Training - Financial Management in the Energy Business

AGFE-EN-P | Face-to-face only | 3 days

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

Level

Knowledge

Public

Technical, business development 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)

Objectives

Attendees will be able to implement the following skills:

- Interpret the main financial indicators of their organization to better contribute to value creation,
- Evaluate the expected profitability of investment projects,
- Understand the criteria for selecting a company's financial structure

Pedagogical & technical resources

- Exercises.
- Case studies: financial analysis of a company, evaluation of an investment project (offshore Wind farm)

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

DEFINITIONS — 0.6 day

Financial management objectives. Key performance indicators in the energy sector.
Understanding financial statements. Fundamental accounting principles. Difference between income statement and cash flow.

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VALUE MANAGEMENT — 1.7 days

Analyzing and managing the financial performance of operations. Energy companies management targets/objectives: "Total Shareholder Return", ROCE, ROE). Cost of capital. Financial analysis ratios. Dashboards. Assessing the profitability of an investment project: discounting methodology and economic indicators (NPV, IRR, Payback time...), sensitivities.

OPTIMIZING THE FINANCIAL STRUCTURE OF THE FIRM — 0.7 day

Choosing the financial structure of the firm. Gearing.
Solvability, borrowing capacity.
Examples of typical energy financing methods: project financing, green bonds.

Sessions

Rueil-Malmaison - From 10/13/2026 to 10/15/2026 **2970 €/HT**

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Training - New Fuels: Impact on Engine and Turbine Operation

BIOMOT-EN-P | Face-to-face only | 3 days

This course provides a deeper knowledge on issues raised by the use of the new fuels planned for the near or further future: biofuels, gaseous fuels, synthetic fuels, alternative jet fuels

Level

Knowledge

Public

Engineers and technical staff involved in motor fuel quality management in relation to engine technologies

Objectives

Attendees will be able to implement the following skills:

- Analyze the context and development potential of alternative fuels (political context, potential of new sectors, standardization mechanisms for new products),
- Describe the main methods of obtaining these products and their economic and environmental impact, and know/recognize the main characteristics of these products,
- Evaluate the impact on the operation of piston combustion engines and turbines and define the resulting engine and vehicle adaptations.

Pedagogical & technical resources

Industry experts.

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course.

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

FUELS STRUCTURE & MAIN PROPERTIES — 0.5 day

Groups of hydrocarbons, alcohols, ethers, fatty acid esters.
Fuels required properties for engine operation

- Heat value, specific energy.
- Volatility: vapor pressure, distillation.

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- Combustion: octane rating and cetane rating.
- Cold flow properties: cloud point, CFPP, pour point.
- Lubricating properties.
- Viscosity.
- Sulfur content.
- Stability, corrosion.

Gasoline and Diesel fuel structures from oil bases. Specifications.

SYNTHETIC FUELS: GTL, BTL, CTL — 0.25 day

Processes to get such fuels.
Economic and environmental impacts.

BIOFUELS — 1 day

Situation and stakes

- Biofuels policies in the world: Brazil, United States and Europe situations.
- Biofuels production chains, well-to-wheel ecobalance, available resources.

Spark Ignited engine biofuels

- Production chains.
- Ethanol and ETBE characteristics.
- Potential and difficulties linked to the use of gasoline-alcohol mixtures: octane rating, latent heat of evaporation, water tolerance, volatility, corrosion, pollutant emissions, lubrication.
- Flex-fuel engines: difficulties linked to the use of ethanol high rated fuels, technical solutions.
- Second generation ethanol.

Biofuels for Diesel engines

- Use of direct vegetable oils (DVO) on Diesel engines: principles and limits. Fatty acid esters characteristics and impacts on the engine operating: solubility, “sulfur free”, lubricating properties, emissions, washing power, dilution, cetane rating, cold engine behavior, heating value.
- Storage stability, oxidation stability.
- "Biohydrocarbons” (hydrotreated oils): production modes, characteristics.

Biofuels for aeronautic turbine

- Certification, fit-for-purpose tests, drop-in fuel.
- Main certified (or in certification process) production ways: DVO hydrotreatment, synthetic biofuels, biological processes.
- Impact on logistics, aeroplanes and aeronautic turbines.

OTHER ALTERNATIVE FUELS — 0.25 day

Synthesis alternative fuels: GTL, BTL, Methanol (production processes).
Economical and environment impact.

GASEOUS FUELS: GPL-C, NGV (NATURAL GAS VEHICLE), DME, HYDROGEN — 0.25 day

Origins and resources of these fuels.

IMPACT OF NEW FUELS ON IC ENGINES & TURBINES OPERATION — 1 day

Impact of partial or full use of new fuels on performances, polluting emissions and on-board storage.
Case study and adaptation:

- Road transportation engines: passenger cars and trucks.

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- Industrial and stationary engines.
- Marine engines.
- Stationary turbines.
- Aero turbines.

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Training - Energy Transition Economics

CETE-EN-P | Face-to-face only | 60 days

The energy sector is amid a profound transformation This program in energy transition economics provides knowledge and knowhow for professional in the key disciplines mobilized in energy transition projects. It offers to professionals the opportunity to acquire high-level, energy, environment, economy, business modeling skills and an in-depth understanding of the industrial dynamics observed in the renewables energy sector: wind, solar, ...

IFP Training Certificate

Graduate Certificate

Level

Knowledge

Public

All the key players engineers, business analysts, project leaders, managers, in charge of implementing the Energy Transition

Objectives

Attendees will be able to implement the following skills:

- Understand the global context and the challenges of the energy sector (control of CO2 emissions, climate change, sustainable mobility , the characteristics of the gas chain and the place of natural gas in the transition.
- Prepare technical-economic and financial studies for investment projects supporting the energy transition.
- Identify and decipher the strategies of the various players,
- Understand the functioning of the electricity market and the integration of renewable energies into the network.

Pedagogical & technical resources

- Highly interactive training with industry-specific speakers
- Computer simulated case studies based on gas projects
- Quizzes, videos and application exercises
- Team-work - Case studies - real cases

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the

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specific needs of learners from the professional world

Program

MODULE 1 - ENERGY CHALLENGES OF THE 21ST CENTURY — 5 days

Climate Commitments.
Energy Needs and Climate Change.
Energy transition and geopolitics.
Oil and Gas vs Power.
Oil and Gas Companies Strategies.

MODULE 2 - ENERGY EFFICIENCY IN THE ENERGY TRANSITION — 3 days

Energy efficiency issues in different sectors, Energy audit of an industrial site.
Financing of Industrial Energy Efficiency.
Sustainable development perspectives of the energy sector.

MODULE 3 - SUSTAINABLE MOBILITY — 3 days

Policy, Planning and Design for Sustainable Mobility - Country cases.
Transitional fuels: biofuels, gas and LNG, hydrogen fuel cells.
The electric vehicle: motor, battery, range, subsidies, connected mobility, etc.

MODULE 4 - GREEN ENERGY ECONOMICS — 5 days

Focus on Biomass: Methanization and waste recovery economics.
The Hydrogen value chain: Industrial scale up.
Fuel Cells and power production.
Geothermal development and sustainability.
Wind and Solar Economic Development.

MODULE 5 - ENERGY STORAGE AND SMART SOLUTIONS — 4 days

Type of Electrical Energy Storage: Characteristics and parameters.
Types and applications of thermal energy storage.
Off-grid systems, architecture, and sizing - Cost and Pricing.
Future developments in energy Storage toward smart solutions.

MODULE 6 - TECHNICAL FEASIBILITY AND COST ANALYSIS FOR RENEWABLE ENERGIES — 4 days

Science Fundamentals and technologies for Renewable Energies.
Production costs associated with each technology.
Life cycle carbon footprint.
Focus in Solar Energy.

MODULE 7 - RENEWABLE ENERGY MANAGEMENT AND FINANCE — 5 days

Renewable Energy Finance and Sustainable Design.
Method of Financing: FIT/RHI/ ROCs / PPA/ EPC.
Basic Project Finance & Technical calculation – e.g.: energy, economics, emissions, ...
Life Cycle Assessment Approach.
Government Policy and Support Schemes / Incentives and barriers to investment.

MODULE 8 - CCUS AND ECONOMICS — 4 days

CCUS Technology: Where are we?
CCUS project integration and Cost of Development.
CCUS price vs Carbon Credit.

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Profitability and Financing the Carbon Capture and Storage.

MODULE 9 - CARBON FINANCE — 4 days

Sustainable Development and Green management.
From the Carbon footprint to the Carbon Credits.
Carbon finance and carbon trading.
Carbon management strategies.

MODULE 10 - ELECTRICITY MARKET & INTEGRATION OF RENEWABLE ENERGIES INTO THE GRID — 5 days

The electricity market in the context of the transition.
Functioning of the electricity network.
Energy Storage: From the meter to grid operation.
Electricity trading.
Economics of Smarts Grids.

MODULE 11 - FOCUS ON NATURAL GAS WITHIN THE ENERGY TRANSITION — 5 days

Fossil Fuels future: a still a role to play for the natural gas.
Natural gas value chain and carbon neutrality.
Sustainable development for gas and LNG.
Gas and LNG Economics vs CCUS.
Natural gas source to power production.

MODULE 12 - SOCIETAL & ENVIRONMENTAL IMPACT OF THE ENERGY TRANSITION — 3 days

Global and national governance of the energy transition.
CSR: corporate governance and social responsibility.
The role of digital technology in supporting the energy transition.

MODULE 13 - FINAL PROJECT APPLIED TO ENERGY TRANSITION ECONOMICS — 10 days

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Training - Energy Transition: Positioning of the Key Players

DETE-EN-P | Face-to-face only | 2 days

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

Level

Awareness

Public

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

Objectives

Attendees will be able to implement the following skills:

- Understand the impact of energy on greenhouse gas emissions, and analyze the challenges faced by decision-makers in choosing alternatives to fossil fuels
- Appreciate societal, political and individual trends and their ambivalence in the face of the challenge of the energy transition
- Have learned how some Oil & Gas companies are adjusting their activities facing the energy transition challenge

Pedagogical & technical resources

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

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

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THE NEW ENERGY MIX — 1 day

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 — 1 day

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.

