EN-P  *Can be organized as an In-House course.*  Contact: eco.reueil@ifptraining.com

<table>
<thead>
<tr>
<th>Location</th>
<th>Start Date</th>
<th>End Date</th>
<th>Tuition Fees excl. VAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtual Classroom</td>
<td>1 December</td>
<td>2 December</td>
<td>€1,550</td>
</tr>
</tbody>
</table>

*This course is also available in French: ERP-FR-P. Please contact us for more information.*
Virtual Classroom
This course is available in face-to-face mode

NEW Investment Profitability Studies for Energy Projects

Level: KNOWLEDGE

Purpose
This course provides a better understanding of the concepts behind the theory of capital budgeting, thus helps improving the analysis in investment profitability studies.

Audience
Managers and staff concerned with decisions affecting medium and long-term cash flows, such as investment, disinvestment, acquisitions or leasing, who need to improve their understanding of the theory and practice of investment analysis.

Learning Objectives
Upon completion of the course, participants will be able to:
- carry out investment profitability studies including fiscal terms and inflation,
- analyze the economic results and carry out sensitivity analysis.

Ways & Means
Pedagogical means:
- E-learning module.
- Case studies simulated on MS Excel.
- Course materials.

Technical means:
- Availability of remote support resources and tools: LMS (Learning Management System) training platform; videoconferencing tools (Zoom, Teams or others).
- Computer resources required: at least 1.5 Mbps bandwidth for video quality in 720 P and Microsoft Excel software.

Technical assistance is provided by our IT staff in charge to monitor the training Platform. Our trainers provide pedagogical assistance in synchronous mode during virtual classes. Participants’ questions can also be formulated on the training platform and will be dealt with during the virtual classes.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
Basic knowledge of Microsoft Excel.

Course Content

BEFORE CLASS
E-learning module: this module will allow participants to become familiar with the fundamentals of economic calculation and the use of investment decision-making tools.

DURING VIRTUAL CLASS
This sequence is structured around a virtual class.

Economic evaluation criteria:
- Corporate finance, capital costs and discount rate of the company.
- Construction of project cash flows schedule.
- Economic criteria for project evaluation: net present value (NPV), internal rate of return (IRR), payback period, etc.
- Case studies: development of an oil field under concession.

Global profitability analysis:
- Methodology for assessing the global profitability of capital invested.
- Impact of taxation and inflation in profitability investment studies.
- Choosing an investment program with a limited budget, scarcity cost of capital.

Case studies:
- Oil field development project.
- Isomerization vs. alkylation project.
- LNG plant project.
- Gas pipeline project.
- Power plan project.

Reference: ERP-EN-D
Can be organized as an In-House course.
Contact: em.contact@ifptraining.com

Location Start Date End Date Tuition Fees excl. VAT
Rueil-Malmaison 26 May 28 May 2,200

This course is also available in French: ERP-FR-D. Please contact us for more information.

www.ifptraining.com
# Investment Projects Governance & Assurance

**Level:** SKILLED

## Purpose
This course provides a better understanding of industry best practices to structure governance and assurance activities related to material investment (or divestment) energy projects to improve the robustness of business cases, and to improve chances of delivery of the original assumptions. The course focuses on new business development activities up to final investment decision. It includes as well a review of how to structure a learning feedback loop post projects implementation.

## Audience
This course is aimed primarily at decision makers with accountability to assess and approve material investment (or divestment) proposals, whether in the private or public sector, investment projects/business opportunity managers, finance/economics managers overseeing investment projects valuation and their staff, and governance and assurance managers and their staff.

## Learning Objectives
Upon completion of the course, participants will be able to:
- understand the pitfalls attached to material investment (or divestment) projects governance (up to final investment decision), and to structure the governance of these, to ensure better project assessment, decision making, and value delivery,
- develop and implement assurance processes to enhance chances of value delivery,
- select from a variety of post investment assurance tools, to embed in their organization a learning feedback loop for future projects.

## Ways & Means
Case studies, exercises and role playing.

## Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

## Prerequisites
An initial experience of investment projects assessments or investment project development will however add value to participants.

## Expertise & Coordination
IFP Training trainers having expertise and industrial experience in Oil & Gas governance and assurance.

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## Course Content

### OVERALL INVESTMENT PROJECT OVERSIGHT STRUCTURE (1 d)
- Designing project governance: definition of roles and responsibilities.
- Establishing clear decision gates with adequate risk assessment at each.
- Defining the typical components of Investment mandates at various phases of a project.
- Which economic criteria to look at: reminder on economic criteria interpretation and related pitfalls.
- High-level governance pitfalls:
  - Decision making bias, reward system.
  - Front end loading, handover from project team to operations team.
  - Risk analysis and stakeholder mapping.

### INVESTMENT PROJECT VALUE ASSURANCE (1 d)
- Assurance team composition, when to conduct assurance.
- Which focus area: i.e. value focused, risked based, adapted to each project phase.
- Common risk analysis frameworks (e.g. PESTLE).
- Specific assurance issues related to projects’ economic evaluations.

### THE DECISION REVIEW BOARD GAME (0.5 d)
- Participants will role play assessment and challenge of a project, being in turn decision review board member or project team leader aiming to convince the decision review board/investment committee.

