

Training - Process Energy Efficiency Improvement for Industrial Plants



AMENER-EN-P



Face-to-face only



3 days

This course provides comprehensive and applied knowledge of pinch analysis and covers how to improve energy efficiency in existing plants or new projects

Level

Expert

Public

Engineers from process, engineering, R&D departments of industrial plants in various industries (oil, gas, petrochemical, chemical, energy, paper, food, etc.)

Objectives

Attendees will be able to implement the following skills:

- List the energy efficiency improvement methods
- Carry out an energy efficiency analysis on a simple process

Pedagogical & technical resources

- Practical course and case studies based on industrial data and adjustable to trainee's concern
- Use of an expert software to compare to the initial evaluation

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

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 EFFICIENCY & CONTEXT

0.5 day

Definition of Key Performance Indicators: energy intensity and efficiency, units and use.

Motivations and constraints: energy dependence and regulation.

Different approaches for energy efficiency: operation improvement, operating conditions optimization and other significant improvement solutions (pinch analysis, alternative technology, process design, best available techniques).

PINCH ANALYSIS & MAIN RULES

0.5 day

Temperature Interval Method (TIM) and PINCH Method.

Composite curves (hot and cold streams): building, description and interest.

Pinch point: characteristics and help for solutions design. Key parameters: ΔT_{min} , integration ratio.

Main rules: "cross pinch", "plus or minus principle",...

Illustration through examples.

Advantage of an expert software dedicated to energy analyses.

METHODOLOGY FOR ENERGY ANALYSIS: MAIN STEPS & CASE STUDIES

2 days

Several case studies proposed and based on a methodology for energy analysis, adapted for industrial plants or new projects.

At this step, trainees will be able to:

- Characterize the energy needs and potential of a process.
- Design the most consuming pieces of equipment.
- Define savings targets.
- Propose potential solutions and options.
- Simplify it in order to select most profitable and operational options.

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