Sessions

Rueil-Malmaison - From 05/26/2026 to 06/27/2026 — **1920 €/HT**

Rueil-Malmaison - From 11/26/2026 to 11/27/2026 — **1920 €/HT**

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Training - Energy and Climate Change

ECCL-EN-P | Face-to-face only | 2 days

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

Level

Knowledge

Public

- 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

Objectives

Attendees will be able to implement the following skills:

- raise awareness of the global challenges of the energy transition and analyse the long-term changes in the energy mix and its impact on climate change
- understand public policies, their impact on the environment and understand the global societal challenges of renewable energies

Pedagogical & technical resources

- Quiz on the different renewable energies
- Videos
- Case study
- Examples of practices in various countries

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

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WHY MAKE AN ENERGY TRANSITION NOW? 1 day

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 day

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.

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Training - Hydrogen value chain and economics

ECH-EN-P | Face-to-face only | 3 days

This training allows participants to identify the main economic and contractual issues of the new hydrogen chain

Level

Awareness

Public

Executives in the oil and gas, energy or electricity sectors, or in the banking / insurance / consulting sector wishing to understand the Hydrogen industry and its economic challenges

Objectives

Attendees will be able to implement the following skills:

- Analyze the technical and economic aspects of the links in a hydrogen production chain
- Explain the basic structure of the hydrogen chain until it is commercialized,
- Identify the different hydrogen markets and their prospects.

Pedagogical & technical resources

- Quiz.
- Movies.
- Case study.
- Exercises on hydrogen costs and market prices.

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

User Friendly with the Excel spreadsheet tool.
Have a basic knowledge of economics.

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

HYDROGEN MARKETS — 1 day

Evolution of the demand for hydrogen and the resources for hydrogen production.
Fundamentals of the current hydrogen market and how it is about to change.
Current and emerging options for hydrogen production, including offshore options.

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Development of the use of hydrogen and its impact on energy markets.
New opportunities for hydrogen.
Hydrogen and electricity storage.
Evolution of hydrogen markets and price determination.
Main hydrogen markets in Europe, Africa and Asia (driving countries).
Risks for the different actors: producer, transporter, manager, buyer/importer.

TECHNICAL AND ECONOMIC ASPECTS OF THE HYDROGEN CHAIN — 1 day

Hydrogen: product, reminder of physical properties, qualities of the gas.
Design of the links in the chain: production, transport, storage, distribution, use.
Technical options for hydrogen storage and transportation, including decision factors.
Hydrogen Hazards, Hydrogen Safety Basics.
Overview of new hydrogen production projects around the world.
Order of magnitude of capital costs of investment and operation.
Innovations in the Hydrogen industry: White hydrogen, green hydrogen, ...
Calculation of the LCOH.
Workshops on concepts (Fuel Cells / Turbines / Engines) to compare their efficiency / feasibility
Exercises: Economic calculation of project production costs.

HYDROGEN VALORIZATION — 1 day

Policy and Strategy: Critical Factors in Building the Hydrogen Economy.
Factors for hydrogen to be the decarbonization fuel of choice.
Trade-offs between hydrogen use, electrification and renewable hydrocarbons.
Hydrogen as a means of transporting and storing renewable energy.
Fuel cells and their roles in transportation, the electricity grid and supply.
Hydrogen vehicles – from forklifts, trains and ships to aircraft.

CASE STUDY: ECONOMIC ANALYSIS AND PRICING OF A HYDROGEN PRODUCTION CHAIN

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Training - Overview of CO2 Economics

ECO2-EN-P | Face-to-face only | 2 days

As the energy transition accelerates, businesses must adapt to increasingly stringent requirements for reducing carbon emissions—often at a significant cost. This training aims to provide a comprehensive overview of the economic aspects related to CO_2. Participants will gain a deeper understanding of the role of carbon pricing, carbon finance, and government policy in shaping decarbonization strategies, as well as the impact of Carbon Capture, Utilization, and Storage (CCUS) in this evolving landscape

Level

Knowledge

Public

Professionals seeking to broaden their understanding of CO_2 economics and its implications for business and policy

Objectives

Attendees will be able to implement the following skills:

- Explain the carbon pricing mechanisms, their effectiveness in reducing emissions, and key examples of implementation worldwide.
- Assess the cost of carbon abatement associated with Carbon Capture, Utilization, and Storage (CCUS).
- Analyze the influence of regulatory and policy frameworks on carbon pricing, carbon finance, and the deployment of CCUS technologies.

Pedagogical & technical resources

- Quizzes.
- Case Studies.
- Exercises.
- Group discussions.

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

Basic understanding of economics and working proficiency in Microsoft Excel.

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

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INTRODUCTION — 0.25 day

Carbon emissions and their impact on the environment.
The Paris Agreement and the energy transition.

CARBON PRICING — 0.5 day

Carbon pricing mechanisms: carbon taxes vs. cap-and-trade systems.
Examination of different implementations worldwide, including EU ETS.
Evolution of carbon markets.
Carbon leakage and the Carbon Boarder Adjustment Mechanism (CBAM).
Carbon credits/offsets.
Article 6 of the Paris Agreement.
Group discussion.

CARBON ABATEMENT OPTIONS — 0.75 day

The cost of carbon abatement.
The economics of Carbon, Capture, Utilization and Storage (CCUS).

- CCUS value chain: examining the cost and feasibility of each part of the value chain.
- CCUS business models.
- CCUS projects and development outlook.

Case study and practical exercise.

CARBON FINANCE — 0.25 day

The role of financial institutions in reducing carbon emissions.
Green bonds and green loans.
The role of carbon accounting in financial reporting and strategic decision making.
Case study and practical exercise.

REGULATROY AND POLICY FRAMEWORKS — 0.25 day

Impact on CCUS, carbon pricing mechanisms and carbon finance.
Incentives and penalties.
Review of different approaches taken around the world.

Sessions

Rueil-Malmaison - From 11/17/2026 to 11/18/2026 — **2270 €/HT**

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Training - Wind turbine operation

EECW-EN-P | Face-to-face only | 3 days

This course improves knowledge of industrial wind turbines operation

Level
Skilled

Public
Engineers, supervisors and technicians involved in wind turbine operation, maintenance or engineering

Objectives
Attendees will be able to implement the following skills:

- Explain wind condition impact on wind turbine operation and performance
- Explain the standard power control modes
- Explain typical incidents and key points for wind turbine operation

Pedagogical & technical resources

- Interactive course
- Use of drawings, datasheets, pictures and videos of actual equipment
- Wind farm visit (according to availabilities

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites
Provide evidence of minimum 1 month of experience within the relevant domain.

Responsable
IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

WIND TURBINE AERODYNAMICS — 1 day

Wind turbines types, selection principles.
Site wind energy deposit assessement: principles.
Blade aerodynamics: lift, drag, resulting torque.
Wind turbine aerodynamics: output mechanical power, BETZ limit, power coefficient, wind turbine power curve.
Wake effect.
Exercises: wind turbine basic study.

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WIND TURBINE TECHNOLOGY — 1 day

Main parts of a wind turbine.
Mechanical parts: main technologies and components: hub and blades, nacelle, bearings, gearbox (if any), disc brake, pitch control, Yaw, generator flexible coupling, foundations (onshore).
Electrical parts: main generator arrangements and technologies, power management and conversion.
Instrumentation: vibrations, meteorological station, aviation lightening, oil circuit, electrical and mechanicalm data with associated alarms and safety thresholds.
Auxiliaries: lubrication and cooling.
Exercises: parts identification on machines views.

WIND TURBINE OPERATION — 1 day

Part and full load control. Overspeed.
Production vs demand adaptation: principles.
Routine maintenance. Key points to survey. Monitoring.
Service factor, annual production, yearly hours at normal power, availability. Overall efficiency.
Typical incidents.
Wind farm visit (according to availabilities).

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Training - Energy Efficiency and Low Carbon Strategy, Industrial Solutions

ELCS-EN-P | **Face-to-face only** | **5 days**

As part of adapting their activities to the energy transition, industrial companies, particularly oil and gas firms, will need to manage CO_2 emissions and actively participate in the energy transition. This training focuses on the main challenges industries will face, both in transitioning to low-carbon energy consumption and in increasing energy efficiency. These companies will need to integrate new energies (renewables, hydrogen, etc.) into their energy mix. Furthermore, CO_2 economics must be considered when implementing their low-carbon plans

Level

Knowledge

Public

Industrial operators and national (NOC) or international (IOC) oil and gas companies. It is suitable for technical managers as well as executives and managers at all levels.

Objectives

Attendees will be able to implement the following skills:

- Integrate the new energy landscape with strategies to reduce carbon footprint
- Understand the evolution of the renewable energy sector and opportunities in this field
- Assess energy efficiency and manage its improvement potential
- Develop CCS and CCUS opportunities in future or existing projects
- Implement a roadmap for decarbonizing industrial facilities considering CO2 economics

Pedagogical & technical resources

- Questionnaires
- Team games
- Case studies
- Calculations using economics and KPIs

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

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Program

GLOBAL ENERGY LANDSCAPE — 0.5 day

Energy basics: definitions, characteristics, units, conversion factors, orders of magnitude.
Oil chain: technologies, supply and demand, prices, reserves, transition scenarios.
Gas chain: technologies, market players, producing and consuming countries, economic issues.
Case study: crude oil price.

CARBON, CLIMATE AND ENERGY STRATEGY — 0.5 day

Current scientific observations. Evolution of greenhouse gas emissions.
Other planetary environmental limits. Energy mix and CO_2 intensity of energy sources.
Case study: European energy mix. Energy trilemma concept.
Emission distribution by economic and geographic sectors. Oil & gas sector outlook in the energy transition: IEA scenarios, societal pressure, stranded asset risks.
Case study: production decline and oil investment pace.
Public actor mobilization, North-South debate, just transition concept.
Consumer mobilization. Global strategy for decoupling economic growth and carbon emissions. Debate and case study on transition scenarios.

DECARBONIZED INDUSTRIAL SOLUTIONS — 1 day

Global statistics review. Massive rise of renewables. Collapse of solar, wind, and battery costs. Shortened investment cycles, societal barriers, grid transmission impacts. Cross-over of global investment curves: green vs fossil energy.
Mixed results of a two-speed transition versus technologies and geographic sectors.
Overview of solar and wind energy. Presentation of main low-carbon sources: solar, wind, bioenergy, etc.
Case study: comparison of economic models for different electricity sources (solar, wind, gas). Economic concepts: capital cost, key performance criteria : net present value (NPV), internal rate of return (IRR), levelized cost of electricity (LCOE). Growth of competitive renewables without subsidies in the economic landscape. Practical examples.
Intermittency and energy storage: grid balancing constraints, technical and commercial challenges. Emerging solutions: hybrid projects, pumped hydro storage, utility-scale batteries. Emerging economic trends : new business models, emerging technologies, innovations.