### POST INVESTMENT ASSURANCE & LEARNINGS CAPTURE TO FEED INTO FUTURE PROJECTS (0.5 d)
- Investment project lookbacks.
- Post investment reviews.
- Tools and considerations about embedding learnings.

### CASE STUDY & EXERCISES
- Participants will be asked to work on a case study and exercises along the course in addition to role playing (“Decision Review Board game”).

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Reference: PGA-EN-P  
Only available as an In-House course.  
Contact: em.contact@ifptraining.com
Enterprise Risk Management for Oil & Gas Companies

Level: KNOWLEDGE

Purpose
This course provides the most recent elements and reflections on management of integrated risk and control frameworks “Enterprise Risk Management”.

Audience
Professionals in charge of implementing internal controls and procedures, managing risks, including with regards to ethics and compliance; managers and independent board members wanting to know best practices. Technical staff moving to broader senior management positions.

Learning Objectives
Upon completion of the course, participants will have:
- obtain a global understanding of the problems attached to companies’ governance,
- know the most recent solutions developed and implemented in risk and control framework of companies,
- review and improve their department/business unit/division or company’s risk management framework.

Ways & Means
Case studies.

Learning Assessment
Participants will be evaluated during the training through quizzes and case studies.

Prerequisites
5 to 10 years’ experience in the Oil and Gas industry.

Expertise & Coordination
IFP Training trainers having expertise and industrial experience in Oil & Gas risk and control management.

Course Content

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSINESS DRIVERS &amp; CORPORATE GOVERNANCE REQUIREMENTS</td>
<td>0.75 d</td>
</tr>
<tr>
<td>IDENTIFYING, ASSESSING &amp; MITIGATING ENTERPRISE LEVEL RISKS</td>
<td>1.25 d</td>
</tr>
<tr>
<td>RISK CULTURE</td>
<td>1 d</td>
</tr>
<tr>
<td>DEALING WITH REPUTATION, COMPLIANCE &amp; CRISIS MANAGEMENT</td>
<td>1 d</td>
</tr>
<tr>
<td>TESTING RISK RESPONSES, LEARNING FROM Incidents</td>
<td>0.5 d</td>
</tr>
<tr>
<td>PUTTING IT ALL TOGETHER: COMMON STRUCTURED FRAMEWORKS</td>
<td>0.5 d</td>
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</tbody>
</table>

Reference: RMC-EN-P Only available as an In-House course. Contact: em.contact@ifptraining.com
Governance of an E&P Company

Course Content

<table>
<thead>
<tr>
<th>Course Content</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GOVERNANCE OF COMPANIES</strong></td>
<td>1.5</td>
</tr>
<tr>
<td>Internal control: where and when.</td>
<td></td>
</tr>
<tr>
<td>Principles of financial security.</td>
<td></td>
</tr>
<tr>
<td>Definition of audit, norms and standards.</td>
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<tr>
<td>Internal control: definition, modalities.</td>
<td></td>
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<tr>
<td>Internal audit, external audit.</td>
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<tr>
<td>Audit committee, Certified Public Accountants (CPAs) and external auditors.</td>
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<tr>
<td><strong>AUDIT &amp; INTERNAL CONTROL</strong></td>
<td>2</td>
</tr>
<tr>
<td>Definition.</td>
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</tr>
<tr>
<td>Code of conduct and internal audit.</td>
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<tr>
<td>International standards of internal audit.</td>
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<tr>
<td>Internal control and the COSO referential.</td>
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<tr>
<td>Risk definition and management.</td>
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<tr>
<td>Fraud definition, types and prevention.</td>
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<tr>
<td>Introduction to internal audit methods.</td>
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<tr>
<td><strong>OIL &amp; GAS SPECIFIC ISSUES</strong></td>
<td>0.5</td>
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<tr>
<td>FCPA compliance.</td>
<td></td>
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<tr>
<td>New reporting requirements for listed companies.</td>
<td></td>
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<tr>
<td>Reserves, payments to States, emission certificates.</td>
<td></td>
</tr>
<tr>
<td><strong>BEST PRACTICES STUDY</strong></td>
<td>1</td>
</tr>
<tr>
<td>Institutional answers in the USA and in the European Union.</td>
<td></td>
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<tr>
<td>Company’s organization.</td>
<td></td>
</tr>
<tr>
<td>Developing an internal culture of financial safety.</td>
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</tbody>
</table>

Ways & Means

Discussions on key issues and examples from the news.

Learning Assessment

Participants will be evaluated during the training through quizzes and case studies.

Prerequisites

Basic knowledge of the contractual and financial environment of E&P.

Expertise & Coordination

IFP Training trainers having expertise and experience in auditing of exploration-production activities.

Reference: GCEP-EN-P

Only available as an In-House course.

Contact: eco.rueil@ifptraining.com

This course is also available in French: GCEP-FR-P. Please contact us for more information.
Evelyne BARTHELEMY has more than 25 years of international experience in refining. She was Head of Cost Department, Project Manager, Process Engineer in BEICIP-FRANLAB, SOFRESID-SAIPEM and TECHNIP. 

Area of expertise: Refining Economics, Refining operations optimization, project investment evaluation

Frédéric BAULE is an Associate Professor. He is a crude oil and product market specialist.

