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

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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