CO2 ECONOMICS AND EMISSIVE INDUSTRIES — 1 day

State mobilization, carbon pricing markets (national/regional), European example. International economic implications, carbon market trends.
Industrial and economic actors mobilization. Corporate low-carbon strategies: role of carbon accounting (GHG Protocol). Case study for a SME, utilisation of ADEME database on emission factors in French economy. Key steps after carbon footprint assessment (emission reduction targets, action plan, integration into low-carbon strategy).
Target sectors, “hard-to-abate” industries, persistent supply-demand challenges. CCUS value chain: examples of CCS projects in Europe and the USA, costs trends, sectors applicability, impact of carbon footprint.
Technological and economic barriers to CCUS deployment, industry deployment status in France.
Hydrogen value chain: current supply and demand, hydrogen “colors” (grey, green, blue, etc.), technological and economic barriers to hydrogen economy.

LOW CARBON STRATEGY AND ENERGY EFFICIENCY — 1 day

Electrification of demand. Growth of low-carbon energy supply and electrification of demand across various sectors Case example of Global South and Sun Belt countries. Technological levers for global energy efficiency.
Gas vs renewables: competition and complementarity. Critical minerals challenge for energy transition. Environmental, economic, and geopolitical barriers.
Efficiency levers for residential, commercial, and industrial heat. Heat pump technology: residential, urban, industrial applications, technical limits. Regulatory and economic barriers.
Thermal storage technologies: practical examples and applications.

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LOW CARBON STRATEGY FOR THE OIL & GAS INDUSTRY — 1 day

Energy independence goals of importing countries as a transition driver. Impact of China's electric mobility revolution on fuel demand reduction. Oil & gas sector adaptation: examples from major companies, diverse strategic approaches.
The challenge of methane emissions and flaring reduction: differentiation by actors (majors, independents, NOCs, mining companies, utilities) and countries in their power to influence the outcome.
Emission management systems: typical emission reduction plan format for oil & gas companies.
Technological levers for operational optimization and facility design, flaring reduction, methane elimination, CCUS projects, energy efficiency, renewable energy use.
Examples and case studies with economic calculations.

Sessions

Rueil-Malmaison - From 12/07/2026 to 12/11/2026 — **4470 €/HT**

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.
Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com

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Training - Environmental Management

ENVMGT-EN-P | Face-to-face only | 5 days

This course provides a thorough and applied knowledge of best industry standards and practices for appraising environmental matters throughout the life cycle of a field development, to implement the management of impact and risks throughout the life cycle of a project from exploration up to abandonment

Level

Knowledge

Public

Managers, advisors, engineers, and operations staff involved in management of environmental issues all along the lifetime of a field development

Objectives

Attendees will be able to implement the following skills:

- Explain the fundamentals of environmental management in terms of risks and impacts
- Describe techniques, fundamentals and contents of environmental impact assessments
- Identify mitigation measures
- Select key performance indicators, and set up environmental management plans
- Explain the content of an oil spill contingency plan

Pedagogical & technical resources

- Several applications and illustrations
- Several case studies and teamwork sessions

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

FUNDAMENTALS OF ENVIRONMENTAL MANAGEMENT — 0.5 day

Why environmental management is necessary. Concept of sustainability.
Definitions: environmental impact, significance, accidental vs. operational discharges, discharge and pollution.
Legal standards: definition, standard determination. Best available technology. Best environmental practices.

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Environmental Quality Standards (EQS), discharge standards - Regional, international, conventions.
Introduction to social management.

ENVIRONMENTAL, SOCIAL & HEALTH IMPACT ASSESSMENT — 1 day

Risk assessment: concept of hazards, risks, hazard identification and risk assessment process.
Impact assessment throughout the lifecycle of the project.
Aspect and potential impact identification.
Sources of environmental information.
Impacts on atmosphere: air pollution, GHG emissions.
Impacts on aquatic resources: water pollution and water availability.
Impacts on land resources: ground pollution and land use.
Impacts on biodiversity.
Socio-economic and cultural impact.

ENVIRONMENTAL MANAGEMENT PLAN — 0.75 day

Concept and elements.
Control measures to reduce air emissions.
Control measures to reduce water consumption and water pollution.
Control measures to reduce land pollution and use.

MONITORING & REPORTING — 0.5 day

Key performance indicators, Industry performance - Trends.
Environmental monitoring and surveillance.
Green house gases estimation and reporting.

WASTE MANAGEMENT PLAN — 0.5 day

Strategy - Type of waste.
Waste collection.
Transport and storages (primary, final...).
Treatments options (biological, thermal desorption).

MANAGEMENT OF ENVIRONMENTAL EMERGENCIES — 0.75 day

Identification of spill scenarios.
Oil spill contingency planning strategies: onshore and offshore cases.
Typical resources for oil spill contingency plans.

STAKEHOLDERS ENGAGEMENT — 0.25 day

Stakeholders identification.
Engagement and information process.
Stakeholders engagement plan review.

ENVIRONMENTAL MANAGEMENT SYSTEM — 0.5 day

Elements of environmental management systems.
Referentials and certification. ISO 14001.
EMS as part of integrated management systems.
Environmental culture and leadership in the organization.

ENERGY MANAGEMENT — 0.25 day

Introduction to energy sources.
Energy efficiency. Measures for improvement.

Sessions

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Pau - From 11/02/2026 to 11/06/2026 **4360 €/HT**

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.
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Training - Environmental and Social Risk Management

ENVSOC-EN-P | Face-to-face only | 5 days

This course provides a thorough and applied knowledge of best industry standards and practices for appraising environmental and social matters that need to be handled cautiously throughout the life cycle of an upstream project, from design to construction and operation of Oil & Gas processing facilities

Level

Knowledge

Public

Managers, advisors, engineers and operations staff involved in oversight or management of environmental and social issues all along the lifetime of an upstream project

Objectives

Attendees will be able to implement the following skills:

- Understand the global prevailing context for the Oil & Gas industry
- Grasp legal requirements and standards with respect to impact on local environment and populations
- Understand techniques and contents of environmental and social impact assessments
- Identify mitigation measures, perform stakeholders' mapping and build public consultation and disclosure plans
- Select key performance indicators, and set up monitoring with environmental and social management plans

Pedagogical & technical resources

- Several applications and illustrations
- Several case studies and teamwork sessions

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

ENVIRONMENTAL ISSUES RELATED TO E&P ACTIVITIES — 0.25 day

Historical overview of impact awareness, management.
Definitions: environmental impact, significance, accidental vs. operational discharges, discharge and pollution.

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THE STAKES — 0.75 day

Environmental issues: local, regional, global.
Air, water (availability, pollution), biodiversity, wastes.
Kyoto protocol, carbon dioxide accounting, cap and trade, clean development mechanisms.
Toxicity, ecotoxicity.

ENVIRONMENTAL RISK ASSESSMENT (ERA), LEGAL REQUIREMENTS/LEGAL STANDARDS: NATIONAL, REGIONAL, INTERNATIONAL — 0.25 day

Environmental Risk Assessment (ERA).
Legal standards: definition, standard determination, best available technology, best environmental practices.
Environmental Quality Standards (EQS), discharge standards - Regional, international, conventions.

ENVIRONMENTAL IMPACT ASSESSMENT - PROJECTS — 0.5 day

Environmental impact assessment activities throughout the life cycle of a field, tools used for impact prediction.
The EIA process, scoping an EIA, ENVID (Environmental Hazard Identification), environmental management plan. Case study.

ENVIRONMENTAL RISK MANAGEMENT - PRODUCTION ACTIVITIES — 0.5 day

HSE MS - EMS (ISO 14001), continuous improvement processes.
Key environmental procedures: wastes management, chemical management, monitoring.
Oil spill contingency planning.

MONITORING & REPORTING — 0.5 day

Key performance indicators, industry performance - Trends.
Environmental monitoring & surveillance.
Green house gases estimation and reporting.

ENVIRONMENTAL RISK MANAGEMENT - ABANDONMENT — 0.25 day

SOCIAL ISSUES RELATED TO E&P ACTIVITIES: THE RISKS, THE STAKES & THE STRATEGIES — 0.5 day

The risks and the stakes. Some high profile cases (human rights, NGOs activism, etc.).
Documentary viewing and discussion on social risks in E&P activities.
How to change practices and image?

PARTICIPATIVE SOCIAL IMPACT ASSESSMENT AS A RISK MANAGEMENT TOOL — 0.5 day

Participative social impact assessment: definition, business case and standards, process.
Social management plans and monitoring. Focus on special topics: involuntary resettlement, local communities, business in conflict zones.

STAKEHOLDER ENGAGEMENT — 0.5 day

Stakeholder engagement: definition and business case.
Public consultation and disclosure plan (steps and techniques).
Stakeholder mapping.
Stakeholder engagement: misguiding assumptions and key success drivers.

CASE STUDY: SOCIAL SCREENING OF AN OIL & GAS PROJECT — 0.5 day

Based on a group work, participants should prepare a:

- Stakeholder mapping.
- Social impacts identification and mitigation plan.

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Training - Overview of Petroleum Economics within the Energy Transition

EPE-EN-P | Face-to-face only | 4 days

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

Level

Knowledge

Public

People from the energy and petroleum sectors, industrial partners, business men and financiers, as well as public administration staff

Objectives

Attendees will be able to implement the following skills:

- describe the different types of energy resources, the supply and demand with the challenges of the oil sector in the energy transition and its actors strategy
- describe the main steps of the upstream sector with the distinction for the different types of oil contracts
- explain the main economic criteria to evaluate a project and understand the operation of the physical and financial oil markets
- explain the evolution of the refining sector and of the petroleum product markets

Pedagogical & technical resources

- 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

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

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INTERNATIONAL ENERGY SCENE : OIL AND TRANSITION — 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.
Outlook for the oil sector in the energy transition: IEA scenarios, societal pressure, risk of stranded assets, risks for producing countries.

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.

Sessions

Rueil-Malmaison - From 11/24/2026 to 11/27/2026 — **3130 €/HT**

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.
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Training - M&A in the Energy World

FAE-EN-P | Face-to-face only | 2 days

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

Level

Knowledge

Public

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)

Objectives

Attendees will be able to implement the following skills:

- 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)

Pedagogical & technical resources

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

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

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KEY STEPS & RISKS OF M&A TRANSACTIONS — 0.2 day

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 day

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 — 0.4 day

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 — 0.4 day

Pros and cons of the various sale methods: auctions, negotiations.
Counterparties' assessment.
Conditions/ precedents.
Commitments and guarantees.
Completion adjustments.