Areas of expertise: Risk management for trading, supply, and marketing activities

J-E BLUMEREAU is an Associate Professor, doctor in law, with 30 years of international experience in a major oil company. Having held different positions in the Upstream activity, in France and abroad.

Areas of expertise: The contractual framework of Oil & Gas Exploration & Production

Ezékiel BOYER is an Associate Professor currently working for the department in charge of international business development at Engie (GDF Suez).

Area of expertise: Natural gas market liberalization

Jean-Philippe CUEILLE is in charge of the apprenticeship program at IFP School and is the former President of the International Association of Energy Economist (IAEE).

Area of expertise: Energy economics

Gilles DARMOIS is an Associate Professor and has held senior positions at Total, notably as vice-chairman in charge of financial activities in the Exploration & Production division.

Areas of expertise: Finance in O&G industry, accounting and audit

Bruno DE CORBIÈRE is an Associate Professor with a 20-year international experience in petroleum product marketing at Texaco.

Area of expertise: Shipping

David DUFLOT has a 25 years experience in Shell Chemicals Group in Manufacturing, Procurement, Strategy and in Saudi Aramco Chemicals as Operational Excellence Advisor in chemicals projects.

Area of expertise: Economics and Excellence in Operation in Petrochemicals

Mohamed Lyes DJENAOUI holds a Master of Energy Economics and is a Senior Petroleum Economist at IFP Training.

Areas of expertise: Upstream economics and investment project analysis

Karim FAÏD has 25 years of experience in teaching and economic studies.

Areas of expertise: Upstream economics and investment projects analysis

Mustapha FAÏD has held many positions throughout his 35-year career, notably as Gas Export Director then Vice President of Marketing and Development at Sonatrach. He was the General Director of the Observatoire Méditerranéen de l’Energie (OME) and President of SPTEC Advisory, a consulting firm.

Areas of expertise: Commercial negotiations and gas contracts

Jean-Pierre FAVENNEC is an expert and professor from IFP School with a long experience in the economics and management of energy and especially oil.

Areas of expertise: Oil geopolitics, petroleum economics, refining economics

Marc GRANIER has a long standing experience of the petroleum industry at ExxonMobil. He was the Refining Director at the Notre Dame de Gravenchon ExxonMobil refinery in France, Executive Vice President at the Yambu refinery and Vice President of Chemicals in Riyadh in Saudi Arabia. He has also served as Deputy General Director and International Director at IFP Training.

Areas of expertise: Refining and petrochemical economics

Lucien GUEZ has more than 30 years of experience at ExxonMobil in refining, supply and international trading.

Areas of expertise: Petroleum economics, supply, and oil markets
Daniel KOSKAS is an Associate Professor, currently working as a legal auditor and a certified public accountant for international companies in the Oil & Gas sector. His areas of expertise are internal control and focused audits as well as legal audits for the certification of financial statements.

Lionel LAFAGE has an international career and a large experience in energy management after more than 32 years in operation, services and project management in power generation. His areas of expertise are project and operation management in the Energy sector, CCGT projects, strategy development of Gas to Power.

Christian LA MARRE, Associate Professor, has more than 35 years in international experience at Total, as General Manager in Total E&P subsidiaries in Asia and Africa. His areas of expertise include EP contracts and procurement, Finance, Economics.

Frédéric LANTZ has supervised applied research projects related to linear programming and econometrics, first for Ifremer and then for IFP School. His area of expertise is quantitative methods.

Ruchdi MAALOUF is an Associate Professor with 12 years of experience in upstream oil and gas and LNG projects where he held various legal and commercial positions. He is solicitor qualified in England & Wales and in the Republic of Ireland and runs the oil and gas team at French law firm De Gaulle Fleurance & Associés. His area of expertise is EP contracts and procurement, Finance, Economics.

Patrick MONIN, Associate Professor, has a 30 years finance experience at Shell. He has a broad operational, commercial and financial skills in upstream and downstream activities. His areas of expertise are Finance, investment projects, Value assurance management, M&A.

Pierre NOAILLY, Associate Professor, has an international experience in Downstream at Total. He was Supply, Refining Operations, Strategy & Development Manager for Downstream in France, Asia and Africa. His area of expertise is Supply, Refining Economics.

Jordi PLATS FERAL holds a Master of International Economic and Financial Risk Management and is a Petroleum Economist at IFP Training. He held different positions in Trading and Economy for Total, in France and Africa. His areas of expertise are Oil & Gas geopolitics, upstream economics & contracts, investment projects analysis.

Pascal POUPEL relies on 25 years of international experience with Shell. He has held various positions in Exploration and Production operations followed by responsibilities in economics and gas new business development. His areas of expertise are EP economics, investment project analysis, Gas new Business development.

Philippe ROCHOUX has spent most of his career at Total. He joined the company in 1980 and occupied various positions mainly in the Exploration & Production Division in Finance in Europe & West Africa, and has held executive positions in Kazakhstan and Iran. His areas of expertise are Finance and audit.

Sylvie SAULNIER is the Director of the Economics & Management Division at IFP Training. In her 15-year career at Shell, she has held different positions in R&D, International Development and Finance & Strategy. Her area of expertise is Downstream economics.

