

Optimising Energy Use in Oil Refineries

Energy Efficiency and Management Practices in Refineries

Introduction

With its unique design, this Course N Carry Optimising Energy Use in Oil Refineries training seminar serves as a toolbox that gives attendees insight into a range of energy-related topics, imparts knowledge of best practises, and equips refinery energy managers, process engineers, technical staff, and top management's energy sponsors for their crucial roles.

Energy efficiency in refineries is a multidisciplinary topic. Process operations, equipment, the utility system, power generation, housekeeping, process control, retrofit design, sophisticated thermodynamic concepts like pinch technology, and efficient management are all involved. All of these disciplines must be included in a comprehensive energy-saving programme that propels a refinery to the forefront of energy efficiency and profitability.

Featured in this Course N Carry training seminar are:

- Seminars, workshops, and group projects covering every facet of refinery energy efficiency
- Case studies from real life that highlight technological fixes and achievable advantages
- Transfer of the teacher's vast practical industrial experience
- Utilisation of fundamental energy software tools that participants will have access to.
- Free exchange of ideas regarding real issues in each participant's own business

Objectives

After attending this training seminar on Course N Carry Optimising Energy Use in Oil Refineries, participants will have the skills necessary to implement strategies that will allow them to carry out the following tasks in their refineries:

- Evaluate the energy efficiency of each process and the refinery.
- Determine the room for improvement.
- Optimise the steam and power systems in refineries.
- Utilise energy-saving strategies to create energy-saving initiatives.
- Describe efficient Energy Management practices.

Training Methodology

To guarantee that the knowledge is understood, comprehended, and retained as much as possible, the presenter will employ a range of tried-and-true learning strategies. Included in this are a training handbook, tutorials, recommended reading for both before and after the seminar, group activities and debates, and, if applicable, problem-solving for the participants' own organisations.

The interactive Course N Carry Optimising Energy Use in Oil Refineries training seminar will push attendees to consider energy practices from a new and complete perspective.

Developing a full understanding of refinery energy subjects, namely how much, where, why, and at what efficiency the energy is spent, and presenting the actual implementation of energy saving strategies take up a large portion of the training seminar time.

Throughout the training seminar, simulated examples are utilised to improve knowledge.

Organizational impacts

Teaching the principles of Interactive Economics to your employees can help drive organizational growth and seamless operations:

- A short course that equips employees with skills for the real world
- Employees receive enhanced and economically driven decision-making skills
- Helps create better marketing strategies for higher sales
- Provides a competitive advantage by helping make calculated risks

Personal Impact

Enrolling in this course can benefit you in the following ways:

- Gain a deep understanding of the relation between human behavior and finances
- Learn modern techniques to estimate market demand and prediction
- Attain leadership, adaptability, and decision-making skills
- Analyze and understand successful market strategies

Who should attend?

This Course N Carry Optimising Energy Use in Oil Refineries training event will be beneficial to professionals in the petroleum processing business, particularly those who are in charge of refinery energy management and efficiency. All engineers involved in industrial processes, including those in operations, design, and maintenance, should find the information offered to be pertinent.

The following job titles and functions are suitable for this Course N Carry training seminar:

- Managers / Coordinators of Plant Energy
- Engineers in Thermal and Stationary Equipment
- Individuals in charge of upkeep, inspection, and reliability
- Process Managers
- Engineers for plants
- Engineers for Projects

Course Outline

Day 1

Overview of Energy Efficiency: How Energy Affects the Bottom Line

- Energy and its Impact on Profitability of Refineries
- Energy Balance in Refineries
- Energy Benchmarking: Potential for Improvement in Site Efficiency Assessment Methods for Fuel, Power, and Steam Costing

Day 2

Energy Characteristics of Important Refinery Process Units and Ways to Increase Their Energy Economy

- Distillation: Columns for Binary Distillation, Vacuum Unit, and Crude Unit
- Distillation, Hydrotreating, and Naphtha Catalytic Reforming
- Cracking via Fluid Catalysis
- Hydrofracturing

Day 3

System of Refinery Utility

- Power Generation for Steam Systems
- Efficiencies, Cycles, and Steam Turbines
- The Benefits of Cogeneration with Gas Turbines
- Enhancement of the Steam and Power System

Day 4

Integrate Process Heat

- The Operation of Heat Integration Overview of Pinch Technology
- Heat availability curves, energy targeting, pinch technology, and retrofitting heat exchange networks for better performance for refinery operators
- Systematic vs. Intuitive Network Revamp

Day 5

Effective Energy Management for Equipment Efficiency

- Fired Heaters and Rotating Equipment
- Heat Exchangers: An Energy-Conscious Company
- The Energy Team: Building Energy Internal Competency