Sessions

Rueil-Malmaison - From 09/08/2026 to 09/09/2026 — **1980 €/HT**

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Training - Gas chain economics and energy transition

GCEG-EN-P | Face-to-face only | 55 days

The natural gas market, including LNG (liquefied natural gas) in particular, has experienced strong development. This sector is impacted by the energy transition and the development of competing energies The IFP Training Certificate program in gas chain economics in this context of the energy transition provides knowledge and know-how to professionals in key disciplines solicited in upstream to downstream gas marketing development projects. It offers professionals the opportunity to acquire high-level skills in the fields of gas project economics as well as an in-depth understanding of the industrial dynamics observed in this natural gas sector

IFP Training Certificate

Graduate Certificate

Level

Knowledge

Public

All key players, engineers, market analysts, project managers, managers, professionally evolving towards a position requiring in-depth knowledge of the economic and contractual issues of the Gas & LNG chain in this context of energy transition.

Objectives

Attendees will be able to implement the following skills:

- 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

Pedagogical & technical resources

- Highly interactive training with industry expert speakers
- Computer-simulated case studies based on gas projects
- Quizzes, videos and application exercises
- Scenario, negotiation role plays

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

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Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

MODULE 1: ENERGY ISSUES AND IMPACT ON THE GAS MARKET IN THE 21ST CENTURY — 3 days

Climate commitments.
Energy needs and climate change.
Energy transition and geopolitics.
Oil and gas vs electricity.
Oil and gas company strategies.

MODULE 2: SAVING THE GAS CHAIN AND LNG — 4 days

Natural gas in the global energy balance and the strategies of the main players in the industry.
Natural gas opportunities and emerging trends in the gas and LNG industry.
Main technical, economic and contractual characteristics of the natural gas value chain, from the production well to the final consumer.
Gas and LNG markets and their evolution (price, hedging, etc.).

MODULE 3: NATURAL GAS: TYPES, SPECIFICATIONS & PROCESSING TECHNOLOGIES — 5 days

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

MODULE 4: LNG: RISKS, TECHNOLOGIES, AND OPERATIONS — 5 days

The LNG chain: liquefaction, transport, storage, regasification.
Specific properties of LNG - cryogenics.
Liquefaction and revaporization processes.
Vessel specifications, operation and operations.
Regasification terminals: storage, loading/unloading, regasification.
Operation of LNG facilities.

MODULE 5: ECONOMICS AND MANAGEMENT OF UPSTREAM GAS — 4 days

Key issues and constraints in contract negotiations (government, national and international companies).
Overview and analysis of the different tax systems and contractual frameworks that exist.
Main contractual and tax clauses of E&P contracts.

MODULE 6: CONTRACTUAL FRAMEWORK FOR THE MARKETING OF GAS AND LNG — 4 days

Main articles of long-term agreements on natural gas and LNG.
Key points of the commercial clauses.
Natural gas pricing and transportation principles.
Techniques for negotiating master sales and purchase contracts.

MODULE 7: PROFITABILITY STUDIES OF INVESTMENTS IN THE GAS INDUSTRY — 5 days

Development of advanced computer models for the economic evaluation of gas projects.

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Incorporation of a specific financing plan through the analysis of the return on equity.
Analysis of economic results and conducting sensitivity analyses.
Taking into account risk and uncertainty in the economic evaluation of gas projects.
Government Policies and Support Programs / Investment Incentives and Barriers.

MODULE 8: UNDERGROUND CARBON CAPTURE AND STORAGE (CCUS) AND ITS ECONOMIC IMPACT ON THE GAS CHAIN — 5 days

CCUS technologies: Where do we stand? Synergies with natural gas?
Integration of a CCUS project upstream of a gas project and development cost.
CCUS price vs carbon credit.
Profitability and financing of carbon capture and storage.
Economic impact of CCUS and carbon credits on the profitability of gas projects.

MODULE 9: INVESTMENT AND PROJECT MANAGEMENT THROUGHOUT OF THE GAS CHAIN — 5 days

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 management: costs and planning.
Case studies.

MODULE 10: DOWNSTREAM GAS MARKET IN EMERGING COUNTRIES AND CONVERGENCE GAS & ELECTRICITY — 5 days

Modern natural gas markets: segmentation and regulation in emerging countries.
Operation of the downstream natural gas market.
Natural gas trading: physical market and financial market.
The role of LNG in the globalization of transactions.
Gas / Electricity: competition and convergence.

MODULE 11: FOCUS ON NATURAL GAS AND ENERGY TRANSITION — 5 days

Future of fossil fuels: Another important role for natural gas.
Natural gas value chain and carbon neutrality.
Sustainable development for gas and LNG.
Gas and LNG saving vs carbon storage.
Natural gas resource for electricity generation.

FINAL PROJECT — 5 days

End-of-study project on a theme specific to the economics of energy transition.

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Training - Introduction to Geothermal Energy Uses and Operations

GEOTHER-EN-P | Face-to-face only | 3 days

This course provides an introductory knowledge of geothermal energy uses and operations

Level

Awareness

Public

Technicians and decision makers of the G&G, Reservoir engineering, drilling, construction, production and maintenance domain but out of geothermy discipline

Objectives

Attendees will be able to implement the following skills:

- Understand how geothermal energy works, from production to usage
- Know about exploration and evaluation techniques
- Learn about technical and safety specifics in geothermal well drilling and operating

Pedagogical & technical resources

- Case studies
- Numerous illustrations and videos

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

PART I: INTRODUCTION TO GEOTHERMAL ENERGY

EARTH, AN ACTIVE PLANET

Earth structure and tectonics.
Thermal regime of the Earth.

HEAT FLUX & GEOTHERMAL GRADIENT

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Theoretical considerations on heat transport and storage in rocks.
The geothermal gradient.

RESERVOIR TYPES & USES

Dry rocks, porous and fractured reservoirs.
Geothermal single wells and doublets.
Geothermal heat exchanger.

DIFFERENT KINDS OF RESOURCES

Low temperature.
High temperature.

APPLICATIONS OF GEOTHERMAL ENERGY

Direct use of heat.
Power generation.

PART II: FROM EXPLORATION TO PRODUCTION

EXPLORATION

Exploration techniques.
Identification of potential reservoirs and geothermal resources.

DRILLING A WELL

Specifics of geothermal well planning.
Drilling issues: well stability and drilling fluid cooling.
Drilling risks: steam, gases, and seismic events.
Well stimulation.

EVALUATION

While drilling: mud-logging and temperatures.
After drilling: well evaluation and testing.

OPERATION HAZARDS

Geological.
Environmental.
Technical.

PRODUCTION

Geothermal plants and networks.
Pros and cons of geothermal energy.

Sessions

Rueil-Malmaison - From 11/02/2026 to 11/04/2026 **3390 €/HT**

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Training - Gas-To-Liquid Technologies

GTLE-EN-P | Face-to-face only | 2 days

This course provides a technical and economic information regarding GTL processes

Level

Awareness

Public

Managers and engineers interested in the current developments of GTL technologies

Objectives

Attendees will be able to implement the following skills:

- List the main technologies involved in GTL production

Pedagogical & technical resources

- This session is adaptable to distance classroom
- Interactive course

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

NATURAL GAS MARKETS — 0.5 day

Production and consumption of natural gas in the world.
Main uses of natural gas.
Existing and potential routes for gas: pipelines, LNG, electrical power.
Natural gas reserves, associated gas: potential markets for GTL.

GTL TECHNOLOGIES — 1.25 days

Overview of full GTL production chain: synthesis gas, Fisher-Tropsch reaction, finishing.
Products quality from conventional versus GTL technologies.
Different processes for synthesis gas manufacturing and their reactions, catalysts, process schemes, past uses (methanol, etc.):

- Steam reforming.

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- Partial oxidation (POX).
- Auto-thermal reforming.

Fischer-Tropsch manufacturing processes: reactions, catalysts and process schemes.
Finishing processes for products upgrading, oligomerization and hydrocracking downstream Fischer-Tropsch units: reactions, catalysts and process schemes.

GTL PROJECTS & ISSUES — 0.25 day

Investments, operating costs: CAPEX, OPEX, costs for natural gas.
Marketing advantages, environmental incentives.
Economic advantages/drawbacks of GTL versus LNG.
Strategies of the different actors (producing countries of natural gas, process licensors, Oil & Gas companies, engineering companies).

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Training - Geopolitics of Metals and Rare Earths

GTR-EN-P | Face-to-face only | 2 days

In the context of climate change policies, metals and rare earths are playing an increasing key role in the global energy mix. The exploding demand, driven by the expansion of low carbon technologies and the rise of digital economy, pushes both public and private stakeholders to reflect on the availability of the resources, to secure their future needs and to secure supplies

Level

Knowledge

Public

The training is dedicated to engineers, financial managers, senior executives and senior officials from the public administration

Objectives

Attendees will be able to implement the following skills:

- Understand the increasing role of metals and rare earths within the energy transition
- Comprehend the value chain, from production towards final consumption
- Analyze power relations between private and public stakeholders
- Decrypt the different strategies of the players to secure their supplies
- Estimate the criticality level of each material
- Anticipate the upcoming shifts and transformations

Pedagogical & technical resources

- Quiz
- Sub-groups activities

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

METALS & RARE EARTHS WITHIN THE ENERGY TRANSITION — 0.5 day

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Climate change: state of play, regulatory framework, impact on companies.
Towards a low-carbon energy mix: constraints, carbon neutrality, CO2 taxation.
Definition: from geology to geostrategy.
Investments evolution and targeting.
Applications of metals and rare earths: renewables, industry, defense, digital.

TECHNICAL & ECONOMIC ASPECTS — 0.5 day

Metals & rare earth: definitions, order of magnitude.
Analysis of the production chain: extraction, separation, transformation.
Pyro & hydrometallurgy.
Supply and demand balance: production, consumption, reserves, perspectives.

CRITICALITY LEVEL ANALYSIS — 0.5 day

Geological and geostrategic risks for copper, cobalt, nickel, lithium and aluminum.
Environmental risks and issues.
Water: a limiting factor for metals and rare earths industry.
Case study: comparison copper and cobalt/lithium.

STAKEHOLDERS STRATEGIES — 0.5 day

Public policies: regulatory framework, recycling, mobility policies, sobriety.
China: leadership and monopoly all along the value chain.
United States: stimulating investments and supplies securing.
European Union: an alliance to tackle dependency.
Japan: looking for unconventional resources.
Greenland: the high stakes
Technology and intellectual property.