Pierre TOGNET, Associate Professor, has more than 30 years international experience at Shell and is an expert in Petroleum Economy, value creation, decision support, risk management, model building, fiscal systems. His area of expertise is upstream economics, investment projects analysis.

François VATIER, Associate Professor, has more than 30 years in Total. He has many positions as Total representative and Manager in Europe, Africa and Middle East. His area of expertise is upstream Economics, EP contract and negotiation.

Dominique VENET is an Associate Professor with a 30-year career at Total and EDF. He has held senior positions in the upstream sector and business development in gas and LNG. His areas of expertise are Business development, financial engineering, and gas contracts negotiations.
Registration

Identify on the course program the course reference, the price, the location and the dates you are interested in; as well as the contact name for registration.

So that your registration is done in the best conditions, please follow the procedure below:

- **3 weeks minimum** before the beginning of the course → register preferably on our website: https://www.ifptraining.com
  
or send the fully completed registration form (downloadable on our website or available from one of our secretarial departments).

- **2 weeks minimum** before the beginning of the course → Please make the full payment
  
  - By check payable to IFP Training, 232 avenue Napoléon Bonaparte – 92852 RUEIL MALMAISON CEDEX
  
  - By bank transfer to IFP Training
    
    NATIXIS n° 30007 99999 04165583000 12
    
    IBAN: FR76 3000 7999 9904 1655 8300 012 – NATXFRPPXXX

  Should a sponsoring organization (like OPCA in France) pay for the course, please specify it on the registration form.

  Do not hesitate to contact us for a late registration.

  **Tuition fee includes instruction, documentation as well as meals and beverage breaks.**

  **IFP Training will send to the authorized person indicated on the registration form:**
  
  - a written confirmation by mail
  
  - one or several invitations for the participants
  
  - useful information about the training course (access to the training center, training hours, etc.).

**Who should you send your registration form to?**

The registration form can be sent by email, mail or fax.

It should be sent to the entity organizing the course you have chosen. This entity appears at the bottom of the course program.

All enrolments are considered as accepted orders as soon as the enrolment confirmation issued by IFP Training has been received and implies the client’s full commitment to these Terms & Conditions which prevail over all other Client documents, including general purchasing conditions.
Your Contacts

Exploration & Production

Rueil-Malmaison

- Geosciences & Reservoir Engineering
- Production & HSE Engineering & Project Management

232 avenue Napoléon Bonaparte
92852 Rueil-Malmaison Cedex - France

Secretarial Department
Tel. + 33 (0)1 41 39 11 60
Fax + 33 (0)1 47 08 92 83
ep.contact@ifptraining.com

Pau

- Drilling & Completion
- Production & HSE Engineering & Project Management

Rue Paul et Henri Courteault
64000 Pau - France

Secretarial Department
Tel. + 33 (0)5 59 30 82 50
Fax + 33 (0)5 59 30 68 76
ep.contact@ifptraining.com

Refining & Chemicals

Rueil-Malmaison

232 avenue Napoléon Bonaparte
92852 Rueil-Malmaison Cedex - France

Secretarial Department
Tel. + 33 (0)1 41 39 11 00
Fax + 33 (0)1 47 08 92 83
rc.contact@ifptraining.com

Solaize

Rond-point de l’échangeur de Solaize
BP3 - 69360 Solaize - France

Secretarial Department
Tel. + 33 (0)4 37 37 68 20
rc.contact@ifptraining.com

Martigues

Le Bâteau Blanc - Bât. C
Chemin de Paradis
13500 Martigues - France

Secretarial Department
Tel. + 33 (0)4 42 44 43 00
Fax + 33 (0)4 42 80 61 20
rc.contact@ifptraining.com

Lillebonne

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Rue A. Desgenetais
76170 Lillebonne - France

Secretarial Department
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Fax + 33 (0)2 35 38 62 03
rc.contact@ifptraining.com

CFA Lillebonne

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IC Engines & Lubricants

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ml.contact@ifptraining.com

Economics & Management

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Secretarial Department
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em.contact@ifptraining.com

IFP Training Middle-East

contact.middleeast@ifptraining.com
Tel. + 973 17 21 01 38

IFP Training Congo

contact.congo@ifptraining.com
Tel. + 242 (0)6 655 43 43
Tel. + 33 (0)1 41 39 12 12

General Contact Information: Tel. + 33 (0)1 41 39 12 12 - contact@ifptraining.com
General Terms of Sale

1. Purpose and scope
The purpose of these General Conditions of Sale (hereinafter referred to as the “GTC”) is to define, both in France and internationally:
- on the one hand, the organization and implementation of In-house training sessions (including via virtual classes) by IFP Training on behalf of the client (hereinafter the “Client”), signatory of the Training Order defined below;
- on the other hand, the general conditions for participation in the Public training sessions (including via virtual classes) organized by IFP Training.

2. Order provisions
Every request is placed on the basis of an IFP Training commercial proposal (serving as the special terms for the present GTC), particularly setting specific conditions for training services to be provided, the price and the payment terms (hereafter the “Training Order”).

For In-house training sessions
Unless indicated otherwise, IFP Training commercial proposals are valid for a three-month (3) period from the date of dispatch of the IFP Training commercial proposal to the client.

The Training Order shall be submitted by the Client at least five (5) weeks before the starting date of the first requested session. IFP Training reserves the right to refuse late orders.

