

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

Responsible

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 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.

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