Sessions

Rueil-Malmaison - From 12/15/2026 to 12/16/2026 — **2560 €/HT**

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.
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Training - Hydrogen and Helium: from Exploration & sampling to valorization

H2HE-EN-P

Face-to-face only

20 days

Although Hydrogen and Helium have been considered as ancillary components of underground fluids in the past, their valorization is now key in the Energy Transition process. This course provides participants with a clear understanding of Hydrogen and Helium specificities, and also a practical knowledge on sampling and valorization challenges of these two chemical species

Level

Skilled

Public

Geoscientists, geologists, geophysicists and reservoir engineers with E&P experience, but also for any professional with Geosciences, Reservoir or Chemistry background, getting involved in hydrogen/helium-related projects, R&D program or in Energy transition projects

Objectives

Attendees will be able to implement the following skills:
Upon completion participants will be able to:

- Understand the geological context leading to H2/He underground presence
- Familiarize with sampling and chemical analysis challenges of H2/He.
- Identify underground storage types and specificities
- Apply modelling workflow on ad-hoc basins
- Review surface processing and safe transport criteria

Pedagogical & technical resources

- Interactive presentations, practical exercises, case studies involving appropriate industry software,
- laboratory visits.

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

Degree in Geosciences, Reservoir engineering, Chemistry with 2 years of experience, or equivalent experience.

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

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H2/HE EXPLORATION – PETROPHYSICAL ASPECTS — 5 days

Industrial production of H2.
Current H2 usage and future of H2.
Natural H2 Dynamics: serpentinization, underground consumption...

SAMPLING & GAS ANALYSIS – LAB ANALYSIS — 2 days

Different matrices (water, gas).
Instruments & Tools.
Analytical Workflow: on the field, in the lab, lab experiments.

UNDERGROUND STORAGE — 3 days

Natural H2-bearing reservoirs – Reservoir Evaluation and characterization.
Underground Storage types: aquifers, depleted reservoirs - Storage characteristics (gas cushion, mix...).
Examples.
Stored gas alteration.

RESERVOIR CHARACTERIZATION & MODELLING — 5 days

Thermodynamic properties.
Gas species solubility.
Stable and Metastable phases.
Kinetics of reaction.
Transport: diffusion, advection.
Basin modelling.

SURFACE TREATMENT & TRANSPORTATION — 2 days

Treatment, Surface transportation, industrial valorization.

H2 PROJECTS MANAGEMENT & REVIEW — 3 days

Case Studies.
Examples (Mali, USA, France).

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Training - Overview of white hydrogen

INTROH2-EN-P | Face-to-face only | 3 days

Although Hydrogen has been considered as ancillary component of underground fluids in the past, its valorization is now key in the Energy Transition process. This course provides participants with a general knowledge of Hydrogen (H2) and of associated Helium (He) specificities and valorization challenges of these chemical species

Level

Awareness

Public

Junior energy professionals getting involved in white hydrogen projects.

Objectives

Attendees will be able to implement the following skills:
Upon completion participants will be able to:

- Understand the geological context leading to H2/He underground presence,
- Identify underground storage types and specificities,
- Review existing white hydrogen projects.

Pedagogical & technical resources

Interactive presentations, practical exercises, case studies.

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

NATURAL H2 WITHIN HYDROGEN BUSINESS — 0.5 day

The place of natural hydrogen in the manufactured hydrogen business: energy transition, world heterogeneity, hydrogen today, its uses in chemistry.
Its future use and growth as energy vector and source.
Price relations between manufactured and natural hydrogen.

NATURAL H2 GEOLOGY & RESERVOIRS — 1 day

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Natural hydrogen systems and geological knowledge.
Sources, migration, reactivity, accumulation and leakage.
Associated Gases (Helium, Methane...).
Dynamic perception of a blend hydrogen system.

EXPLORATION TOOLS & NATURAL H2 PROXIES — 0.5 day

Surface geochemistry, gamma spectrometry, remote sensing, active and passive seismic, magnetic anomalies, drilling and mud-logging specificities, etc.

H2 PROJECTS REVIEW — 1 day

Case Studies
Examples (Mali, Australia, USA, Brazil, Europe...)

Sessions

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Training - Lithium: mineral system, exploration methods and assessment

LIGG-EN-P | Face-to-face only | 15 days

Lithium is a well-known element which has become a key component in battery industry and renewable energies technologies today. Although Lithium from mine is involving classic mining industry process, geothermal Lithium is crystallizing an increased interest. This training will present the Lithium mineral and its specificities and focus on the work-in-progress G&G workflow and further valorization

Level

Knowledge

Public

Experienced Geologists, Geophysicists, Reservoir Engineers and technical staff involved in Lithium projects' evaluation and deployment.

Objectives

Attendees will be able to implement the following skills:

- Understand the Lithium geology
- Grasp key figures to evaluate Lithium resources
- Discuss the geopolitical stakes

Pedagogical & technical resources

Participants will be evaluated during the training through a quiz and practice on case studies

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

GEOLOGY & GEOPHYSICS FOR LITHIUM EXPLORATION — 5 days

Sedimentology. Basin analysis.
Focus on evaporite systems.
Lithium and mines.
Lithium and geothermy. Geochemistry. Associated minerals. Induced seismicity.

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RESSOURCES EVALUATION — 5 days

Assessment of resources (Geophysics, coring, mining).
Specificity of geothermal lithium for resources evaluation.
Reservoir modelling workshop / Case study.

GEOPOLITICAL ASPECTS — 2 days

Production / consumption / life cycle.

FIELD TRIP — 3 days

e.g. Outcrops, cores (Alsace).
e.g. Mines (Allier/Limousin).
e.g. Visit of geothermal power station (Paris region).

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Training - Economic and Financial Modelling of Renewable Energy Projects

MPER-EN-P | Face-to-face only | 3 days

This course provides a better understanding of the use of decision-making tools in the field of renewable energy projects and incorporate risk analysis in the economic & financial evaluation

Level

Skilled

Public

Economists, engineers and financial analysts concerned with decisions affecting medium and long-term cash flows, such as investment, disinvestment, acquisitions, who need to improve their understanding of the theory and practice of investment analysis in the renewable energy sector

Objectives

Attendees will be able to implement the following skills:

- To carry out investment profitability studies in renewable energy projects including all aspects of fiscal incentives, inflation, and financing up to the Levelized Cost Of Electricity (LCOE) evaluation
- To analyze the deterministic economic results and carry out sensitivity analysis
- To incorporate the risk and uncertainties in the economic evaluation of renewable projects

Pedagogical & technical resources

Case studies simulated on computers

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

ECONOMIC CRITERIA FOR DECISION MAKING — 1.5 days

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.
Methodology for assessing the global profitability of capital invested.
Impact of taxation and inflation on economic indicators.

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Choosing an investment program with a limited budget, scarcity cost of capital.
Case studies: solar photovoltaic & wind power plant projects

ECONOMIC COST ANALYSIS — 0.5 day

Accounting cost vs. economic cost. Total discounted cost, annual economic cost.
Unit economic cost analysis vs. Levelized cost of electricity (LCOE).
Optimal economic lifetime (average cost & marginal cost).
Cases studies: LCOE of power plants, definition of an optimal economic lifetime.

IMPACT OF FINANCING ON PROJECT ECONOMICS — 0.5 day

Financing of renewable energy projects (ring-fencing and SPV concept).
Project finance valuation for renewable energy projects.
Different financing plans and debt repayment.
Return on equity (IRR and NPV of equity) and financial leverage.
Determination of the optimal electricity tariff leading to project economics balance.
Case studies: Solar photovoltaic and wind farm projects with specific financing.

RISK ANALYSIS OF RENEWABLE ENERGY PROJECTS — 0.5 day

Overview of resource assessment in renewable projects (wind & solar).
Probabilistic distribution approach (statistical & seasonal analysis of production, P99, P90 & P50 statics).
Risk matrix, risk classification and strategies for risk mitigation.
Risk evaluation using break-even price and sensitivity analysis.
Risk analysis using spider and tornado diagram.

CASE STUDIES

Solar photovoltaic project.
Wind power plant project.
Equipment optimal economic lifetime.
Power plant project.

Sessions

Rueil-Malmaison - From 12/09/2026 to 12/11/2026 — **3380 €/HT**

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Training - Overview and Challenges of the Energy Mix

MXE-EN-P | Face-to-face only | 4 days

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 & Gas...). Participants will get a complete overview of both fossil fuels and renewable energy sources, with their respective benefits and burdens

Level

Knowledge

Public

Engineers from the energy sectors (oil, gas, renewables, power), industrial partners, executives (banking, insurance, consulting), public administration staff, PhD and postgraduate students

Objectives

Attendees will be able to implement the following skills:

- Describe the main stages (upstream, downstream, trading) of the oil and gas sectors and understand the technical and economic characteristics of hydrocarbons (production, outlets, availability, market)
- Analyze the advantages and disadvantages of each energy and interpret the evolution of factors affecting the supply and demand of the energy mix
- Identify the actors of the energy scene and their strategic lines (states, international organizations, public and private companies in the sector)
- Understand the role of renewable energies in the energy mix (maturity, intermittency, carbon footprint)

Pedagogical & technical resources

- 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

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

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INTERNATIONAL ENERGY SCENE — 0.5 day

Energy resources: definition, characteristics, conversion factor.
Climate change & energy transition: supply/demand asymmetry, Kaya's identity analysis.
Short and long-term forecasts (Covid-19 crisis, supply situation, climate change) and IEA scenarios.

OIL SECTOR ISSUES — 1 day

Stakeholder's strategy: NOC, IOC, majors, international organizations.
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.

GAS SECTOR ISSUES — 1 day

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

RENEWABLES ISSUES & ENERGY TRANSITION — 1 day

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 & Gas sector.
Stakeholders' strategy and supply chain presentation.

CASE STUDIES — 0.5 day

Economic calculations on Oil & Gas and renewables projects.
Opex, capex, revenues, assumptions, taxable income, cash flows, IRR.