The Training Order will be binding upon IFP Training once IFP Training has received the following documents:
- the IFP Training commercial proposal initialed on each page, with the last page containing the handwritten indication “Accepted and Agreed”, as well as the Client’s signature and commercial stamp, if any;
- these GTC with initials on each page;
- contact details of the invoice’s recipient, and all information to be contained in the invoice.

As such, the Training Order is made up of the following documents, in decreasing order of priority:
1. IFP Training commercial proposal;
2. IFP Training GTC;
3. all other documents referred to in the IFP Training commercial proposal.

Client’s acceptance of the IFP Training commercial proposal constitutes its firm and definitive commitment to the Training Order and implies the non-applicability of its own general terms of purchase, even if mentioned in the Client purchase request.

For training sessions delivered via virtual classes, the connection links will be sent to the Client at least five (5) days before the training session to allow the Client to carry out connection tests.

For Public training sessions
All inscriptions to training sessions shall be carried out three (3) weeks prior to the session start date. IFP Training reserves itself the right to accept late enrolment. The number of participants per session is limited.

Enrolment will be confirmed once the organization center receives a fully completed enrolment form via email, fax or mail. Incomplete enrolment forms will not be accepted. Enrolment will be final once payment has been received in full or once an acceptance certificate from a sponsoring organization has been received.

Enrolments are considered accepted orders as soon as the enrolment confirmation issued by IFP Training has been received and implies the client’s full commitment to these Terms & Conditions which prevail over all other Client documents, including general purchasing conditions.

If the entire cost of the session is not paid two (2) weeks before the training session begins, IFP Training reserves itself the right to reopen registration the places booked by the Client, after having informed them. If full payment is received IFP Training will, at least two (2) weeks prior to the start of the session, send a letter to the Client designated on the form to confirm their enrolment. A personal invitation will be attached to the letter and which provides all practical information about the session (schedule, directions, etc.).

For training sessions delivered via virtual classes, the connection links will be sent to the Client at least five (5) days before the training session to allow the Client to carry out connection tests.

3. Invoicing and payment
3.1. Price

For In-house training sessions
Invoicing and payment schedule is defined in the commercial proposal. Unless indicated otherwise in said proposal, quoted prices are in Euros and exclusive of taxes; VAT at the applicable rate and/or any possible duties and/or taxes withheld at the source according to the applicable legislation shall be added. Prices are firm and not subject to revision.

For Public training sessions
Enrolment fees cover training (teaching, practical activities, simulators and other IT tools, documentation, supplies) as well as break-time related costs (refreshments). And do not cover transport and accommodation. The price on the order form is indicated in Euros, tax not included. VAT at the current rate will be added to the indicated price plus any other withholding taxes.

All training sessions, once started, have to be paid in full. Upon request, IFP Training may decide to apply reduced enrolment fees for job seekers.

3.2. Payment
Payment will be made by bank transfer to the beneficiary IFP Training: NATIKS account No. 30007 99999 0416558300012 IBAN: FR76 3000 7999 9904 1655 8300 012 – BIC: NATXFRPPXOO

Payment by a third party organization (such as accredited collecting funds for training): if Client makes a third party pay for the training, it must so inform IFP Training at the time of the Training Order. In this case, IFP Training will make its reasonable efforts to provide the documents requested by the Client (possible translation at the Client’s expense). The Client will ensure that payment is made by that third party. In case of non-payment or partial payment by said third party for any reason whatsoever, all sums not received by IFP Training on the due date will be borne by the Client.

For Public training sessions, the training session will only be accessible to the Client once that IFP Training has been paid in full. By check to the order of:
IFP Training - 232, Avenue Napoléon Bonaparte F-92852 Rueil-Malmaison Cedex
Via bank transfer to IFP Training above mentioned account.

A duplicate is available provided that the Client requested it on the enrolment form.

If the Client wishes to pay using a sponsoring organization, the following procedures should be followed:
- before the start of the session, a request for direct billing should be issued and accepted;
- this shall be indicated explicitly on the enrolment form;
- the Client ensures the completion of payment by the designated organization.

IFP Training will provide the Client with all documents needed to make a sponsoring request.

If the sponsoring organization only bears part of the training cost, the remaining amount will be charged to the Client. Only payments by sponsoring organizations before the first day of training will ensure enrolment and access to the training.

If, for whatever reason, the sponsoring organization doesn’t pay, the Client will be charged the full training amount. At the end of the session IFP Training will send the sponsoring organization an invoice along with a copy of the certificate of attendance signed by the participant.

3.3 Late payment
Pursuant to the provisions of article L441-6 of the French Commercial code, all sums not paid on their due date will require Client to pay late payment penalties equal to three (3) times the French legal interest rate. These penalties are due until full payment. In the event of late payment, www.ifptraining.com
General Terms of Sale

the Client will also owe to IFP Training a fixed compensation of forty (€40) Euros for collection costs. Should collection costs be higher than such fixed compensation, IFP Training can demand additional compensation from the Client by providing supporting proof.

IFP Training also reserves the right to interrupt the performance of the services if an invoice is not paid on or before the due date, without prejudice to any other recourse.

4. Cancellation and deferral - Modification of services

4.1 Cancellation and deferral conditions

► For in-house training sessions

By the Client: Any request for cancellation or deferral of all or part of the Training Order by Client shall be notified to IFP Training in writing, with acknowledgment of receipt, no later than three (3) weeks before the session date. This three (3) week delay is counted from the date of reception by IFP Training of said request.

(i) In case of deferral:

Any deferral requested less than three (3) weeks before the session date will be considered by IFP Training as a session cancellation. The conditions of (ii) or (iii) below will then apply.

(ii) In case of partial cancellation of the Training Order (i.e. cancellation of one or more sessions):

For any Training Order or part thereof cancelled while giving the required three-weeks prior written notice, the Client will only pay the expenses already incurred by IFP Training (including internal preparation costs) that cannot be deferred.

For any session cancelled between one and three (3) weeks before the session date, the Client will have to pay 60% of the price of the cancelled session.

For any session cancelled with a notice given less than one (1) week before the session date, the Client will have to pay 100% of the cancelled session’s price.

Full payment is required for every session performed, however partial. The Training Order will remain valid for all non-cancelled sessions.

(iii) In case of the Training Order’s total cancellation:

The provisions of (i) will be applicable to the entirely cancelled Training Order and to the total price of the Training Order.

By IFP Training: IFP Training reserves the right to cancel or defer any session providing a three–(3) week prior notice, by e-mail, fax or letter. No compensation will be paid to the Client but IFP Training undertakes to agree with Client on a new session date within four (4) months.

► For public training sessions

By the Client: Cancellation by the Client shall be sent in writing to IFP Training. In the eventuality of a cancellation, even due to force majeure, less than 14 calendar days before the beginning to the session, 50% of the enrolment fee will be charged by IFP Training, except if a participant from the same company takes the participant’s place. Such a replacement must be communicated to IFP Training and confirmed by sending a new enrolment form.

In case of non-cancelled enrolments (including absenteeism or dropout), 100% of the enrolment fee will be charged by IFP Training. In case of an unforeseen departure, justified by the Client, the participant may be authorized to take part in a later session with the prior consent of IFP Training.

By IFP Training: IFP Training reserves itself the right to cancel or postpone a session, especially if there are an insufficient number of participants. The Client will be notified by telephone at least 2 weeks before the session was due to begin. The cancellation will be confirmed in writing. The payments received will be fully refunded. No compensation on behalf of IFP Training will be given to the Client due to cancellation or postponement of a session.

4.2 Modification of services

Any modification of the training services requires an amendment to the Training Order.

IFP Training must be given prior written notification of any change of the number of session participants, such changes being subject to the following conditions:

- Any downward adjustment of the number of Client’s session participants can be considered by IFP Training as a partial cancellation of the session in question and will thereby be managed according to the rules listed in article 4.1 (i) that will be applied to the unit cost per participant indicated in the commercial proposal (or, failing that, by dividing the total Training Order amount by the number of Client’s participants).

- Any additional participant will be subject to prior approval of IFP Training and to an additional commercial proposal.

- Any request for a change of the number of participants must be submitted to IFP Training no later than one (1) week before the concerned session date.

Client can replace a participant with another, after notifying IFP Training.

5. Conditions for performance of the services

To fulfill the Training Order, IFP Training will perform the services proposed at the commercial proposal accepted by Client through qualified trainers.

► Performance site:

The site where the training services will be performed is indicated in the Training Order. Should the training be provided outside of an IFP Training site, the Client will ensure the access of IFP Training and its trainers to the premises where the sessions will be held, and will provide them with all material and equipment (i.e. computer, projector, screen…) needed for the performance of the services on the site in accordance with IFP Training specifications.

The delivery of services can also be carried out through virtual classes.

► Client’s information and obligations:

Client will provide IFP Training with the information and data specified in IFP Training commercial proposal, as well as all information needed to facilitate the services’ performance.

In case of late delivery of said needed information, IFP Training may decide to defer the concerned sessions and shall so inform the Client. In this case, IFP Training and the Client will jointly agree on new dates for these sessions.

All data and information provided by the Client will be kept confidential by IFP Training. At the Client’s written request, such data and information can be returned to the latter at the end of the Training Order.

The Client bears sole responsibility for the data and information that it provides to IFP Training for the performance of services. The data and information provided by the Client remain its property.

For virtual classroom training, the Client will have to ensure beforehand, and throughout the training session, that its technical environment is permanently compatible with IFP Training’s distance learning platform. After the first connection test, the Client may not claim any incompatibility or defect in access to the service. Moreover, the Client states to be aware of and accept the characteristics and limits of the transmission of information via the Internet network, as well as the costs involved in connecting to this network. In addition, the Client acknowledges that it is his/her responsibility to ensure that the technical characteristics of the equipment he/she uses allow him/her access to the training session under good conditions and to take all appropriate measures to be protected from contamination by possible malicious programs.

The Client is entirely responsible for the management and use of the identifiers and passwords communicated by IFP Training for the training session and is responsible for the safekeeping of these identifiers and passwords. Consequently, it is up to the Client to implement all precautionary measures necessary for their protection and conservation. The Client is responsible for the consequences of their use. IFP Training shall in no case be held responsible for any fraudulent use of the Client’s login and password. The Client undertakes to inform IFP Training of any fraudulent use of the username and password as soon as he or she becomes aware of it.
General Terms of Sale

The Client may under no circumstances make the training session available to a third party and strictly refrains from any other use, in particular any adaptation, modification, translation, arrangement, distribution, decompilation, without this list being exhaustive.