Sessions

Rueil-Malmaison - From 09/29/2026 to 10/02/2026 — **3360 €/HT**

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Training - Energy Transition Engineer

NRJENG-EN-P | Face-to-face only | 60 days

This course aims to provide the in-depth technical knowledge of energy transition necessary to hold rapidly, and very effectively, the position of field operations engineer or project engineer

IFP Training Certificate

Graduate Certificate

Level

Skilled

Public

Engineers (particularly recently graduated operation, design or project engineers) interested in a specialization in energy transition

Objectives

Attendees will be able to implement the following skills:

- Grasp fundamentals of energy production in the context of energy transition
- Explain fundamental concepts underlying electricity production
- Analyze operating conditions and basic design of processes
- Describe the technology of static equipment and rotating machinery used in production facilities
- Identify main risks related to projects, including economics and societal
- Contribute to the dynamics of projects studies

Pedagogical & technical resources

- Highly interactive training with industry specialist lecturers
- Numerous applications and illustrations
- Multiple teamwork sessions. Use of dynamic simulations and industrial case studies
- Numerous simulations performed using the PRO/II™ or HYSYS™ or UNISIM™ software
- Several tutorials with equipment in a workshop. Site/field visits

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives, including a presentation in front of a jury

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

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Program

ENERGY PRODUCTION & MANAGEMENT IN THE CONTEXT OF ENERGY TRANSITION — 5 days

Energetic worldwide context - Low carbon energy production.

NATURAL & BIOGAS PROCESSING — 10 days

Thermodynamics applied to hydrocarbons processing.
Gas processing.
Process design case studies using process simulation software.

TECHNOLOGY OF PRODUCTION FACILITIES & PROCESS EFFICIENCY — 10 days

Piping systems and process equipment, metallurgy, corrosion management.
Electrical systems, instrumentation, process control and safety instrumented systems.
Energy optimization and heat exchangers network.

ELECTRICITY PRODUCTION — 10 days

Gas turbines.
Power generator.
Offshore wind challenges.

ECONOMICS & PROJECT MANAGEMENT — 10 days

Fundamentals of contracts - Project profitability evaluation - Risk analysis of energy transition projects.
Project cost estimation and control.
Cost of energy: conventional and renewables (biogas, solar, wind), LCOE, grid parity...

PROCESS SAFETY MANAGEMENT — 5 days

Process hazard analysis: HAZID, HAZOP, plant layout...
Operating procedures, mechanical integrity, organizational elements.

SOCIAL & ENVIRONMENTAL IMPACT MANAGEMENT — 5 days

Societal consequences and problem linked to new energies development.
Communication challenges and constraints, managing the relationships with partners.

BIOGAS DEVELOPMENT PROJECT — 5 days

Teamwork on a biogas project using actual data.

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Training - Overview and challenges of renewable energies

PANENR-EN-P | Face-to-face only | 3 days

This training provides a global vision of renewable energies, their share in the European and global energy mix, as well as a technical and economic overview of the available solutions

Level

Awareness

Public

People interested in the energy transition, renewable energies and decarbonation issues

Objectives

Attendees will be able to implement the following skills:

- Briefly describe the techniques used in the different renewable energy production sectors
- List the main advantages and disadvantages of these production chains

Pedagogical & technical resources

- Provision of introductory material prior to the training course
- Sub-groups activities, business cases, educational games
- Illustration by concrete industrial cases and current events

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

ENERGY TRANSITION AND CURRENT CONTEXT — 0.5 day

World energy scene: supply & demand, actors, findings and perspectives.
The place of renewable energy in the French, European and global energy mix.
Neutrality, budget and carbon bubble: commitments, constraints, risks and opportunities.
Energy & Climate: decarbonation and electrification.

SOLAR ENERGY — 0.5 day

Different production methods: thermodynamic, photovoltaic, thermal, passive.

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Technology and state of the art - Main production sites and current projects.
Main applications.
Cost of electricity production and GHG emissions during the life cycle.
Application: Sizing of a production plant.

WIND ENERGY — 0.5 day

Different production methods: Onshore – Offshore – Floating. Advantages and disadvantages.
Different types of wind turbines. Principle of operation.
Technology and state of the art - Distribution of production in the world.
Cost of electricity production and GHG emissions during the life cycle.
Application: Analysis of a production site.

BIOENERGIES — 0.5 day

Biomass, Biogas and Biofuels - Associated technologies and end uses.
Place of bioenergy in France and in Europe.
State of the art and main projects in progress.
Cost of electricity production.
Application : Production of biogas by methanization.

MARINES ENERGIES — 0.25 day

Main production methods: hydroelectricity, tidal, current, wave, osmotic.
Current state of art and main projects underway.
Cost of electricity production and life cycle GHG emissions.

GEOTHERMAL ENERGY — 0.25 day

Geothermal energy for power and heat production - Main technologies.
Advantages and disadvantages - Impact on the environment.
Integration with existing production sites.
Cost of electricity production and life cycle GHG emissions.

HYDROGEN INDUSTRY — 0.5 day

Hydrogen: an energy carrier.
The different colors of hydrogen depending on the production method.
End use of hydrogen. Constraints of use.
State of the art and main projects in progress.

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Training - Successfully Developing Renewable Projects

RPER-EN-P | Face-to-face only | 3 days

Limiting climate change requires a strong acceleration of the introduction of new Renewable energy production facilities. This training provides participants with a structured methodology to assess and develop renewables projects. The toolkit they will be given will enable them to overcome the potential difficulties of these to ensure their success, be it, for example, in terms of community engagement or financing

Level

Knowledge

Public

Business development staff & supporting functional staff, technical managers, new economists and finance staff of energy companies, investors, bankers, public decision makers promoting new energies (industry, finance, energy, environment)

Objectives

Attendees will be able to implement the following skills:

- set the different stages of the societal, commercial, economic and financial development of a renewable electricity wind, solar or battery project and list key contracts
- build an economic model of a wind or solar project and identify the risks
- manage stakeholders and evaluate possible financing options

Pedagogical & technical resources

- Exercises
- Case study: economic evaluation and financing of a renewables project
- Focus on solar, wind and batteries projects
- Examples from various countries

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

GOVERNANCE/PROJECT MANAGEMENT — 0.25 day

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Introduction. Summary review of electricity market supply and demand and the competitive environment.
Key players and key steps of a renewables project.

MARKET ACCESS — 1 day

Route to market : auctions, Purchasing Power Agreements, the various typical contracts required in a renewables project.
Optimization, intermittency of variable renewables, batteries, hybrid projects.
Partnering.
Risk management: Pestel analysis, sensitivities, scenarios.
Stakeholder management.

BUSINESS CASE ASSESSMENT — 1 day

Cost of capital and discounted cash flow methodology.
Assessing revenues, costs and investments.
Building up future cash flows taking into account taxes and inflation.
Economic indicators calculation (NPV, IRR, Payback Time, economic cost).

FINANCING — 0.75 day

The various sources of financing (in particular Project Financing, Green Bonds).
Prerequisites: “bankability”.
Shareholder profitability analysis (geared economics).

Sessions

Rueil-Malmaison -	From 04/21/2026 to 04/23/2026	**2970 €/HT**
Rueil-Malmaison -	From 10/06/2026 to 10/08/2026	**2970 €/HT**

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Training - Developing a low Carbon Strategy: From Carbon Footprint Measurement to transition Plan

SBC-EN-P | Face-to-face only | 3 days

Since the Paris Agreement, countries have agreed on a global warming threshold that should not exceed 2°C above 1850 levels by 2100. This implies, first and foremost, reducing anthropogenic GHG emissions, which governments are translating into their own legislation. Companies must therefore transform and act to measure their carbon footprint and build a robust climate strategy

Level

Knowledge

Public

Anyone wishing to discover and/or deepen their knowledge of GHG emissions quantification and reporting methods (GHG Protocol, Bilan Carbone®, ISO 14064/69).
This course is aimed at: company and engineering office staff working as HSE or CSR coordinators, project managers & consultants on sustainability

Objectives

Attendees will be able to implement the following skills:

- Master the main principles of a carbon footprint assessment.
- Differentiate between the different available national & international standards for carrying out your company's carbon footprint (GHG Protocol, Bilan Carbone®, ISO 14064/69).
- Identify the key stages following the completion of a carbon footprint (emissions reduction target, action plan, integration into low-carbon strategy .... etc.).

Pedagogical & technical resources

- Quiz.
- Case studies.

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

Basic knowledge on climate change and MS Office Excel.

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

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WHY TAKE THE DECARBONIZATION ROUTE — 0.5 day

Identify the causes and consequences of climate change.
Understand the nature of climate change.
Climate change and its impact on business.
Identify the challenges raised by the energy transition.

KEY STEPS IN A CARBON FOOTPRINT ASSESSMENT — 1 day

Identify regulatory requirements for carbon footprint.
Carbon accounting standards (GHG Protocol, Bilan Carbone®, ISO 14064/69).
Describe the objectives of a carbon footprint.
Identify the scope of the carbon footprint (organizational, operational and temporal).
Drawing up flow maps.
Data collection and processing.
Handling carbon footprint measurement units.
Interpreting the results of a simple carbon footprint case study.
List existing reporting formats for publishing carbon inventory.
Case study: Evaluating a company's GHG emissions according to carbon accounting standards.

HOW TO SET A GHG REDUCTION TARGETS — 0.5 day

Identify the steps that follow a carbon footprint (emission reduction target, action plan, contribution to carbon sequestration, etc.).
Define the notion of carbon neutrality within the SBTi framework (Science Based Target Initiative).
Setting a science-based GHG reduction targets (commitment timeframe and scope).
Examples of targets setting according to SBTi standards (Absolute Approach ACA and Sector Approach SDA).

HOW TO BUILD A LOW CARBON ROADMAP — 0.5 day

Diagnose the risks and opportunities of the ecological transition.
Diagnose physical risks.
Define a strategy and an ecological transition project.

SETTING A TRANSITION PLAN — 0.5 day

Identification of potential actions to implement the strategic plan.
Selection of the most relevant set of actions for implementation.
Identify the levers for actions within the company, depending on its structure and sector.
Monitoring and guiding the implementation of the action plan.
Case studies: Building a company's transition plan according to international standards.

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Training - Soft skills for top manager

SOFTADV-EN-D | Distance only | 16 hours

During this session, the participants will learn fundamentals behavioral techniques for top managers. More attuned to different personalities and situations, participants will improve their influence and will know how to lead within changing environment and crisis

Level

Expert

Public

Top managers of the energy and process industries areas

Objectives

Attendees will be able to implement the following skills:

- Self-management: improve self-knowledge; deal will emotions and stress; save time,
- Leadership and communication: bring trust through communication posture and deep listening skills; supporT learning and progression and foster virtuous behaviors through the chain of command with the accurate managing style; manage across cultures,
- Change management: lead change and manage crisis; managing posture, mindset and decision making in changing environment.

Pedagogical & technical resources

- Experiences sharing.
- Exercises.
- Definition of a personal action plan.

Assessment of achievements

Personal action plan review.

Prerequisites

Having managed a team for 2 years at least.

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

INTRODUCTION

Presentation of the module, its organization, requirements and tools.
Presentation of the attendees, expression of needs and expectations.
Introduction to DISC Model: DISC instructions and questionnaire.

SELF MANAGEMENT

Q&A Session on DISC profiles.
How to behave and better communicate with different profiles.

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Getting familiar with DISC Method through a collaborative game.
Self-coaching tool: personal action plan.

DEAL WITH EMOTION & STRESS

Assess emotional intelligence.
Use and manage emotions to build confidence.
Identify stressors and manage stressors.
Stress management tools and routine for optimal performance.
Stage fright fight tools.

COMMUNICATION POSTURE & DEEP LISTENING

Tricks and stakes of the communication scheme.
Select the proper communication channel.
Positive communication elements.
Understanding deep listening: When do we need to use it? What are the benefits? Which posture?
Develop personal listening skills techniques.

SAVE TIME

Self-management along with emotion and stress management provide precious tools for time management.
Fighting out personal time eaters (sense of perfectionism, directivity, conflict avoidance...).
Investing time in valuable activities.
Free your mind, reduce disturbances and set priorities.

FOSTER MOTIVATION

Distinguish the different Level of needs and the different sources of motivation.
Foster motivation through feed-back.
Make virtuous behaviors cascading the chain of command.
Assess your favorite managing style.
Identify managing needs (motivations, competences) and adjust managing style accordingly.

MANAGE ACROSS CULTURES

Discover Hofstede culture's dimensions (masculinity, power distance, uncertainty avoidance...) and assess the cultures you are dealing with.
Use Hofstede tool and adopt a managing posture to create bridges.

LEAD CHANGE & MANAGE CRISIS

Understand changes and crisis: stakes and perceptions.
Assess your team along the change management curve and help them to move away from resistance.
How to fight rumors and communicate during crisis and change.

MANAGING POSTURE, MINDSET & DECISION MAKING IN CHANGING ENVIRONMENT

Identify cognitive bias and boost reflexivity.
Make proper decision in uncertain environment.
Foster a culture of changes within the organization.

CONCLUSIONS

Wrap-up of the essentials of the course.
Personal action planning review and feed-back.

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Training - Oral Communication Techniques

SOFTINI-EN-P | Face-to-face only | 2 days

During this session, the participants will learn fundamentals of oral communication techniques

Level
Knowledge

Public
Technicians and engineers in the energy and process industries areas

Objectives
Attendees will be able to implement the following skills:

- Be heard and understood and hold the audience's attention
- Develop fluency in expression and overcome stage fright

Pedagogical & technical resources
Numerous role-play situations

Assessment of achievements
Role play

Prerequisites
No prerequisites are necessary to follow this course

Responsable
IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

COMMUNICATION BASICS

Understanding communication stakes.

OVERCOMING ONE'S FEARS

Mastering stage-freight tools.
Giving lively speeches using emotions.
Being assertive.
Planning an structuring an oral presentation.
Making a public presentation.

UNDERSTANDING OTHERS

Taking in consideration one's audience's needs.
Listening actively.
Identifying differences in expressions.

AT EASE IN DIFFERENT SITUATIONS

Conducting a meeting.

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Participating actively in meetings.
Using collaborative tool².

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Training - Soft Skills for the Middle Managers

SOFTMID-EN-P | Face-to-face only | 5 days

During this session, the participants will learn fundamentals of team leading. Participants will also review some oral communication techniques.

Level
Skilled

Public
Middle managers of the energy and process industries areas

Objectives
Attendees will be able to implement the following skills:

- Self management: improve self-knowledge and develop assertiveness; manage emotion and prevent stress; develop fluency in expression and overcome stage fright
- Team management: improve oral communication skills, hold the audience's attention and strengthen their leadership; effectively manage and motivate people, facilitating team cohesion; regulate the team, prevent and manage conflicts; structure teamwork and meeting, solving problem as a team; mentor juniors and develop autonomy
- Middle management: ascendent communication (arbitrate and select facts and information to report properly to the team leader); descendent communication (represent and support the hierarchy and communicate decisions to the team, convey quantitative and technical objectives into motivating goals)

Pedagogical & technical resources

- Experiences sharing
- Exercises and role plays
- Definition of a personal action plan

Assessment of achievements

- Exercices observation by trainer and peers
- Action plan reviewed with the trainer

Prerequisites
Having managed a team for at least one month

Responsable
IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

COMMUNICATION BASICS

Communication scheme and channels.

DEVELOP DEEP LISTENING & EXPRESSION SKILLS

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Participant will work on an exercise to listen and introduce other participants on extra-curricula criteria. Each of them will assess others on their presentation skills.

BEHAVIOR STYLES & COMMUNICATION

Recognize behavior styles with colors method.
Identify their own behavior style.
Participant will work on an exercise to identify four main behavior styles and their combinations and will deduct their strength and weaknesses for their management.

EMOTIONS, STRESS MANAGEMENT & PUBLIC PRESENTATION

Roles of emotions and their consequences on the managing style.
Speaking up.
Making an effective speech.
Making a public presentation.
Overcoming one's fears workshop : Participant will deliver a speech on specific communication stress management technique they would like to share and get feedback.

BEING ASSERTIVE

Develop assertive communication.
Participant will self-assess their own assertiveness through a questionnaire and build an action plan to be-have more assertively.

REGULATE THE TEAM & PREVENT CONFLICT

Conflict steps and corresponding regulation methods, prevention.

PROVIDING FEED-BACK & STOPPING MISBEHAVIORS

Mastering a specific regulation tool: the DESC.
Participant will work on the "movie" of their own case to bring another scenario with the DESC method, talking in front of an audience. Each participant will assess the impact of others' DESC and will suggest improvements.

INTERMEDIATE MANAGEMENT & SITUATIONAL LEADERSHIP

Arbitrate and select facts and information to report properly to the team leader.
Represent and support the hierarchy and communicate decisions to the team. Convey quantitative and technical objectives into motivating goals.
Hersey & Blanchard situational leadership styles (directive, supportive, delegate...) to adapt behavior style to the requirement of the situation.
Identifying preferred managing style through co-development: Participant will assess their own managing style Thanks to their behavior style and their level of assertiveness, they will be able to bold their leadership and find strategies to curate the consequences of their weaknesses working as a group.

MENTORING, WORK ORGANIZATION & DELEGATION

Involve juniors and support their progression, delegate missions.
Participant will work on their tasks and assess collaborators according to their level of autonomy (compe-tence + motivation). Analyze and compose a mentoring, delegation or development plan, focusing on the ways to build trust.

CONDUCT EFFICIENT MEETING

Meeting techniques (preparation, leading, regulation, follow-up).
MEETING PRACTICE: Participant will organize a meeting to take action to help everyone perform in his management. They will have to manage time, take note, and commit to act.

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ROUND TABLE & ACTION PLANS VALIDATION

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Training - Electricity Trading

TDE-EN-P | Face-to-face only | 1 day

This course provides an understanding of risk management in the various electricity trading activities

Level
Skilled

Public
Executives, engineers and managers concerned with risk management tools in electricity markets

Objectives
Attendees will be able to implement the following skills:

- Assess the threats associated with each phase of electricity marketing and implement control measures.

Pedagogical & technical resources
Case studies.

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites
No prerequisites are necessary to follow this course

Responsable
IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

ELECTRICITY MARKETS — 0.5 day

Production methods.
Players in the sector.
Products and markets.
Characteristics of the physical market.

RISK MANAGEMENT IN ELECTRICITY MARKETS — 0.5 day

The basics of risk management.
Risk typologies.
Value at Risk (VaR).
Hedging and modelling.
Calculating sensitivities on the electricity market.
Calculating V@R on the contract using Monte Carlo and parametric methods.

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Sessions

Rueil-Malmaison - 04/24/2026 **1680 €/HT**

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Training - Natural Gas and Electricity Trading

TEG-EN-P | Face-to-face only | 2 days

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

Level
Skilled

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

Objectives
Attendees will be able to implement the following skills:

- Understand gas and electricity trading operations and effectively use the various hedging tools in the face of financial risks
- Implement control measures, including market risk and credit risk

Pedagogical & technical resources
Case studies and examples

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites
No prerequisites are necessary to follow this course

Responsable
IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

MARKETS — 0.5 day

Main features of gas and electricity markets.

RISK MANAGEMENT — 0.5 day

Basic statistics.
Risk typologies:

- Credit risk.
- Market risk.
- Operational risk.

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Value at risk.

HEDGING & MODELING — 0.5 day

Nature.
Products:

- Futures, forwards, swaps, options.

CASE STUDIES — 0.5 day

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

Sessions

Rueil-Malmaison - From 09/22/2026 to 09/23/2026 — **2560 €/HT**

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Training - CO2 geological storage: risks and THMC processes

THMC-EN-P | Face-to-face only | 5 days

This training provides participants with a comprehensive and practice-oriented understanding of CO_2 geological storage, with a strong focus on risk assessment and on the role of coupled Thermo–Hydro–Chemical–Mechanical (THMC) processes. The course addresses the full technical workflow of a CO_2 storage project, from fluid properties and injection behavior to long-term containment, seal and fault integrity, pressure management and uncertainty-driven risk evaluation

Level

Skilled

Public

Geoscientists, geologists and reservoir engineers

Objectives

Attendees will be able to implement the following skills:

- Understand CO2 fluid properties, phase behaviour and PVT concepts under subsurface conditions
- Analyse CO2 plume migration, trapping mechanisms and long-term stabilisation
- Understand geochemical reactions and near-well effects impacting injectivity and integrity
- Assess caprock, fault and well integrity risks using THMC concepts
- Apply risk assessment frameworks to CO2 storage projects

Pedagogical & technical resources

Interactive presentations, practical exercises and hands-on activities using Eclipse300 software

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

Basic knowledge of subsurface engineering, reservoir geology, or oil & gas / geothermal systems is recommended

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

INTRODUCTION AND CO_2 FLUID BEHAVIOR — 1 day

CO_2 storage in saline aquifers and depleted reservoirs.
CO_2 phase behavior and PVT properties.
Equations of State and simulation approaches.

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CO_2 PLUME MIGRATION AND TRAPPING — 2 days

Injection concepts and plume development.
Buoyancy-driven flow and gravity segregation.
Structural, residual and solubility trapping mechanisms.
Long-term plume evolution after injection shut-in.
Applied workshop.