For the certifying courses: the issuance of the certification will be subject to full payment of the price of the training session.

In the case of short-term training course (training course of a maximum duration of three (3) days), the payment will be made when signing the Contract.

6. Information technology and freedoms

Information of a personal nature provided by the Client to IFP Training for the performance of the session may be communicated to the contractual partners of IFP Training and to the trainers for the purposes of the services. Pursuant to the provisions of French law No. 78-17 of January 6th 1978, the persons in question can at any time exercise their rights to access, oppose and rectify said information within the IFP Training files.

7. Property rights to the pedagogical documents

Parties shall be bound by an obligation of confidentiality with regard to all documents and information specified as confidential during the training session, whatever their format. The Parties undertake to ensure compliance with this obligation by all their personnel and, more generally, by any person put in contact with the other Party by one Party during the training session. All educational documents and information transmitted by a Party within the framework of the training sessions belong to the said Party and/or its contractual partners and/or trainers and their use, disclosure or copy is prohibited unless prior written agreement has been obtained from the disclosing Party.

Under no circumstances may these GTS be interpreted as conferring, expressly or implicitly, on the recipient Party the grant by the disclosing Party of a license right, or a promise to grant a license right, for any direct or indirect reproduction, adaptation, modification, representation or dissemination by the recipient Party, in any form whatsoever, of all or part of the documents (in particular educational documents produced by IFP Training) transmitted by the disclosing Party and/or the information contained, to its non-participants at the session or to third parties; any use for the purpose of marketing, organizing or carrying out training activities (including internal training) is expressly prohibited.

The Recipient Party is responsible for any unauthorized use, copying or distribution of information or documents (in particular educational documents produced by IFP Training) transmitted by the Disclosing Party, its partners and/or its trainers, as the case may be, transmitted by the Disclosing Party as part of the training sessions. The Client agrees not to remove any proprietary notices present on educational documents sent by IFP Training as part of the services.

8. Advertising

Any use by Client of the “IFP Training” name for promotional or advertising purposes must have received the prior written approval of IFP Training. IFP Training reserves the right to mention the Client as being one of the IFP Training Clients for advertising purposes, on any support and medium.

9. Undeclared labor - Subcontracting

IFP Training fully complies with French labor, fiscal and social laws pertaining to its trainers.

IFP Training may subcontract the performance of part of the training services to qualified partners, who shall also comply with French labor, fiscal and social laws pertaining to their trainers. In no way does subcontracting release IFP Training from its obligations and liabilities pursuant to the present General Terms of Sale.

10. Force majeure

For the purposes of this GTC, the term force majeure (hereinafter referred to as “Force Majeure”) shall have the definition provided for in Article 1218 paragraph 1 of the Civil Code.

The Parties agree to consider as a Force Majeure event notably extreme weather conditions, lightning or fire, any requirement demanded for the protection of public safety, strikes, social movements from the personnel of the prevented Party or from the personnel of its subcontractor(s). The Party that is prevented from executing its obligations under the present Training Order because of the occurring of a Force Majeure event shall inform the other Party(ies), as quickly as possible by any means, confirmed in writing by the dispatching of registered letter with an acknowledgement of receipt, within a five (5) working days period following the occurrence of said event, indicating the nature of its circumstances and, as far as possible, its estimated duration and the extent of the impediment.

This Force Majeure event shall result in the suspension for the prevented Party and/or any other Party which is directly impacted by said event of its obligations under the Training Order. Therefore, no Party shall be held liable for the delay in the execution, or for the inexecution of all or part of its obligations under the Training Order is this delay or this inexecution is due to the occurrence of a Force Majeure event.

The Party having invoked the Force Majeure event shall:
- make its best efforts in order to limit and/or mitigate as much as possible its consequences in order to timely resume the execution of the Training Order;
- continue the execution of the contractual obligations that are not affected by the Force Majeure event;
- inform the other Party(ies) in writing of its termination.

The suspended obligations shall be executed again as soon as the Force Majeure event has ceased. The contractual deadlines shall be extended by the duration of said event. Should the effects of the Force Majeure event continue beyond a thirty (30) working days period from its occurrence, the Parties shall seek to reach agreement in order to decide on the further course of action for the execution of the Training Order.

In case of a Force Majeure occurrence lasting more than thirty (30) consecutive days, the Party faced with such Force Majeure occurrence can immediately terminate, by the dispatching of registered letter with an acknowledgement of receipt, the Training Order, without compensation to the other Party.

11. Termination

The Training Order may be terminated by either of the Parties in the event of non-performance by the other Party of one or more of its obligations in accordance with the Training Order. Termination shall only become effective one (1) months after the dispatching by the Party claiming non-performance of a registered letter with acknowledgement of receipt unless the breaching Party has cured its non-performance.

12. Liability - Insurance

Except in case of willful misconduct, IFP Training and the Client will respectively deal with the consequences of accidents that may occur during the performance of the Training Order and involving their own personnel, including the session participants that they directly or indirectly employ as well as their property or any property in their custody, irrespective of the author of the damages.