PRESSURE MANAGEMENT, GEOMECHANICS AND GEOCHEMISTRY — 1 day

Effective stress evolution and fault stability.
CO_2 dissolution in brine and mineral reactions.

INTEGRITY, RISK ASSESSMENT — 1 day

Caprock sealing and leakage mechanisms.
Risk assessment frameworks and uncertainty management.

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Training - Unconventional Resources: Environmental Management

UCENV-EN-P | Face-to-face only | 5 days

This course provides a thorough and applied knowledge of the environmental stakes of an unconventional Oil & Gas development project, including key technical requirements and regulations and public perception. This training is focused on key straightforward arguments that resonate with the public

Level

Skilled

Public

Managers, engineers and operations staff involved in the management of environmental issues of unconventional development

Objectives

Attendees will be able to implement the following skills:

- Describe the global prevailing context for unconventional developments for environmental management at worldwide level
- Identify key issues and impacts of specific shale gas activities (exploration, fracking, production)
- Identify key technical requirements and regulations in USA and Europe
- Describe and discuss specific contents of a shale gas Environmental Impact Assessment, mitigation (treatments), and how to develop communication (public participation)

Pedagogical & technical resources

- Highly interactive training by an industry-specialist lecturer involved in several shale gas projects
- Numerous case studies, applications and illustrations and teamwork sessions
- Key Internet references and videos (case studies)

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

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THE STAKES: A CONTROVERSIAL ENERGY — 0.25 day

Public perception and the industry point of view.

TECHNOLOGIES: KEY ENVIRONMENTAL ISSUES — 0.5 day

Fracking and water.
Hazardous chemicals; proppant.
Waste (e.g. sans, NORM & metals).
Air emissions.
Induced seismicity.

ENVIRONMENTAL REGULATION & IMPACT ASSESSMENT — 1 day

Environmental regulation overview.
Environmental impact assessment (what is specific: e.g. induced seismicity).
Mitigation and emissions treatment (aquifer protection, gas capture...).

WATER MANAGEMENT — 1 day

Introduction to water management.
Produced water and water flowback. Monitoring.
Technologies of water treatment. Selection and monitoring.

SOCIO-ECONOMIC IMPACT & SUSTAINABLE DEVELOPMENT — 1 day

CASE STUDIES (SOUTH AFRICA, DENMARK, USA...) — 0.75 day

Lessons learned.

THE INTERNATIONAL ENERGY AGENCY APPROACH (THE GOLDEN RULES) & INTERNATIONAL OIL & GAS PRODUCERS ASSOCIATION — 0.5 day

Proactive measures.

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Training - Utilities - Environment Management

UTILENV-EN-P | Face-to-face only | 5 days

Utility production processes and equipment (water, steam, electrical power, air) Management of environmental issues (air, water, waste, management system)

Level

Knowledge

Public

Engineers and supervisors from operations and technology departments of Refining/Petrochemical sites

Objectives

Attendees will be able to implement the following skills:

- List the design and optimization criteria of a utility production scheme (steam, electricity, water, air) with regard to environmental constraints
- Identify operational optimization points for utility units and networks, taking into account environmental constraints

Pedagogical & technical resources

- Videos to demonstrate the implementation of the various technologies
- Practical exercises on the design and/or operation of each utility
- Actual case studies, learning games and quizzes to test participants' learning

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

BFW QUALITY - STEAM PRODUCTION — 1 day

Boiler feed water quality, drawbacks resulting from impurities. Production of boiler feed water. Condensate recovery. Steam pressure levels, user types, network control, turbines, static expansions. Water-tube boiler: water and steam circuits, air and stack (equipment and control). Other boiler types.

ELECTRICAL POWER PRODUCTION & SUPPLY — 0.5 day

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Quality requirements: power and voltage. Production: generators, gas turbines, cogeneration.
Electrical network: key-equipment, transducers, grounding, back-up supply, safety and reliability.

COMPRESSED AIR GASES — 0.5 day

Process requirements and reasons, air supply criticality. Instrument air: compressors, dryers.
Network, back-up supply. Nitrogen production: design, uses and risks. Uses and risks of O2 and CO2.

INDUSTRIAL WATER NETWORKS — 1 day

Cooling water networks (open, closed, semi-open). Use of sea water, design and operations.
Cooling tower design: key parameters, sizing rules, prevention of operational concerns.
Fire fighting water network: key design elements, main equipment, good practices.

AIR POLLUTION MECHANISMS & PREVENTION — 1 day

Main atmospheric pollutants (CO2, SOx, NOx, VOC). Environmental impacts (global warming, acid rains, ozone).
Measurement of atmospheric pollution, reaction procedures.
Main sources of pollution. Prevention methods: combustion and storage equipment.
Vapor recovery units. Sensitization. Flare systems. Vent and drain networks.

WATER POLLUTION & WASTE WATER TREATMENT — 0.5 day

Pollution sources in refining. Waste water effluent typical specifications. Quality control.
Treatment of oily water (settling, floatation, biological) and process water. Finishing options.

ENVIRONMENTAL MANAGEMENT SYSTEM — 0.5 day

Other pollution mechanisms: soil, solid waste, noise, smells. Prevention and remediation.
Importance of environmental regulations. Environmental impact assessment. ISO 14001 standard.

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Training - Environmental Pollution and Waste Management

WASTMGT-EN-P | Face-to-face only | 5 days

This course provides a thorough and applied knowledge of efficient techniques, industry standards and best practices for managing waste and environmental pollution

Level

Knowledge

Public

Managers, advisors, engineers and operations staff involved in the management of environmental issues all along the lifetime of a field development: from design to operation

Objectives

Attendees will be able to implement the following skills:

- Understand the stakes for the Oil & Gas industry for environmental management
- Understand contents of environmental impact assessments and mitigations (treatments)
- Identify mitigation measures, air treatment techniques, wastewater treatment, wastes treatment, soil remediation
- Implement an oil spill contingency plan, including the combating strategy
- Select key performance indicators and set up monitoring with environmental management plans

Pedagogical & technical resources

- Highly interactive training by industry-specialist lecturers
- Numerous applications and illustrations, case studies and teamwork sessions

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

INTRODUCTION TO WASTE & POLLUTION MANAGEMENT — 0.25 day

Environmental stakes of Oil & Gas companies and projects.
Environmental mitigation measures principles.

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ATMOSPHERIC POLLUTION & TREATMENT — 1 day

Air emission and pollutant inventory. Greenhouse gases.
Flare emissions reduction techniques.
Case studies:

- Gas injection and gas lift.
- Gas valorization strategies.

Process emissions reduction. Control of fugitive emissions.
Reduction of emissions related to power generation:

- Electrification.
- Energy efficiency strategies.

Logistics management to reduce emissions.

WASTE EFFLUENT POLLUTION & TREATMENT — 1.25 days

Waste effluent inventory (production water, cooling water), pollutants.
Production water treatment and disposal:

- Primary: API tanks, plate separators.
- Secondary: flotation, coalescent filters, hydrocyclones.
- Tertiary: membranes, biological treatments.
- Chemicals and chemical treatments.
- Water injection.

Open drain and closed drains: collection and treatment.
Drilling fluids treatment:

- Water base mud recovery and cuttings treatment.
- Oil base mud recovery and cuttings treatment.

Domestic effluents treatment:

- Isolated camps treatment options.
- Permanent camps treatment options.

OIL SPILL RESPONSE AT SEA - TECHNOLOGIES — 1 day

Content of an oil spill contingency plan.
Offshore spill treatment (dispersants, booms and recovery...).
Onshore spill treatment (pumping, skimming, bioremediation, thermal desorption...).

SOLID WASTE TREATMENT TECHNOLOGIES — 0.5 day

Chemical treatments.
Physical treatments.
Disposal methods: advantages/drawbacks.

POLLUTION & REMEDIATION TECHNIQUES — 0.75 day

Treatment selection: in-situ, onsite, ex-situ.
When and how applying technologies: physical, chemical, biological treatments.
Case study.

MONITORING & REPORTING — 0.25 day

Main key performance indicators related to pollution control and waste treatment.

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Training - Industrial wind turbines

WT-EN-P

Face-to-face only

4 days

This course improves knowledge of industrial wind turbines operation, maintenance, engineering and installation

Level

Skilled

Public

Engineers, supervisors and technicians involved in wind turbine operation, maintenance or engineering.

Objectives

Attendees will be able to implement the following skills:

- Explain wind condition impact on wind turbine operation and performance
- Explain the standard power control modes
- Explain typical incidents and key points for wind turbine operation
- Explain critical maintenance tasks
- Explain how to install a wind turbine

Pedagogical & technical resources

- Interactive course
- Use of drawings, datasheets, pictures and videos of actual equipment
- Wind farm visit (according to availabilitie

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

Provide evidence of minimum 1 month of experience within the relevant domain.

Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

WIND TURBINE AERODYNAMICS — 1 day

Wind turbines types, selection principles.
Site wind energy deposit assessement: principles.
Blade aerodynamics: lift, drag, resulting torque.

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Wind turbine aerodynamics: output mechanical power, BETZ limit, power coefficient, wind turbine power curve. Wake effect.
Exercises: wind turbine installation study.

WIND TURBINE TECHNOLOGY — 1 day

Main parts of a wind turbine.
Mechanical parts: main technologies and components: hub and blades, nacelle, bearings, gearbox (if any), disc brake, pitch control, Yaw, generator flexible coupling, foundations (onshore).
Electrical parts: main generator arrangements and technologies, power management and conversion.
Instrumentation: vibrations, meteorological station, aviation lightening, oil circuit, electrical and mechanicalm data with associated alarms and safety thresholds.
Auxiliaries: lubrication and cooling.
Exercises: parts identification on machines views.

WIND TURBINE OPERATION — 1 day

Part and full load control. Overspeed.
Production vs demand adaptation: principles.
Routine maintenance. Key points to survey. Monitoring.
Service factor, annual production, yearly hours at normal power, availability. Overall efficiency.
Typical incidents.
Wind farm visit (according to availabilities).

WIND TURBINE MAINTENANCE — 0.5 day

Convenient maintenance policies.
Incident statistics.
Specific tools – spare parts management.
Main site maintenance tasks.

WIND TURBINE INSTALLATION — 0.5 day

Onshore wind turbines: construction allowance: typical procedure. Technical studies to achieve (noise, shadowing...).
Wind farm arrangement key points. Wind turbine construction key points.
Offshore wind turbines: main construction and installation schemes.

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