For the training courses carried out via virtual classes, the impossibility of using the purchased service for any reason whatsoever, in particular due to incompatibility with the Client’s equipment, can under no circumstances give rise to compensation or cancellation of the training session with IFP Training. Accordingly, each party waives any recourse against the other for any damages caused to persons and property, except in case of willful misconduct.
General Terms of Sale

Each Party shall be solely liable for any loss, damage or injury to third parties resulting from the performance of the said Party’s obligations by it or on its behalf under the Training Order.

Moreover, under no circumstances can IFP Training be held liable for any financial, commercial or other damage directly or indirectly caused by the use of any information provided by IFP Training within the framework of the training sessions.

In all other cases, Client acknowledges that the liability of IFP Training is strictly limited, for direct damages, to the price of the Training Order and excludes any indirect damages.

In view of the above provisions, IFP Training and the Client shall ensure that their respective insurers waive any subrogation rights against the Parties. Should IFP Training or Client fail to ensure this waiver, the defaulting party will bear the financial consequences.

Client undertakes to obtain and maintain, for the duration of the session and at its own expenses, the validity of all insurance policies needed in order to cover the risks, liabilities, direct or indirect damages and illnesses that could be suffered by the participant(s), its personnel or its property, obtained from duly solvent insurance companies.

At its expenses, IFP Training undertakes to subscribe and maintain the validity of the insurance needed for the coverage of its liabilities under the Training Order.

13. Personal data

As the person responsible for processing its personnel file, the Customer undertakes to inform each employee (hereinafter referred to as the User) that:

- personal data concerning him/her are collected and processed by IFP Training for the purposes of conducting and monitoring training and prospecting and promotion;
- the connection, the training path and the follow-up of the Users’ knowledge are data accessible to its services and in particular to the staff;
- in accordance with the provisions of the French Data Protection Act of 6 January 1978 in its version in force at the time of the Order, as well as the provisions of the General Data Protection Regulation (EU Regulation 2016/679 of the European Parliament and of the Council of 27 April 2016 applicable as from 25 May 2018), the User has a right to access, modify, rectify and delete his personal data (hereinafter “Rights”) concerning him and that for this purpose, an online request specifying the identity and e-mail address of the applicant can be addressed to IFP Training.

The Rights provided for in the preceding paragraph may be exercised by contacting customer service at the following email address: rpd@ifptraining.com or by writing to IFP Training Service Marketing 232 avenue Napoléon Bonaparte, 92852 Rueil-Malmaison Cedex - France.

The Client is responsible for the conservation and confidentiality of all personal data concerning the User to which he has had access.

The personal data collected by IFP Training are necessary for the execution of the training referred to in the GTC and may be used for prospecting and promotion purposes. They are kept as long as the User has an Account not closed and within three months following the closing date. IFP Training nevertheless reserves the right to archive any personal data it may have collected in execution of the Order, for the duration of the limitation of liability actions. In this case, IFP Training will ensure the security and confidentiality of the archived data storage to which only IFP Training will be able to access for the exclusive purpose of a possible litigation whose resolution requires the judicial communication of said data.

14. Miscellaneous provisions - Litigation

14.1 The fact that a Party does not invoke the benefit of a clause of the Order does not entail a waiver by it of the benefit of that clause.

If one or more of the provisions hereof were to prove null and void under an applicable law or decree or a final judicial decision, it (they) would then be deemed unwritten. However, the other provisions would remain in full force and effect.

A notification by registered letter with acknowledgement of receipt shall be deemed to have been sent on the date appearing on the stamp affixed by the postal services.

Upon completion of the training session and/or in the event of early termination of the Order for any reason whatsoever, the provisions of Articles 6, 7, 8, 12 and 13 shall remain in effect.

The present General Terms of Sale are subject to French law. Any dispute, not resolved amicably between the Parties within one (1) month, and relating to the validity, performance or interpretation of these General Terms of Sale shall be subject to the jurisdiction of the Commercial Court of Nanterre, including in cases of multiple defendants.

14.2 Fight against corruption

IFP Training and the Client undertake to fight against corruption in all its forms, public or private, active or passive both vis-à-vis their suppliers or subcontractors and vis-à-vis their principals.

In this respect, the Client undertakes to comply with French anti-corruption legislation, similar legislation applicable at the place of execution of the Order when all or part of the Order is carried out outside France, as well as IFP Training’s charter of good conduct, which can be accessed on its website at the following address: www.ifptraining.com

For all matters relating to the Order, the Parties state and guarantee that they do not and will not give or offer to give, directly or indirectly, any sum of money or any other pecuniary or non-pecuniary benefit to anyone for the purpose of obtaining the Order or facilitating its execution.

The Parties undertake to keep all accounting documents and other evidence of payments made or received and expenses incurred by them in connection with the Order during its term and at least three (3) years from the date of expiry or termination of the Order. Each Party or a third party appointed by it shall have the opportunity to audit such documents, subject to reasonable notice to ensure compliance by the other Party with the provisions of this clause.

In case of violation of this clause by one of the Parties, the other Party reserves the right to suspend, for a period not exceeding three (3) months; and/or terminate the Order automatically, without any formalities, and at the sole discretion of the said Party.